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Appendix 02 – Characteristics of the included studies

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
Factors Predicting Training Delays and Attrition of Recruits during Basic Military Training	Tait, J.L.; Drain, J.R.; Bulmer, S.; Gastin, P.B.; Main, L.C. (2022)	Longitudinal observational study	46 recruits (male and female) from the Australian Army during a 12-week Basic Military Training (BMT) course	Objective measures (salivary cortisol and testosterone, step count, cardiorespiratory fitness, muscular endurance) and subjective measures (questionnaires on well-being, recovery, workload, fatigue, and sleep) collected throughout BMT	Risk factors for injury included higher subjective ratings of training load, fatigue, and stress, poorer sleep quality, and higher cortisol concentrations. Higher levels of depression, anxiety, and stress, as well as more injuries, were associated with an increased risk of delayed completion. Higher testosterone concentrations and greater physical fitness at BMT entry were associated with reduced risk of injury and delayed BMT completion.	Australia	The study highlights the importance of continuous monitoring of subjective and objective measures to identify risks for injury and delayed training, suggesting these measures may complement existing strategies to mitigate such risks.
Resting-State Correlations of Fatigue Following Military Deployment	Lewis, J.D.; Knutson, K.M.; Gotts, S.J.; Tierney, M.; Ramage, A.; Tate, D.F.; Clauw, D.; Williams, D.A.; Robin, D.A.; Wassermann, E.M. (2021)	Exploratory observational study with functional neuroimaging	28 U.S. military personnel (active duty and veterans) with a history of at least one mild traumatic brain injury (mTBI) sustained during missions in Iraq or Afghanistan	Administration of the Multidimensional Fatigue Inventory (MFI) and resting-state functional magnetic resonance imaging (fMRI) to assess functional connectivity of the basal ganglia, controlling for depressive symptoms	Mental fatigue was correlated with increased functional connectivity between the left putamen and bilateral superior frontal gyri, suggesting potential dysfunction in effort–reward processing	United States	The study suggests that persistent mental fatigue may be associated with alterations in functional connectivity between subcortical and cortical structures, independent of depression. These findings may inform future therapeutic approaches.
Sleep of recruits throughout basic military training and its relationships with stress, recovery, and fatigue	Bulmer, S.; Aisbett, B.; Drain, J.R.; Roberts, S.; Gastin, P.B.; Tait, J.; Main, L.C. (2022)	Longitudinal observational study	45 Australian Army recruits (37 males and 8 females) during 12 weeks of Basic Military Training (BMT)	Objective sleep monitoring using the ActiGraph GT9X (sleep duration, efficiency, and awakenings), daily subjective assessments of sleep quality and fatigue, and weekly evaluations of stress and recovery	Mean sleep duration was 6.3 hours per night, with an average efficiency of 85.6%. Subjective sleep quality showed the strongest associations with stress, recovery, and fatigue. Models incorporating both subjective and objective sleep measures better explained these relationships.	Australia	The study highlights the importance of combining subjective and objective sleep measures to better understand the relationships between sleep, stress, recovery, and fatigue during basic military training.
Characterising Psycho-Physiological Responses and Relationships during a Military Field Training Exercise	Bulmer, S.; Corrigan, S.L.; Drain, J.R.; Tait, J.L.; Aisbett, B.; Roberts, S.; Gastin, P.B.; Main, L.C. (2022)	Longitudinal observational study	62 Combat Engineer trainees (59 males, 3 females; mean age: 25.2 ± 7.2 years) from the Australian Army	15-day monitoring period including 8 days of field training. Use of ActiGraph GT9X to measure energy expenditure, physical activity, and sleep; daily ratings of perceived exertion (RPE), sleep quality, and fatigue; subjective well-being assessed on days 1, 5, 9, 13, and 15	Well-being was influenced by a combination of variables, including workload, subjective sleep quality, sleep duration, and sleep efficiency. RPE and subjective sleep quality consistently emerged as significant predictors in the best-fitting models. Well-being perceptions were lower during field training when physical load increased and sleep decreased.	Australia	Subjective assessments of workload and sleep quality proved effective in explaining variations in well-being, representing an efficient approach to monitoring training status in military personnel.
The impact of post-traumatic stress on quality of life and fatigue in women with Gulf War Illness	Shastry, N.; Sultana, E.; Jeffrey, M.; Collado, F.; Kibler, J.; DeLucia, C.; Fletcher,	Observational study with subgroup analysis	35 U.S. female veterans diagnosed with Gulf War Illness (GWI) and 35 healthy controls	Symptom assessment using the RAND Short Form Health Survey, Multidimensional Fatigue Inventory, and Davidson Trauma	Women with GWI and PTSD symptoms exhibited poorer quality of life and greater fatigue compared to those without PTSD symptoms and healthy controls. The presence	United States	The study underscores the importance of considering PTSD as an aggravating factor in quality of life and fatigue among

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	M.A.; Klimas, N.; Craddock, T.J.A. (2022)			Scale; hierarchical regression analysis and heteroscedastic t-tests.	of PTSD was significantly associated with mental and emotional health impairments.		women with GWI, suggesting the need for targeted therapeutic approaches for this subgroup.
Critical Care Performance in a Simulated Military Aircraft Cabin Environment	McNeill, M.M. (2018)	Experimental study with repeated measures (2×2×4 factorial design)	60 U.S. military nurses with experience in intensive care and aeromedical evacuation	Simulated critical care scenario under cabin noise and altitude-induced hypoxia; evaluation of cognitive performance (critical care scores, errors and omissions, reaction time) and physiological responses (heart rate, respiratory rate, oxygen saturation)	Cabin noise and altitude-induced hypoxia negatively affected participants' cognitive and physiological performance. Clinical experience and fatigue had no significant impact on performance.	United States	The study highlights the need for appropriate training and equipment to mitigate the adverse effects of the flight environment on critical care team performance during aeromedical evacuations.
Effects of military training on plasma amino acid concentrations and their associations with overreaching	Ikonen, J.N.; Joro, R.; Uusitalo, A.L.; Kyröläinen, H.; Kovanen, V.; Atalay, M.; Tanskanen-Tervo, M.M. (2020)	Longitudinal observational study	53 male conscripts (mean age: 19.6 years) from the Finnish Defence Forces	Plasma concentrations of 19 amino acids measured at rest during weeks 1, 4, 7, and 9 of a 10-week military training program. Participants were classified into overreached and non-overreached groups based on physiological and psychological criteria	15% of conscripts were classified as overreached. These individuals had a significantly lower glutamine/glutamate ratio, lower levels of alanine and arginine, and higher glutamate concentrations compared to non-overreached conscripts. Changes in neuroactive amino acids such as tyrosine and tryptophan were also observed.	Finland	The study suggests that the glutamine/glutamate ratio and levels of specific amino acids may serve as biomarkers for detecting overreaching. It recommends more periodized and individualized training plans, particularly during the first four weeks of military service.
Load Carriage and Physical Exertion Influence Soldier Emotional Responses	Giles, G.E.; Grandjean, D.A.C.; Olenich, S.A.; Powell, K.J.; Hart-Pomerantz, H.; Adelman, M.J.; Elmore, W.R.; Cantelon, J.A. (2022)	Crossover experimental study	13 active-duty U.S. soldiers (12 males, 1 female)	Two-hour treadmill marches with and without load (up to 50% of body weight), assessing perceived exertion, emotional valence, arousal, positive/negative affect, and anxiety at regular intervals	Loaded marches resulted in higher perceived exertion and increased negative emotions and anxiety. Negative affect was correlated with higher %HRmax and VO _{2peak} .	United States	Supports Dual-Mode Theory, indicating that higher physical effort reduces emotional pleasure. Findings have implications for emotional monitoring in military settings.
Sleep duration and physical performance during a 6-week military training course	Edgar, D.T.; Gill, N.D.; Beaven, C.M.; Zaslona, J.L.; Driller, M.W. (2021)	Longitudinal observational study	22 male trainees (mean age: 24 ± 5 years) from the New Zealand Defence Force	Sleep monitoring via actigraphy over 36 nights; physical performance assessments (2.4 km run, push-ups, and sit-ups) before and after training; weekly subjective well-being questionnaires	Trainees who slept more than 6 hours and 15 minutes per night showed small improvements in physical performance and moderate-to-large benefits in subjective well-being, particularly in fatigue and muscle soreness.	New Zealand	The study highlights the importance of adequate sleep duration to optimize physical performance and well-being during military training.
Rest and Activity Patterns of Army Aviators in Routine and Operational Training Environments	Bernhardt, K.A.; Kelley, A.M.; Feltman, K.A.; Curry, I.P. (2019)	Descriptive observational study	97 U.S. Army aviators (20 in operational training environments and 77 in garrison settings)	One-week actigraphy monitoring to assess sleep and activity patterns	Aviators in operational training slept significantly less and were exposed to more light during sleep compared to those in garrison. Sleep efficiency was similar (~84%) across both groups.	United States	The study highlights the need for strategies to mitigate fatigue in operational environments to enhance aviator safety and performance.

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Excessive Daytime Sleepiness and Associated Factors in Military Search and Rescue Personnel	Akter, R.; Larose, T.L.; Sandvik, J.; Fonne, V.; Meland, A.; Wagstaff, A.S. (2021)	Cross-sectional study	175 personnel from the Royal Norwegian Air Force (RNoAF) involved in search and rescue (SAR) operations	Electronic questionnaire covering sociodemographic and lifestyle data; assessment of excessive daytime sleepiness (EDS) using the Epworth Sleepiness Scale (ESS)	41% of participants exhibited abnormal EDS according to the ESS. No significant associations were found between EDS and sociodemographic or lifestyle factors.	Norway	The study highlights the high prevalence of EDS among RNoAF SAR personnel and suggests the need to investigate organizational and operational factors contributing to this condition.
Prevalence, Correlates, and Predictors of Insomnia in the US Army prior to Deployment	Taylor, D.J.; Pruiksma, K.E.; Hale, W.J.; Kelly, K.; Maurer, D.; Peterson, A.L.; Mintz, J.; Litz, B.T.; Williamson, D.E. (2016)	Cross-sectional observational study	4,101 active-duty U.S. Army soldiers stationed at Fort Hood, Texas, assessed pre-deployment	Insomnia assessed using the Insomnia Severity Index (ISI ≥ 15); data collected on psychosocial, mental, and physical health variables	Insomnia prevalence was 19.9%. Associated factors included older age, longer service time, number of marriages and children, PTSD symptoms, depression, anxiety, physical pain, and lower unit cohesion. Enlisted personnel were at higher risk of insomnia compared to officers.	United States	The study underscores the need for targeted interventions to prevent and treat insomnia in military personnel pre-deployment, considering the multiple associated factors identified.
Is Functional Overreaching or Acute Fatigue the Key to the Effects of Concentrated Block Training in Running?	Borszcz, F.K.; Vieira, M.T.; Tramontin, A.F.; Visentainer, L.H.; Costa, V.P. (2022)	Experimental study with repeated measures	24 male soldiers (mean age: 19.3 ± 0.4 years; VO_2peak : 58.7 ± 3.8 $\text{ml}\cdot\text{kg}^{-1}\cdot\text{min}^{-1}$)	Five consecutive days of running training at either high intensity (13.3 km/h) or moderate intensity (10 km/h), followed by incremental and 12-minute time trials conducted before, immediately after, and 1 and 2 weeks post-training	The moderate-intensity group showed performance improvements without signs of overreaching. In the high-intensity group, five participants experienced performance decline, indicating overreaching. Only participants with acute fatigue (without performance decline) showed clear improvements in subsequent tests.	Brazil	The study suggests that concentrated blocks of moderate-intensity training are effective for improving performance without overreaching risk, while high-intensity training may induce overreaching and is not recommended for moderately trained runners.
Neurophysiological relationship of neuromuscular fatigue and stress disorder in PTSD patients	Sarabzadeh, M.; Soleimanifar, M.; Helalizadeh, M. (2020)	Cross-sectional observational study	30 patients with Post-Traumatic Stress Disorder (PTSD)	Neuromuscular fatigue assessment using surface electromyography (EMG) during sustained muscle contractions	Patients with PTSD showed greater neuromuscular fatigue, evidenced by changes in EMG parameters, suggesting a link between stress disorders and muscular fatigue	Iran	The study highlights the importance of considering neurophysiological aspects in the assessment and treatment of patients with PTSD.
The difficulty of postural tasks amplifies the effects of fatigue on postural stability	Bermejo, J.L.; García-Massó, X.; Gomis, M.; Noé, F.; Huertas, F.; Pablos, C.; Paillard, T. (2015)	Experimental study	32 male soldiers (mean age: 32.2 ± 3.8 years)	Assessment of postural stability before and after exhaustive running exercise under three conditions: standing with eyes open (EO), standing with eyes closed (EC), and shooting position with eyes open (SP)	Running-induced fatigue had a greater impact on postural stability in the shooting position (SP) compared to EO and EC. Task complexity amplified the effects of fatigue on postural stability.	Spain	The study highlights the importance of considering task difficulty when evaluating the effects of fatigue on postural stability.
Fatigue in the military: towards a fatigue detection test based on the saccadic velocity	Díaz-Piedra, C.; Rieiro, H.; Suárez, J.; Rios-Tejada, F.; Catena, A.; Di Stasi, L.L. (2016)	Experimental study	12 male military personnel (mean age: 33.5 ± 7.1 years)	Fatigue assessment through saccadic velocity measurements during long-duration helicopter flight missions	Saccadic velocity significantly decreased after missions, indicating increased fatigue. Saccadic velocity was found to be a sensitive and objective indicator for detecting fatigue in operational military settings.	Spain	The study suggests that saccadic velocity can serve as a practical tool for fatigue monitoring in military contexts, contributing to

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							operational safety and performance.
Fatigue symptoms in Sri Lanka Navy personnel deployed in combat areas	Hanwella, R.; Jayasekera, N.E.; de Silva, V.A. (2014)	Cross-sectional study	671 Sri Lanka Navy personnel (259 from Special Forces and 412 from regular forces) who served continuously in combat zones during the final year of the civil conflict	Questionnaire adapted from the “Health of UK military personnel deployed to the 2003 Iraq war” study, including the Chalder Fatigue Scale to assess fatigue symptoms	Fatigue symptoms were reported by 27.3% of regular forces and 20.5% of Special Forces. Fatigue symptoms were significantly associated with the presence of PTSD and common mental disorders.	Sri Lanka	The study highlights the need for intervention strategies to reduce fatigue burden and improve mental health among military personnel, particularly following prolonged combat exposure.
Evaluation of fatigue of respiratory and lower limb muscles during prolonged aerobic exercise	Nadiv, Y.; Vachbroit, R.; Gefen, A.; Elad, D.; Zaretsky, U.; Moran, D.; Halpern, P.; Ratnovsky, A. (2012)	Experimental study	19 well-trained young men	Prolonged aerobic treadmill exercise with additional load (25 kg backpack)	Significant fatigue was observed in both respiratory and lower limb muscles following prolonged loaded exercise. Respiratory muscle fatigue may be a limiting factor in extreme physical activity.	Israel	The study highlights the importance of considering respiratory muscle fatigue during intense and prolonged physical activities, particularly in military settings.
Effect of carrying different military equipment during a fatigue test on shooting performance	Gil-Cosano, J.J.; Orantes-Gonzalez, E.; Heredia-Jimenez, J. (2019)	Repeated measures experimental study	39 Spanish Army soldiers	3-km walking test under three conditions: no load, wearing combat uniform, and wearing combat uniform with backpack. Shooting performance was assessed before and after each condition	Shooting performance declined after the walking test under loaded conditions. Additional load increased perceived exertion and heart rate, negatively affecting shooting accuracy.	Spain	The study emphasizes the importance of considering the impact of additional load in combat situations, suggesting that heavy military equipment may impair marksmanship performance.
Grief and physical health outcomes in U.S. soldiers returning from combat	Toblin, R.L.; Riviere, L.A.; Thomas, J.L.; Adler, A.B.; Kok, B.C.; Hoge, C.W. (2012)	Cross-sectional study	1,522 U.S. infantry soldiers, six months after returning from Iraq or Afghanistan	Assessment of the association between difficulty coping with grief and physical symptoms, using anonymous questionnaires	21.3% reported difficulty coping with grief. This was significantly associated with physical symptoms such as fatigue (58.1%), sleep problems (55.4%), musculoskeletal pain (49.7%), and back pain (41.3%). A dose–response relationship was observed between grief severity and physical and functional health outcomes.	United States	The study highlights the importance of considering grief as an independent factor associated with physical and occupational health outcomes in post-combat soldiers.
Course and Predictors of Postdeployment Fatigue: A Prospective Cohort Study in the Dutch Armed Forces	Wiborg, J.F.; Rademaker, A.R.; Geuze, E.; Twisk, J.W.R.; Vermetten, E.; Knoop, H. (2016)	Prospective cohort study	906 military personnel from the Dutch Armed Forces who participated in a 4-month mission in Afghanistan	Fatigue assessed before deployment and at 1, 6, 12, and 24 months post-deployment using the fatigue severity subscale of the Checklist Individual Strength (CIS)	30.2% of soldiers experienced severe fatigue at least once post-deployment; 14.3% experienced recurrent severe fatigue. Significant predictors included higher pre-deployment fatigue, childhood emotional abuse, and high harm avoidance. Most severe fatigue cases were not attributable to medical conditions or PTSD.	Netherlands	The study highlights the importance of pre-deployment psychosocial factors in predicting post-deployment fatigue, suggesting that severe fatigue is a substantial issue among Afghanistan veterans that does not appear to resolve over time.

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Experimental study on neuroendocrinological and immunological characteristics of the military-trained artillerymen	Li, X.; Huang, W.X.; Lu, J.M.; Yang, G.; Ma, F.L.; Lan, Y.T.; Meng, J.H.; Dou, J.T. (2012)	Experimental study	240 artillery soldiers from the People's Liberation Army of China	Assessment of neuroendocrine and immune parameters before and after high-intensity field military exercises	Post-training results showed a significant increase in fatigue sensation, decreased levels of ACTH, cortisol, and testosterone, increased thyroid hormones (TT3, FT4, FT3), and immune alterations including reduced CD3+, CD4+, and B lymphocytes, and increased NK cells	China	The study suggests that high-intensity military operations can induce neuroendocrine and immune changes, contributing to increased fatigue and potentially reduced immunity.
Index Finger Muscle Fatigue and Pistol Firing Failure	Nestler, K.; Rohde, U.; Witzki, A.; Waldeck, S.; Becker, B.; Leyk, D. (2019)	Experimental study	30 German soldiers (15 males and 15 females), aged 18–40 years	Three consecutive pistol shooting exercises (totaling 60 shots) at 5 and 10 meters, using single- and double-action firing modes. Maximum voluntary isometric contraction of the index finger (MVC_IF) was measured before and after each exercise	Shooting significantly reduced MVC_IF in both sexes. 23 of 30 participants were unable to complete the exercises due to fatigue, including all female participants. Greater initial finger strength correlated with lower incidence and later onset of task failure. Short rest periods (~6 minutes) were insufficient for significant recovery	Germany	The study highlights that excessive trigger weight induces index finger muscle fatigue, leading to task failure during shooting training. Ergonomic adjustments to trigger weight are recommended to allow for repeated firing and ensure safe weapon handling.
Effect of Single Physical Load of Different Duration and Intensity on Cognitive Function	Sipavičienė, S.; Dumčienė, A.; Ramanauskienė, I.; Skurvydas, A. (2012)	Randomized clinical trial	90 male soldiers (60 in the experimental group and 30 in the control group)	The experimental group performed three types of physical exercise with varying durations and intensities; the control group did not engage in physical exertion	After the exercise, the experimental group showed improved attention concentration, reduced error rate, and increased information processing speed. However, fatigue indicators worsened, including longer reaction time and lower tapping test scores. No significant changes were observed in the control groups.	Lithuania	The study concludes that, despite exercise-induced fatigue, a single physical load of varying durations and intensities can improve certain cognitive functions in soldiers.
The health of UK military personnel who deployed to the 2003 Iraq war: a cohort study	Hotopf, M.; Hull, L.; Fear, N.T.; Browne, T.; Horn, O.; Iversen, A.; Jones, M.; Murphy, D.; Bland, D.; Earnshaw, M.; Greenberg, N.; Hughes, J.H.; Tate, A.R.; Dandeker, C.; Rona, R.; Wessely, S. (2006)	Cohort study	10,272 British military personnel (4,722 deployed to Iraq in 2003 and 5,550 non-deployed)	Comparison of health outcomes between deployed and non-deployed personnel, including PTSD symptoms, common mental disorders, general well-being, alcohol consumption, physical symptoms, and fatigue	Deployment was associated with a modest increase in multiple physical symptoms (OR 1.33; 95% CI 1.15–1.54). Among reservists, deployment was associated with common mental disorders (OR 2.47; 95% CI 1.35–4.52) and fatigue (OR 1.78; 95% CI 1.09–2.91). No evidence was found that later deployments with higher insurgency and casualties led to worse mental health outcomes.	United Kingdom	The study highlights that for regular military personnel, deployment to Iraq was not associated with worse health outcomes, except for a modest effect on multiple physical symptoms. For reservists, clinically and statistically significant effects on health were observed.
Sleep and Fatigue Issues in Continuous Operations: A Survey of U.S. Army Officers	Miller, N.L.; Shattuck, L.G.; Matsangas, P. (2011)	Cross-sectional study (survey)	49 U.S. Army officers with recent combat experience	Survey on sleep patterns, fatigue, and sleep management practices during continuous operations	80% had not received guidance on sleep management plans; over half reported that fatigue was a problem in their units. During high operational tempo missions, participants averaged only 4 hours of sleep per day. 82.6% reported feeling sleep-deprived at least occasionally during such operations.	United States	The study highlights the need for effective implementation of sleep management plans to maintain operational readiness.

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A comprehensive evaluation of insomnia, obstructive sleep apnea and comorbid insomnia and obstructive sleep apnea in US military personnel	Mysliwiec, V.; Brock, M.S.; Pruiksma, K.E.; Straud, C.L.; Taylor, D.J.; Hansen, S.; Foster, S.N.; Mithani, S.; Zwetzig, S.; Gerwell, K.; Young-McCaughan, S.; Powell, T.; Blue Star, J.A.; Cassidy, D.G.; Mintz, J.; Peterson, A.L. (2022)	Cross-sectional observational study	1,000 U.S. military personnel (active duty and veterans)	Clinical and polysomnographic assessment to identify and characterize insomnia, obstructive sleep apnea (OSA), and comorbid insomnia and sleep apnea (COMISA)	COMISA was associated with more severe sleep disturbance symptoms, greater fatigue, functional impairment, and poorer mental health compared to isolated insomnia or OSA. COMISA was also linked to greater healthcare utilization and lower adherence to continuous positive airway pressure (CPAP) treatment.	United States	The study highlights the need for integrated clinical approaches to effectively treat COMISA in military populations, aiming to improve sleep health, functional performance, and operational readiness.
Fatigue and sleepiness determine respiratory quality of life among veterans evaluated for sleep apnea	Vinnikov, D.; Blanc, P.D.; Alilin, A.; Zutler, M.; Holty, J.C. (2017)	Cross-sectional observational study	1,578 U.S. military veterans (93.9% male; median age: 61.1 years)	Assessment of sleepiness (Epworth Sleepiness Scale – ESS), fatigue (Fatigue Severity Scale – FSS), general quality of life, and sleep study with apnea–hypopnea index (AHI)	Greater daytime sleepiness and fatigue were associated with worse respiratory-related quality of life, independent of sleep apnea severity, respiratory comorbidities, and general physical quality of life. AHI alone was not associated with worse respiratory quality of life.	United States	The study emphasizes that subjective perceptions of fatigue and sleepiness have a greater impact on respiratory quality of life than the objective severity of sleep apnea.
The effects of anxiety and exercise-induced fatigue on shooting accuracy and cognitive performance in infantry soldiers	Nibbeling, N.; Oudejans, R.R.D.; Ubink, E.M.; Daanen, H.A.M. (2014)	Field experimental study	20 infantry soldiers from the Royal Netherlands Army	Participants performed a shooting decision-making task under anxiety-inducing conditions (combat simulation) and after intense physical exercise (2-km run with load). Shooting accuracy and cognitive performance (Stroop task) were assessed	Anxiety reduced both shooting accuracy and cognitive performance. Physical exercise improved shooting accuracy in the decision-making task but impaired cognitive performance. The combination of anxiety and fatigue had no additional effect on shooting accuracy but negatively impacted cognitive performance.	Netherlands	The study suggests that exercise-induced fatigue may enhance shooting accuracy under anxiety, possibly due to increased arousal, but it compromises cognitive performance.
Prevalence of mental health symptoms in Dutch military personnel returning from deployment to Afghanistan: a 2-year longitudinal analysis	Reijnen, A.; Rademaker, A.R.; Vermetten, E.; Geuze, E. (2015)	Longitudinal study	994 Dutch military personnel returning from Afghanistan	Assessment of mental health symptoms at five time points: pre-deployment, and at 1, 6, 12, and 24 months post-deployment	Prevalence of fatigue, PTSD, hostility, depression, and anxiety symptoms increased significantly post-deployment compared to pre-deployment. PTSD symptoms decreased after 6 months, while depression and fatigue symptoms remained elevated. Sleep problems and hostility remained relatively stable over time.	Netherlands	The study emphasizes the importance of monitoring a broad range of mental health symptoms at multiple time points post-deployment for early detection and intervention.
Job strain, rank, and mental health in the UK Armed Forces	Fear, N.T.; Rubin, G.J.; Hatch, S.; Hull, L.; Jones, M.; Hotopf, M.; Wessely, S.; Rona, R.J. (2009)	Cross-sectional study	7,766 active-duty British military personnel	Assessment of the relationship between job demand and control (job strain), rank, and psychological symptoms (PTSD, common mental	Low job control and high job demand were independently associated with a higher risk of psychological symptoms. Commissioned officers had a lower risk of psychological symptoms compared to other ranks. The effect	United Kingdom	The study highlights that both job strain and rank independently contribute to psychological symptoms, underscoring the

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				disorders, fatigue, multiple physical symptoms, and alcohol use)	of job strain on psychological symptoms was additive, with no significant interaction with rank.		importance of interventions that address both factors.
Psychophysiological response to the use of nuclear, biological and chemical equipment with military tasks	Gómez-Oliva, E.; Robles-Pérez, J.J.; Ruiz-Barquín, R.; Hidalgo-Bellota, F.; de la Vega, R. (2019)	Longitudinal experimental study	20 soldiers from the Spanish Armed Forces (mean age: 33.3 ± 5.4 years)	Execution of military and medical tasks (triage, tourniquet application, ammunition handling) with and without the use of nuclear, biological, and chemical (NBC) protective equipment	Use of NBC equipment led to a significant increase in heart rate, blood glucose, perceived exertion, and task completion time. A decrease was also observed in heart rate variability and explosive strength.	Spain	The study highlights the importance of specific training to optimize the performance of military and healthcare personnel when using NBC equipment in high-stress situations.
Psychophysiological Monitorization in a Special Operation Selection Course	Hormeño-Holgado, A.J.; Clemente-Suárez, V.J. (2019)	Longitudinal observational study	46 professional soldiers from a special operations unit (mean age: 25.1 ± 5.0 years)	Psychophysiological assessment before and after the final phase of a 10-week special operations selection course	The final phase induced significant increases in perceived stress and fatigue, blood oxygen saturation, pH, cognitive impairment, and loss of motivation. Reductions were observed in leg strength, peak expiratory flow, cortical arousal, body composition, body weight, muscle and fat mass, anxiety, alertness, sadness, and tension. Greater muscle mass loss was associated with more pronounced cognitive impairment.	Spain	The study highlights the intense psychophysiological response induced by the final phase of special operations selection, emphasizing the importance of continuous monitoring to optimize soldier performance and health.
Fatigue proofing: The role of protective behaviours in mediating fatigue-related risk in a defence aviation environment	Dawson, D.; Cleggett, C.; Thompson, K.; Thomas, M.J. (2017)	Exploratory qualitative study	18 personnel from the Australian Defence Aviation sector	Semi-structured interviews to identify protective behaviors used to mitigate fatigue-related risks	Participants reported using a variety of informal strategies such as task deceleration, task rotation, delegation of responsibilities, strategic breaks, and open discussions about fatigue. These practices were used to maintain operational safety even under elevated fatigue levels.	Australia	The study highlights the importance of recognizing and formalizing protective behaviors as a core component of fatigue risk management systems in defense aviation environments.
Peak performance and cardiometabolic responses of modern US army soldiers during heavy, fatiguing vest-borne load carriage	Arcidiacono, D.M.; Lavoie, E.M.; Potter, A.W.; Vangala, S.V.; Holden, L.D.; Soucy, H.Y.; Karis, A.J.; Friedl, K.E.; Santee, W.R.; Looney, D.P. (2023)	Experimental study	15 U.S. Army soldiers (4 females and 11 males; mean age: 26 ± 8 years)	Incremental walking tests wearing weighted vests corresponding to 0%, 22%, 44%, and 66% of body mass, assessing maximal walking speed, energy cost, and cardiometabolic indicators	Heavier vest loads significantly reduced maximal walking speed and increased energy cost and relative workload intensity. Heart rate proved to be an effective noninvasive indicator of relative intensity and exhaustion during military load carriage.	United States	The study highlights the importance of heart rate monitoring as a practical tool for assessing work intensity and preventing exhaustion during heavy load carriage in military settings.
The effect of experience on the psychophysiological response and shooting performance under acute physical stress of soldiers	Tornero-Aguilera, J.F.; Gil-Cabrera, J.; Fernandez-Lucas, J.; Clemente-Suárez, V.J. (2021)	Experimental study	60 soldiers divided into experienced and inexperienced groups	High-intensity interval training (HIIT) protocol consisting of ten 40-meter maximal sprints with two changes of direction and 45 seconds of recovery. Psychophysiological and shooting performance	Both groups showed significant increases in heart rate, blood lactate, and lower limb strength, along with decreases in oxygen saturation and body temperature. Shooting performance was influenced by experience and	Spain	The HIIT protocol induced psychophysiological responses similar to those observed in combat maneuvers, demonstrating its effectiveness

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				assessments conducted before, during, and after the protocol	fatigue, with a more pronounced impact in the inexperienced group.		for specific physical preparation of soldiers.
Measuring neuromuscular fatigue in cervical spinal musculature of military helicopter aircrew	Harrison, M.F.; Neary, J.P.; Albert, W.J.; Kuruganti, U.; Croll, J.C.; Chancey, V.C.; Bumgardner, B.A. (2009)	Experimental study	40 military helicopter crew members	Isometric maximal voluntary contraction (MVC) tests and endurance protocols at 70% MVC for neck extension, flexion, and lateral flexion. Bilateral muscle activity of the splenius capitis, sternocleidomastoid, and upper trapezius was monitored via EMG	Smaller agonist muscles such as the splenius capitis and sternocleidomastoid were more susceptible to fatigue during submaximal isometric endurance tasks. The upper trapezius did not exhibit signs of fatigue in any test.	Canada	The study emphasizes the importance of monitoring cervical muscle fatigue in helicopter crew members, suggesting that smaller neck muscles are more prone to fatigue during demanding tasks.
Mental health status of Sri Lanka Navy personnel three years after end of combat operations: a follow up study	Hanwella, R.; Jayasekera, N.E.L.W.; de Silva, V.A. (2014)	Comparative cross-sectional study	495 Sri Lanka Navy personnel (220 from Special Forces and 275 from regular forces)	Assessment of mental health three and a half years after the end of combat operations, compared with 2009 data	Among regular forces, there was a reduction in psychological distress, fatigue, and multiple physical symptoms, but an increase in alcohol and tobacco use. In Special Forces, mental health indicators remained stable, with a significant increase in tobacco use. PTSD prevalence decreased in both groups.	Sri Lanka	The study highlights the need for continuous mental health monitoring and strategies to address increased substance use following the end of combat operations.
Glucocorticoid sensitivity of leukocytes predicts PTSD, depressive and fatigue symptoms after military deployment: A prospective study	van Zuiden, M.; Heijnen, C.J.; Maas, M.; Amarouchi, K.; Vermetten, E.; Geuze, E.; Kavelaars, A. (2012)	Prospective study	526 Dutch male military personnel	Assessment of leukocyte sensitivity to glucocorticoids (GCs) before deployment to Afghanistan, using DEX suppression of LPS-induced TNF- α production and PHA-induced T-cell proliferation. PTSD, depression, and fatigue symptoms were assessed six months after return	Low pre-deployment monocyte sensitivity to DEX was associated with severe post-deployment fatigue. Low T-cell sensitivity to DEX was associated with higher levels of depressive symptoms. Interestingly, high T-cell sensitivity to DEX was associated with PTSD symptoms in individuals without depressive symptoms. These findings suggest that GC sensitivity before deployment may predict specific post-deployment symptoms.	Netherlands	The study highlights that leukocyte sensitivity to glucocorticoids before deployment may serve as a predictive factor for the development of PTSD, depression, and fatigue symptoms after deployment.
Video Game Play as a Fatigue Countermeasure in Air Traffic Controllers	Fowler, L.A.; Gustafson, D. (2019)	Controlled crossover clinical trial	22 military air traffic controllers	Comparison between sessions with and without 30 minutes of video game play prior to the work shift. Physiological alertness measured by oculometry and subjective sleepiness measured by the Stanford Sleepiness Scale	Video game use before shifts significantly increased physiological alertness (pupil diameter and velocity) and subjective alertness, with effects lasting at least 30 minutes after gameplay ended.	United States	The study suggests that brief video game use may be an effective strategy to mitigate fatigue in high-vigilance occupations such as air traffic control.
Military exercises, knee and ankle joint position sense, and injury in male conscripts: a pilot study	Mohammadi, F.; Azma, K.; Naseh, I.; Emadifard, R.; Etemadi, Y. (2013)	Prospective cohort study	50 male military conscripts (mean age: 21.4 $\pm$ 2.3 years)	Assessment of knee and ankle joint position sense (JPS) before and after military exercises, with injury tracking over 8 weeks of training	All participants showed increased JPS errors after exercise, but those who sustained injuries had significantly greater changes. Changes in JPS after a single exercise session may predict future musculoskeletal injuries.	Iran	The study suggests that exercise-induced deficits in joint position sense may be a risk factor for lower limb injuries during military training.

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Chronic fatigue syndrome and related disorders in UK veterans of the Gulf War 1990-1991: results from a two-phase cohort study	Ismail, K.; Kent, K.; Sherwood, R.; Hull, L.; Seed, P.; David, A.S.; Wessely, S. (2008)	Two-phase cohort study	10,000 British military personnel (Gulf War veterans, Bosnia veterans, and non-deployed active service members)	Assessment of the prevalence of chronic fatigue syndrome (CFS), chronic fatigue, and fibromyalgia in Gulf War veterans compared to control groups, using standardized criteria and clinical examinations to exclude medically explained conditions	Gulf War veterans with physical disability were significantly more likely to meet criteria for CFS compared to Bosnia veterans and non-deployed active personnel (adjusted odds ratio of 7.8). No significant differences were found in other clinical markers for medically explained conditions.	United Kingdom	The study highlights that CFS-like symptoms account for a substantial portion of symptomatic distress in Gulf War veterans.
Multiple chemical sensitivity and chronic fatigue syndrome in British Gulf War veterans	Reid, S.; Hotopf, M.; Hull, L.; Ismail, K.; Unwin, C.; Wessely, S. (2001)	Cross-sectional study	3,454 British Gulf War veterans and 1,979 military personnel who served in Bosnia or were non-deployed	Assessment of the prevalence of multiple chemical sensitivity (MCS) and chronic fatigue syndrome (CFS) using standardized questionnaires	MCS prevalence was 1.3% in Gulf War veterans and 0.3% in controls. CFS prevalence was 2.1% and 0.7%, respectively. Both diagnoses were significantly more common among Gulf War veterans.	United Kingdom	The study highlights a higher prevalence of MCS and CFS among Gulf War veterans compared to controls, suggesting an association with Gulf War service.
Negative mood endures after completion of high-altitude military training	Bardwell, W.A.; Ensign, W.Y.; Mills, P.J. (2005)	Prospective longitudinal study	60 U.S. Marines (mean age: 19 years; age range: 18–28 years)	Participation in a 30-day cold-weather, high-altitude field training exercise. Mood assessed using the Profile of Mood States (POMS) before training, immediately after, and at 30 and 90 days post-training	Significant increases in negative mood scores (including fatigue and anger) were observed from pre- to post-training, with most increases persisting up to 90 days post-training. Marines' anger and fatigue scores were comparable to those of male psychiatric outpatients.	United States	The study suggests that rigorous training in challenging environments may lead to lasting negative mood states, with implications for operational readiness and performance. Behavioral health interventions may help reduce the impact of negative mood in military populations.
Managing aviator fatigue in a deployed environment: the relationship between fatigue and neurocognitive functioning	Rabinowitz, Y.G.; Breitbach, J.E.; Warner, C.H. (2009)	Prospective observational study	Aviators from a U.S. Army rotary-wing aviation brigade deployed to Iraq	Evaluation of aviator effectiveness based on sleep–wake patterns using actigraphy and the Fatigue Avoidance Scheduling Tool (FAST), and neurocognitive performance via a computerized multitasking assessment during pre-flight operations	A significant positive association was found between effectiveness level and neurocognitive performance prior to flight operations. Reported sleep habits and patterns of sleep difficulties were also noted. The results support the potential use of actigraphy and software to assess pilot effectiveness prior to missions. Findings suggest that flight surgeons and psychologists may play a key role in improving overall sleep patterns and enhancing aviators' combat performance. Mandatory crew rest and reported total sleep time may not be sufficient to ensure optimal performance.	United States	The study highlights the importance of evaluating aviator effectiveness based on sleep–wake patterns and neurocognitive performance, suggesting that additional measures beyond mandatory rest may be necessary to ensure optimal performance during flight operations.
The effects of captivity survival training on mood, dissociation,	Suurd Ralph, C.; Vartanian, O.;	Prospective longitudinal study	Canadian Armed Forces (CAF) personnel	Assessments conducted at four time points: pre-training, during two	CAC training induced significant but reversible changes in psychological and	Canada	The study shows that CAC training, although brief, induces

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PTSD symptoms, cognitive performance and stress hormones	Lieberman, H.R.; Morgan, C.A. 3rd; Cheung, B. (2017)		participating in Conduct After Capture (CAC) training	interrogation simulations (one low-intensity and one high-intensity), and post-training. Measures included mood, fatigue, dissociation, PTSD symptoms, short-term and working memory, and salivary cortisol and DHEA levels	physiological functioning. The most pronounced disturbances occurred after the high-intensity interrogation simulation. Memory was unaffected, and pre-training mood predicted course success.		significant and reversible effects, demonstrating its usefulness for psychological preparedness in military personnel.
The Physical Fitness Effects of a Week-Long Specialist Tactical Police Selection Course	Schram, B.; Robinson, J.; Orr, R. (2020)	Prospective cohort study	18 male candidates for a specialized tactical police team in Australia	Five-day selection course involving 97 high-intensity physical events. Daily assessments of body mass, handgrip strength, flexibility (sit-and-reach test), and vertical jump performance	Significant reductions were observed in body mass (−2.05 kg, $p = 0.006$), right handgrip strength (−14.48 kg, $p < 0.001$), left handgrip strength (−14.27 kg, $p < 0.001$), and flexibility (−6.64 cm, $p < 0.001$). No significant changes in vertical jump power, with a nonsignificant trend toward increased jump height.	Australia	The study highlights that intensive selection courses can reduce strength and flexibility, increasing injury risk. Adequate physical preparation is recommended to mitigate the effects of fatigue.
Refining Selection for Elite Troops by Predicting Military Training Outcome	Vrijkotte, S.; Meeusen, R.; Roelands, B.; Kubesch, S.; Mairesse, O.; de Schutter, G.; Pattyn, N. (2017)	Prospective longitudinal study	24 paratrooper trainees in a 12-week training course	Physiological (ACTH, cortisol, heart rate), neuropsychological (Stroop, Flanker, Go/No-Go, Task Switch), and subjective (POMS) assessments at three time points: start (t0), after 8 weeks (t1), and end of training (t2)	Soldiers who successfully completed the course showed higher heart rate reactivity and lower tension and fatigue scores at baseline. These parameters were predictive of successful course completion.	Belgium	The study suggests that initial physiological and psychological measures may be useful in selecting candidates for elite military units.
Repeated-sprint ability and aerobic fitness	Thébault N, Léger LA, Passelergue P. (2011)	Experimental study	19 healthy and active adult male soldiers	Assessment of repeated sprint ability and aerobic fitness	Focus on the relationship between aerobic fitness and repeated sprint ability	Canada	Highlights the connection between aerobic capacity and performance in repeated sprint tasks.
The relationship between the levels of stress and the age and years of service of military firefighters from the fire rescue corps of the metropolitan area of the state of São Paulo	Santo de Oliveira R, Leite de Barros Neto T, Alves da Silva A, Grandi JL, Bueno Santos Menezes I. (2012)	Cross-sectional study	On-duty military firefighters in the state of São Paulo	Analysis of stress in relation to age and years of service	Relationship between stress levels and demographic characteristics (age and years of service)	Brazil	Focuses on the influence of age and experience on stress levels in military firefighters.
The effects of group monitoring on fatigue-related einstellung during mathematical problem solving	Frings D. (2011)	Experimental study	175 Army Officer Cadets	Exposure to group monitoring to assess its influence on fatigue levels and performance in mathematical problem-solving tasks	Effect of group monitoring on fatigue and mathematical problem-solving performance	United Kingdom	Focus on the concept of "Einstellung" and its relationship with fatigue.
Anabolic hormone profiles in elite military men: Robust	Taylor MK, Padilla GA, Hernández LM. (2017)	Observational study	Elite male military personnel	Analysis of anabolic hormonal profiles and their relationship with age, stress, and fatigue	Associations between anabolic hormones, age, stress, and fatigue	United States	Focus on hormonal correlations with stress and fatigue in elite military personnel.

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
associations with age, stress, and fatigue							
Effects of extreme-duration heavy load carriage on neuromuscular function and locomotion: a military-based study	Grenier JG, Millet GY, Peyrot N, Samozino P, Oullion R, Messonnier L, Morin JB. (2012)	Experimental study	Military soldiers in training	Heavy load carriage over extended periods and its effects on neuromuscular function	Changes in neuromuscular function and locomotion due to extreme load carriage	France	Focus on the effects of extreme weight loading on neuromuscular and locomotor performance.
Medically evaluated psychological and physical health of Australian Gulf War veterans with chronic fatigue	Kelsall H, Sim M, McKenzie D, Forbes A, Leder K, Glass D, Ikin J, McFarlane A. (2006)	Cohort study	Australian Gulf War veterans with chronic fatigue	Medical assessment of the psychological and physical health of veterans with chronic fatigue	Impact of chronic fatigue on physical and psychological health	Australia	Study focused on the psychological and physical health of Gulf War veterans with chronic fatigue.
Prevalence of post-traumatic stress disorder and physical health complaints among Portuguese Army Special Operations Forces deployed in Afghanistan	Osório C, Carvalho C, Fertout M, Maia A. (2012)	Cross-sectional study	Portuguese Army Special Operations Forces deployed to Afghanistan	Assessment of the prevalence of PTSD and physical health complaints among deployed soldiers	Prevalence of PTSD and physical health complaints	Portugal	Study on the psychological and physical consequences among Portuguese soldiers following deployment to Afghanistan.
The catecholamine neurotransmitter precursor tyrosine increases anger during exposure to severe psychological stress	Lieberman HR, Thompson LA, Caruso CM, Niro PJ, Mahoney CR, McClung JP, Caron GR. (2015)	Experimental study	Healthy military personnel exposed to severe psychological stress	Exposure to severe psychological stress and administration of tyrosine (a catecholamine precursor)	Increased anger and aggression associated with stress and tyrosine	United States	Study on the impact of tyrosine on anger increase during psychological stress.
Changes in mood, fatigue, sleep, cognitive performance and stress hormones among instructors conducting stressful military captivity survival training	Vartanian O, Fraser B, Saunders D, Suurd Ralph C, Lieberman HR, Morgan CA 3rd, Cheung B. (2018)	Experimental study	Military instructors undergoing captivity survival training	Exposure to military survival training under prolonged stress conditions	Changes in mood, fatigue, sleep, cognitive performance, and stress hormones	Canada	Study on the psychological and physiological effects of military captivity survival training.
Physical, psychological, and functional comorbidities of multisymptom illness in Australian male veterans of the 1991 Gulf War	Kelsall HL, McKenzie DP, Sim MR, Leder K, Forbes AB, Dwyer T. (2009)	Cohort study	Male Australian Gulf War veterans (1991)	Analysis of physical, psychological, and functional comorbidities associated with multisymptom illness	Physical, psychological, and functional comorbidities in Gulf War veterans	Australia	Study on the impacts of multisymptom illness in 1991 Gulf War veterans.
Human herpesvirus 6 and 7 are biomarkers for fatigue, which distinguish between physiological fatigue and pathological fatigue	Aoki R, Kobayashi N, Suzuki G, Kuratsune H, Shimada K, Oka N, Takahashi M, Yamadera W, Iwashita	Cohort study	55 members of the Japan Self-Defense Force (JSDF) 1st 15 Airborne Brigade (patients with	Analysis of human herpesviruses 6 and 7 as biomarkers to distinguish between physiological and pathological fatigue	Identification of biomarkers for different types of fatigue	Japan	Study on the use of human herpesviruses 6 and 7 as biomarkers for fatigue.

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
	M, Tokuno S, Nibuya M, Tanichi M, Mukai Y, Mitani K, Kondo K, Ito H, Nakayama K. (2016)		physiological and pathological fatigue)				
Metabolic responses of South African soldiers during simulated marching with 16 combinations of speed and backpack load	Christie CJ, Scott PA. (2005)	Experimental study	South African soldiers in training	March simulation with varying combinations of speed and backpack load	Metabolic responses during marching under different load and speed conditions	South Africa	Study on the impact of load and speed variations on metabolic responses in soldiers.
Longitudinal relationship between onset of physical symptoms and functional impairment	McAndrew LM, Helmer DA, Lu SE, Chandler HK, Slotkin S, Quigley KS. (2018)	Longitudinal study	767 Army National Guard and Army Reserve soldiers deploying to Operation Iraqi Freedom (patients with physical symptoms and functional impairment)	Evaluation of physical symptom onset and its relationship with functional impact over time	Relationship between physical symptom onset and functional impairment	United States	Longitudinal study on the effects of physical symptoms on functional performance over time.
Attention and visual tracking degradation during acute sleep deprivation in a military sample	Heaton KJ, Maule AL, Maruta J, Kryskow EM,Ghajar J. (2014)	Experimental study	87 U.S. Army soldiers (68 men, 19 women)	Acute sleep deprivation and its effects on attention and visual tracking	Sleep deprivation led to degraded attention and visual tracking performance	United States	Study on the impact of acute sleep deprivation on cognitive and visual performance in military personnel.
Cardiorespiratory responses induced by various military field tasks	Pihlainen K, Santtila M, Häkkinen K, Lindholm H, Kyröläinen H. (2014)	Experimental study	Soldiers performing field military tasks	Exposure to field military tasks and assessment of cardiorespiratory responses	Cardiorespiratory responses during execution of field military tasks	Finland	Study on the impact of field military tasks on soldiers' cardiorespiratory responses.
The effects of basic training on aerobic fitness and muscular strength and endurance of British Army recruits	Legg SJ, Duggan A. (1996)	Experimental study	British Army recruits	Basic military training and its effects on aerobic fitness, muscular strength, and endurance	Assessment of aerobic fitness, muscular strength, and endurance in recruits	United Kingdom	Study focused on the effects of basic military training on physical fitness.
Stress: diagnosis of military police personnel in a Brazilian city	Costa M, Júnior HA, Oliveira J, Maia E. (2007)	Cross-sectional study	3,193 military police officers in a Brazilian city	Diagnosis of stress among military police officers in a Brazilian urban area	Stress levels among military police officers	Brazil	Study on diagnosed stress levels in military police personnel.
Self-reported sleep and sleep deficiency: Results from a large initiative of sailors attached to US Navy warships	RussellL, Dale W.; Markwald, Rachel R.; Jameson, Jason T. (2021)	Cross-sectional study	Sailors aboard U.S. Navy ships	Self-reporting on sleep and sleep deficiencies among sailors on warships	Findings on sleep quality and deficiencies among U.S. Navy sailors	United States	Study on the effects of sleep deprivation and sleep quality in sailors.
Pre-deployment differences in glucocorticoid sensitivity of leukocytes in soldiers developing symptoms of	van Zuiden M, Kavelaars A, Vermetten E, Olff M,	Cohort study	721 soldiers on military deployment	Exposure to deployment conditions and analysis of leukocyte sensitivity to glucocorticoids	Differences in glucocorticoid sensitivity before and after deployment	Netherlands	Study on how differences in glucocorticoid sensitivity may predict PTSD, depression, and fatigue.

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
PTSD, depression or fatigue persist after return from military deployment	Geuze E, Heijnen C. (2015)						
Wearing body armour and backpack loads increase the likelihood of expiratory flow limitation and respiratory muscle fatigue during marching	Armstrong NCD, Ward A, Lomax M, Tipton MJ, House JR. (2019)	Experimental study	Military soldiers in training	Use of body armor and heavy backpacks during marching and assessment of respiratory responses	Increased expiratory flow limitation and respiratory muscle fatigue during marching	United Kingdom	Study on the impact of body armor and heavy backpack use on soldiers' respiratory function.
Injuries, Medical Conditions, and Changes in Blood Levels in German Special Operations Forces Selection	Lechner R, Tausch B, Unkelbach U, Tannheimer M, Neitzel C. (2015)	Cohort study	German Special Operations Forces candidates during selection	Assessment of injuries, medical conditions, and blood level changes during the selection process	Injuries, medical conditions, and variations in blood markers	Germany	Study on the physical and medical status of soldiers during the German Special Forces selection process.
Serum sex hormone-binding globulin and cortisol concentrations are associated with overreaching during strenuous military training	Tanskanen MM, Kyröläinen H, Uusitalo AL, Huovinen J, Nissilä J, Kinnunen H, Atalay M, Häkkinen K. (2011)	Experimental study	Soldiers undergoing intense military training	Analysis of sex hormone-binding globulin and cortisol levels during intense military training	Relationship between hormonal levels and overreaching (excessive training)	Finland	Study on the association between sex hormones, cortisol, and overreaching during military training.
Cognitive function, stress hormones, heart rate and nutritional status during simulated captivity in military survival training	Lieberman HR, Farina EK, Caldwell J, Williams KW, Thompson LA, Niro PJ, Grohmann KA, McClung JP. (2016)	Experimental study	Participants in military survival training	Simulated captivity for military survival training, with monitoring of cognitive function, stress hormones, heart rate, and nutritional status	Effects of survival training on cognitive functions, hormone levels, heart rate, and nutrition	United States	Study focused on the impact of military survival training on physiological and cognitive functions.
A survey of aircrew fatigue in a sample of U.S. Army aviation personnel	Caldwell JA, Gilreath SR. (2002)	Cross-sectional study	U.S. Army aviation personnel	Survey on fatigue among aircrew members during military operations	Reported fatigue levels and associated factors among military aircrew members	United States	Study on fatigue levels among U.S. military aviation personnel.
Female Service Members and Symptom Reporting after Combat and Non-Combat-Related Mild Traumatic Brain Injury	Brickell TA, Lipka SM, French LM, Kennedy JE, Bailie JM, Lange RT. (2017)	Cohort study	U.S. military service members (female, with mild TBI—combat or non-combat related)	Evaluation of mild TBI symptoms in female military personnel following combat and non-combat exposure	Relationship between mild TBI and symptom reporting in female military personnel	United States	Study focused on symptom reporting differences in mild TBI among female service members.
The effects of incremental changes in rucksack load on lower extremity joint Kinetic patterns during ruck marching	Almonroeder TG, Harding L, Seubert B, Cowley H, Kernozek T. (2021)	Experimental study	14 soldiers marching with varying backpack loads	Progressive increase in backpack weight during marching and analysis of lower limb joint kinetics	Changes in lower limb joint kinetics during marching with increased load	United States	Study on the effects of increasing backpack weight on joint movement patterns during military marching.
Metabolic demands of body armor on physical performance in simulated conditions	Ricciardi R, Deuster PA, Talbot LA. (2008)	Experimental study	34 military soldiers in simulated conditions	Use of ballistic vest and evaluation of metabolic demands during	Effects of ballistic vest use on metabolic demands and physical performance	United States	Study on the impact of ballistic vest use on soldiers' physical

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
				physical performance in simulated conditions			performance and metabolic demands.
Association among functional-movement ability, fatigue, sedentary time, and fitness in 40 years and older active duty military personnel	Kennedy-Armbruster C, Evans EM, Sexauer L, Peterson J, Wyatt W. (2013)	Cross-sectional study	Active-duty military personnel aged 40 and older	Assessment of functional movement capacity, fatigue, sedentary time, and physical fitness	Relationships between movement capacity, fatigue, sedentary behavior, and physical fitness	United States	Study on factors influencing physical fitness and fatigue in older military personnel.
Motor Unit Number Estimate and Isometric Hand Grip Strength in Military Veterans with or Without Muscular Complaints: Reference Values for Longitudinal Follow-up	Li M, Yao W, Sundahl C. (2018)	Cohort study	Military veterans with or without muscular complaints	Estimation of motor unit numbers and isometric handgrip strength in veterans	Reference values for motor unit count and handgrip strength	United States	Study comparing handgrip strength in veterans with and without muscular complaints.
Two days of calorie deprivation impairs high level cognitive processes, mood, and self-reported exertion during aerobic exercise: A randomized double-blind, placebo-controlled study	Giles GE, Mahoney CR, Caruso C, Bukhari AS, Smith TJ, Pasiakos SM, McClung JP, Lieberman HR. (2019)	Randomized double-blind placebo-controlled trial	23 healthy participants (17 men, 6 women)	Two-day caloric restriction during aerobic exercise, with assessment of cognitive processes, mood, and perceived exertion	Decreases in cognitive function, mood, and perceived exertion during aerobic exercise with caloric restriction	United States	Study on the effects of caloric restriction on cognitive performance and perceived effort during exercise.
War-related illness symptoms among Operation Iraqi Freedom/Operation Enduring Freedom returnees	Amin MM, Parisi JA, Gold MS, Gold AR. (2010)	Cohort study	Veterans of Operation Iraqi Freedom/Enduring Freedom	Analysis of war-related illness symptoms among military veterans	Symptoms of war-related illness in OIF/OEF veterans	United States	Study on illness symptoms among veterans of Iraq and Afghanistan deployments.
Gulf War veterans' health: medical evaluation of a U.S. cohort	Eisen SA, Kang HK, Murphy FM, Blanchard MS, Reda DJ, Henderson WG, Toomey R, Jackson LW, Alpern R, Parks BJ, Klimas N, Hall C, Pak HS, Hunter J, Karlinsky J, Battistone MJ, Lyons MJ; Gulf War Study Participating Investigators. (2005)	Cohort study	U.S. Gulf War veterans	Medical assessment of Gulf War veterans and their related health symptoms	Evaluation of physical and mental health in Gulf War veterans	United States	Study on the physical and mental health of U.S. Gulf War veterans.

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Sleep restoration is associated with reduced plasma C-reactive protein and depression symptoms in military personnel with sleep disturbance after deployment	Heinzelmann M, Lee H, Rak H, Livingston W, Barr T, Baxter T, Scattergood-Keeper L, Mysliwiec V, Gill J. (2014)	Experimental study	Military personnel with post-deployment sleep disorders	Sleep restoration in service members with sleep disturbances after deployment	Reduction in plasma C-reactive protein and depressive symptoms following sleep restoration	United States	Study on the correlation between sleep restoration and improvements in inflammation markers and depressive symptoms.
Associations between mood and specific health composites during U.S. Navy Persian Gulf operations	Burr RG, Woodruff SI, Banta GR. (1993)	Cross-sectional study	U.S. Navy personnel during Persian Gulf operations	Analysis of the relationship between mood and overall health during military operations	Association between mood and various aspects of service members' health	United States	Study on how emotional state correlates with overall health during Persian Gulf operations.
Morning Cortisol Is Associated with Stress and Sleep in Elite Military Men: A Brief Report	Hernández LM, Markwald RR, Kviatkovsky SA, Perry LN, Taylor MK. (2018)	Cross-sectional study	58 elite male military personnel	Assessment of morning cortisol, stress, and sleep	Association between morning cortisol levels, stress, and sleep quality	United States	Study on the relationship between morning cortisol and stress/sleep in elite military personnel.
The health effects of peacekeeping (Bosnia, 1992-1996): a cross-sectional study—comparison with nondeployed military personnel	Hotopf M, David A, Hull L, Ismail K, Unwin C, Wessely S. (2003)	Cross-sectional study	Military soldiers who served in peacekeeping missions in Bosnia (1992–1996)	Comparison of health outcomes between peacekeeping veterans and non-deployed soldiers	Health effects of peacekeeping missions compared to non-deployed service members	United Kingdom	Comparative study on health effects in soldiers deployed to peacekeeping missions versus non-deployed personnel.
Predicting individual differences in response to sleep loss: application of current techniques	Chandler JF, Arnold RD, Phillips JB, Turnmire AE. (2013)	Experimental study	15 active-duty military personnel (13 men, 2 women) with sleep deprivation	Current techniques for predicting individual differences in response to sleep deprivation	Individual variability in response to sleep deprivation	United States	Study on how to predict differences in performance after sleep deprivation.
Effects of energy balance on cognitive performance, risk-taking, ambulatory vigilance and mood during simulated military sustained operations (SUSOPS)	Beckner ME, Lieberman HR, Hatch-McChesney A, Allen JT, Niro PJ, Thompson LA, Karl JP, Gwin JA, Margolis LM, Hennigar SR, McClung JP, Pasiakos SM. (2023)	Experimental study	Military soldiers in sustained simulated operations	Effects of energy balance during prolonged simulated military operations	Impact of energy balance on cognitive performance, risk-taking behavior, ambulatory vigilance, and mood	United States	Study on how energy balance affects cognition and behavior during sustained military operations.
Deployment-related severe fatigue with depressive symptoms is associated with increased glucocorticoid binding to peripheral blood mononuclear cells	van Zuiden M, Geuze E, Maas M, Vermetten E, Heijnen CJ, Kavelaars A. (2009)	Cohort study	Soldiers with severe fatigue and deployment-related depressive symptoms	Increased glucocorticoid binding in peripheral blood mononuclear cells in fatigued and depressed military personnel	Association between fatigue, depression, and increased glucocorticoid binding	Netherlands	Study on the effects of deployment-related severe fatigue on immune and hormonal responses.

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Women in novel occupational roles: mental health trends in the UK Armed Forces	Rona RJ, Fear NT, Hull L, Wessely S. (2007)	Cross-sectional study	Women in the UK Armed Forces in non-traditional roles	Analysis of mental health trends among female military personnel in new roles	Mental health trends in female service members in non-traditional military roles	United Kingdom	Study on the mental health of women in newly assigned roles within the UK Armed Forces.
Seating type and cognitive performance after 3 hours travel by high-speed boat in sea states 2-3	McMorris T, Myers S, Dobbins T, Hall B, Dyson R. (2009)	Experimental study	12 male naval personnel exposed to a 3-hour high-speed boat ride	Evaluation of cognitive performance after a 3-hour boat ride in sea state 2–3 conditions	Effect of seating type on cognitive performance following the boat ride	United Kingdom	Study on how seating design during boat transport affects cognitive performance in naval personnel.
Impact of impaired sleep on the development of PTSD symptoms in combat veterans: a prospective longitudinal cohort study	van Liempt S, van Zuiden M, Westenberg H, Super A, Vermetten E. (2013)	Prospective cohort study	Combat veterans with sleep disturbances	Impact of impaired sleep quality on the development of PTSD symptoms in combat veterans	Relationship between impaired sleep and PTSD symptom development	Netherlands	Longitudinal study on the impact of poor sleep on PTSD development in combat veterans.
The role of post-traumatic stress disorder symptoms in fatigued Cambodia veterans	de Vries M, Soetekouw PM, Van Der Meer JW, Bleijenberg G. (2000)	Cross-sectional study	Cambodian war veterans with fatigue symptoms	Assessment of fatigue in Cambodian veterans	Fatigue levels and related factors among Cambodian veterans	Netherlands	Study on fatigue symptoms in Cambodian veterans, focusing on post-war factors.
Relationship Between Post-Traumatic Stress Disorder Symptoms and Chronic Pain-Related Symptom Domains Among Military Active Duty Service Members	Li H, Flynn DM, Highland KB, Barr PK, Langford DJ, Doorenbos AZ. (2021)	Cohort study	2,745 active-duty military personnel	Evaluation of PTSD symptoms and chronic pain in active military members	Relationship between PTSD symptoms and chronic pain-related domains	United States	Study on the association between PTSD and chronic pain among active service members.
Psychophysiological modifications in an assault infantry manoeuvre using a chemical, biological, radiological and nuclear personal protective equipment	Merchan A, Clemente-Suárez VJ. (2020)	Experimental study	Infantry soldiers in assault maneuvers	Use of chemical, biological, radiological, and nuclear (CBRN) personal protective equipment during maneuvers	Psychophysiological modifications during CBRN protective equipment use	Spain	Study on the psychophysiological effects of assault maneuvers with CBRN protective gear.
Risk factors for multisymptom illness in US Army veterans of the Gulf War	Wolfe J, Proctor SP, Erickson DJ, Hu H. (2002)	Cohort study	U.S. Army Gulf War veterans	Risk factors for multisymptom illness among Gulf War veterans	Identification of risk factors associated with multisymptom illness	United States	Study on the risk factors for multisymptom illness in U.S. Gulf War veterans.
Predicting changes in performance due to cognitive fatigue: A multimodal approach based on speech motor coordination and electrodermal activity	Heaton KJ, Williamson JR, Lammert AC, Finkelstein KR, Haven CC, Sturim D, Smalt CJ, Quatieri TF. (2020)	Estudo experimental	29 active-duty soldiers exposed to cognitive fatigue	Multimodal approach to predict performance changes due to cognitive fatigue based on speech motor coordination and electrodermal activity	Prediction of performance changes due to cognitive fatigue	United States	Study on predicting performance alterations associated with cognitive fatigue using speech motor coordination and electrodermal activity techniques.
Sex differences in neuromuscular fatigability in	O'Leary TJ, Saunders SC, McGuire SJ, Izard RM. (2018)	Experimental study	British Army recruits	Assessment of sex differences in neuromuscular fatigue in response to field load carriage	Sex-related differences in neuromuscular fatigue in response to load carriage	United Kingdom	Study on how sex differences affect neuromuscular fatigue in British Army recruits.

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response to load carriage in the field in British Army recruits							
The relationship between aerobic fitness and recovery from high-intensity exercise in infantry soldiers	Hoffman JR. (1997)	Experimental study	197 infantry soldiers	Relationship between aerobic fitness and recovery from high-intensity exercise	Association between aerobic fitness and recovery capacity following intense physical effort	Israel	Study on how aerobic fitness influences recovery in soldiers after intense exercise.
Women Veterans, a Population at Risk for Fibromyalgia: The Associations Between Fibromyalgia, Symptoms, and Quality of Life	D'Aoust RF, Rossiter AG, Elliott A, Ji M, Lengacher C, Groer M. (2017)	Cross-sectional study	76 female veterans	Relationship between fibromyalgia, symptoms, and quality of life	Association between fibromyalgia and quality of life in female veterans	United States	Study on the relationship between fibromyalgia symptoms and quality of life in female veterans.
Snoring was related to self-reported daytime sleepiness and tiredness in young adults performing compulsory conscript service	Orjatsalo M, Toppila J, Heimola M, Tuisku K, Simola P, Ämmälä AJ, Räisänen P, Parkkola K, Paunio T, Alakuijala A. (2023)	Cross-sectional study	Young adults in mandatory military service	Relationship between self-reported snoring, daytime sleepiness, and fatigue	Association between snoring and daytime sleepiness and fatigue in conscripts	Finland	Study on how snoring is related to daytime sleepiness and fatigue in conscripted military personnel.
The role of post-traumatic stress disorder symptoms in fatigued Cambodia veterans	de Vries M, Soetekouw PM, van der Meer JW, Bleijenberg G. (2002)	Cross-sectional study	Cambodian veterans with fatigue	Relationship between PTSD symptoms and fatigue in Cambodian veterans	Impact of PTSD symptoms on fatigue in Cambodian veterans	Netherlands	Study on the role of PTSD symptoms in fatigue among Cambodian war veterans.
Severe decrements in cognition function and mood induced by sleep loss, heat, dehydration, and undernutrition during simulated combat	Lieberman HR, Bathalon GP, Falco CM, Kramer FM, Morgan CA 3rd, Niro P. (2005)	Experimental study	31 participants exposed to combat simulation	Sleep loss, heat, dehydration, and undernutrition during combat simulation	Cognitive and mood declines induced by adverse combat conditions	United States	Study on how sleep deprivation, heat, dehydration, and undernutrition affect cognition and mood during simulated combat.
Explanations for the increase in mental health problems in UK reserve forces who have served in Iraq	Browne T, Hull L, Horn O, Jones M, Murphy D, Fear NT, Greenberg N, French C, Rona RJ, Wessely S, Hotopf M. (2007)	Cross-sectional study	UK Armed Forces reservists who served in Iraq	Analysis of explanations for increased mental health problems in UK reservists after Iraq deployment	Increase in mental health problems among reservists following Iraq service	United Kingdom	Study on factors explaining the rise in mental health issues among UK reservists post-deployment.
Upward trends in symptom reporting in the UK Armed Forces	Horn O, Sloggett A, Ploubidis GB, Hull L, Hotopf M, Wessely S, Rona RJ. (2010)	Longitudinal study	UK Armed Forces	Trends in increased symptom reporting in the UK Armed Forces	Rising trends in health symptom reporting in the UK military	United Kingdom	Study on increased reporting of health symptoms in the UK Armed Forces over time
Soldier performance and mood states following a strenuous road march	Knapik J, Staab J, Bahrke M, Reynolds K, Vogel J, O'Connor J. (1991)	Experimental study	89 soldiers performing a military march	Performance and mood states following an exhausting military march	Changes in performance and mood following an exhausting march	United States	Study on the effects of strenuous marching on soldiers' performance and mood states.

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
Medical follow-up of Persian Gulf War Veterans with severe medically unexplained fatigue: a preliminary study	Nelson JJ, Natelson BH, Peckerman A, Pollet C, Lange G, Tiersky L, Servatius RJ, Policastro T, Fiedler N, Ottenweller JE. (2001)	Preliminary study	Gulf War veterans with severe unexplained fatigue	Medical follow-up of Gulf War veterans with severe unexplained fatigue	Identification and monitoring of severe unexplained fatigue in veterans	United States	Preliminary study on the medical follow-up of Gulf War veterans suffering from severe unexplained fatigue.
Comparison of Two Watch Schedules for Personnel at the White House Military Office President's Emergency Operations Center	Shattuck NL, Matsangas P, Eriksen E, Kulubis S. (2015)	Experimental study	14 active-duty military members from the White House Military Office	Comparison of two watch schedules for personnel at the White House Emergency Operations Center	Effects of watch schedules on military personnel performance	United States	Study comparing two surveillance schedules in an emergency operations center.
Factors associated with low back pain in air force fighter pilots: a cross-sectional study	Gomes SRA, Mendes PRF, Costa LDO, Bulhões LCC, Borges DT, Macedo LB, Brasileiro J. (2022)	Cross-sectional study	28 Brazilian Air Force fighter pilots	Factors associated with low back pain in fighter pilots	Identification of contributing factors to low back pain	Brazil	Study on contributing factors to low back pain in Brazilian Air Force fighter pilots.
Cognition during sustained operations: comparison of a laboratory simulation to field studies	Lieberman HR, Niro P, Tharion WJ, Nindl BC, Castellani JW, Montain SJ. (2006)	Experimental study	13 healthy male soldiers participating in sustained operations simulation	Comparison between laboratory simulation and field studies on cognition during sustained operations	Effects of lab x field settings on cognition during prolonged operations	United States	Study comparing cognitive performance during simulated and field-based sustained military operations.
Clinical utility of PTSD, resilience, sleep, and blast as risk factors to predict poor neurobehavioral functioning following traumatic brain injury: A longitudinal study in U.S. military service members	Lange RT, French LM, Bailie JM, Merritt VC, Pattinson CL, Hungerford LD, Lipka SM, Brickell TA. (2022)	Longitudinal study	U.S. Armed Forces personnel	Analysis of risk factors (PTSD, resilience, sleep, blast exposure) for predicting impaired neurobehavioral functioning post-TBI	Association between risk factors and neurobehavioral dysfunction after TBI	United States	Longitudinal study on predictors of neurobehavioral impairment following traumatic brain injury in military personnel.
Effects of Maximal Effort Running on Special Agents' Loaded and Unloaded Drop Jump Performance and Mechanics	Merrigan JJ. (2021)	Experimental study	Special agents performing maximal effort runs	Effects of maximal effort runs on jump performance and mechanics with and without external load	Changes in jump performance and mechanics following high-intensity running	United States	Study on the biomechanical effects of sprinting on jumping with load in special agents.
Post-traumatic stress impact on health outcomes in Gulf War Illness	Jeffrey M, Collado F, Kibler J, DeLucia C, Messer S, Klimas N, Craddock TJA. (2021)	Cross-sectional study	Gulf War veterans with Gulf War Illness	Impact of PTSD on health outcomes in veterans with Gulf War Illness	Association between PTSD and health problems in Gulf War veterans	United States	Study on the influence of PTSD on health in veterans diagnosed with Gulf War Illness.

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A brief pre-exercise nap may alleviate physical performance impairments induced by short-term sustained operations with partial sleep deprivation - A field-based study	Keramidas ME, Siebenmann C, Norrbrand L, Gadefors M, Eiken O. (2018)	Field experimental study	Participants performing sustained operations with partial sleep deprivation	Effect of a brief pre-exercise nap on physical performance after sleep-deprived operations	Improvement in physical performance following pre-exercise napping	Sweden	Field study on the effectiveness of napping to counteract physical performance deficits during sustained operations.
The Effect of Wet Conditions and Surface Combat Swimming on Shooting	Kostoulas ID, Kounalakis SN, Toubekis AG, Karagiannis A, Kaniadakis A, Mavraganis D, Karatrantou K, Gerodimos V. (2023)	Experimental study	45 male cadets performing combat swimming under wet conditions	Effect of wet conditions and combat swimming on shooting performance	Impact of wet conditions and combat swimming on shooting accuracy	Greece	Study on how wet environments and combat swimming influence shooting performance.
Posttraumatic stress symptomatology is associated with unexplained illness attributed to Persian Gulf War military service	Ford JD, Campbell KA, Storzbach D, Binder LM, Anger WK, Rohlman DS. (2001)	Cross-sectional study	Gulf War veterans	PTSD symptoms associated with medically unexplained illnesses attributed to Gulf War service	Association between PTSD symptoms and unexplained illnesses in Gulf War veterans	United States	Study on the association between PTSD symptoms and unexplained conditions among Gulf War veterans.
Monitoring Responses to Basic Military Training with Heart Rate Variability	Corrigan SL, Bulmer S, Roberts SSH, Warmington S, Drain J, Main LC. (2022)	Experimental study	Recruits undergoing basic military training	Monitoring physiological responses to basic training using heart rate variability (HRV)	Physiological responses to military basic training measured by HRV	Australia	Study on the use of heart rate variability to monitor physiological adaptation during basic military training.
Health of UK servicemen who served in Persian Gulf War	Unwin C, Blatchley N, Coker W, Ferry S, Hotopf M, Hull L, Ismail K, Palmer I, David A, Wessely S. (1999)	Cohort study	UK servicemen who served in the Gulf War	Health evaluation of UK military personnel who served in the Gulf War	Analysis of physical and mental health among UK Gulf War veterans	United Kingdom	Study on long-term physical and mental health of British military personnel post-Gulf War.
Health of US veterans of 1991 Gulf War: a follow-up survey in 10 years	Kang HK, Li B, Mahan CM, Eisen SA, Engel CC. (2009)	Cohort study	U.S. veterans who served in the 1991 Gulf War	Health assessment of U.S. Gulf War veterans 10 years after deployment	Long-term health impact evaluation in U.S. Gulf War veterans	United States	Longitudinal follow-up study on the health of U.S. veterans of the 1991 Gulf War.
The physiological and psychological effects of combat ration feeding during a 12-day training exercise in the tropics	Booth CK, Coad RA, Forbes-Ewan CH, Thomson GF, Niro PJ. (2003)	Experimental study	33 airfield defence guards in tropical training exercise	Effects of consuming combat rations during a 12-day training exercise in a tropical climate	Evaluation of physiological and psychological effects of combat rations in military training	Australia	Study on the impact of combat rations during military training in a tropical environment.
Post-traumatic stress disorder and chronic fatigue syndrome-like illness among Gulf War	Kang HK, Natelson BH, Mahan CM, Lee	Cohort study	30,000 Gulf War veterans	Chronic fatigue syndrome and PTSD in Gulf War veterans	Association between PTSD and chronic fatigue symptoms in Gulf War veterans	United States	Large-scale population study on PTSD and chronic fatigue syndrome in Gulf War veterans.

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
veterans: a population-based survey of 30,000 veterans	KY, Murphy FM. (2003)						
Post-awakening cortisol secretion during basic military training	Clow A, Edwards S, Owen G, Evans G, Evans P, Hucklebridge F, Casey A. (2006)	Experimental study	Recruits during basic military training	Cortisol awakening response (CAR) during basic training	Assessment of post-awakening cortisol levels during military basic training	United Kingdom	Study on cortisol secretion in recruits undergoing military basic training.
Lipid and other plasma markers are associated with anxiety, depression, and fatigue	Lieberman HR, Kellogg MD, Kramer FM, Bathalon GP, Leshner LL. (2012)	Observational study	35 participants with symptoms of anxiety, depression, and fatigue	Lipid and plasma biomarkers related to anxiety, depression, and fatigue	Associations between lipid/plasma markers and symptoms of anxiety, depression, and fatigue	United States	Study on the relationship between lipid and other plasma biomarkers and symptoms of anxiety, depression, and fatigue.
Cognitive function and mood during acute cold stress after extended military training and recovery	Lieberman HR, Castellani JW, Young AJ. (2009)	Experimental study	Military participants during acute cold stress following prolonged training	Cognitive function and mood during acute cold stress after extended military training	Assessment of cognitive function and mood state under cold stress following military training	United States	Study on the effects of cold stress on cognition and mood after prolonged military training.
Overuse injuries in female infantry recruits during low-intensity basic training	Finestone A, Milgrom C, Evans R, Yanovich R, Constantini N, Moran DS. (2008)	Observational study	Female infantry recruits during low-intensity basic training	Overuse injuries during low-intensity basic training	Evaluation of overuse injuries in female infantry recruits during basic training	Israel	Study on overuse injuries in female infantry recruits.
Physiological and psychological determinants of whole-body endurance exercise following short-term sustained operations with partial sleep deprivation	Keramidas ME, Gadefors M, Nilsson LO, Eiken O. (2018)	Experimental study	Military participants after short-term sustained operations with partial sleep deprivation	Whole-body endurance exercise after sleep-deprived operations	Physiological and psychological determinants of whole-body endurance exercise following sleep deprivation	Sweden	Study on physiological and psychological effects in military personnel after partial sleep deprivation.
Female marine recruit training: mood, body composition, and biochemical changes	Lieberman HR, Kellogg MD, Bathalon GP. (2008)	Experimental study	Female marine recruits during training	Military training and its effects on mood, body composition, and biochemistry	Changes in mood, body composition, and biochemical markers during training	United States	Study on the physiological and psychological effects of female recruit training.
Effects of one night of sleep deprivation on hormone profiles and performance efficiency	Goh VH, Tong TY, Lim CL, Low EC, Lee LK. (2001)	Experimental study	Military participants after one night of sleep deprivation	One-night sleep deprivation and its effects on hormonal profiles and performance	Changes in hormone profiles and performance efficiency due to sleep deprivation	Singapore	Study on hormonal and performance effects of a single night of sleep deprivation in military personnel.
Prior night sleep duration is associated with psychomotor vigilance in a healthy sample of police academy recruits	Neylan TC, Metzler TJ, Henn-Haase C, Blank Y, Tarasovsky G, McCaslin SE, Lenoci M, Marmar CR. (2010)	Observational study	Police academy recruits	Prior night sleep duration and its effects on psychomotor vigilance	Association between sleep duration and psychomotor vigilance in recruits	United States	Study on the relationship between sleep duration and psychomotor performance in police academy recruits.

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Perception of Mental Health Among Tactical and Street-Level Military Police Officers	Oliveira KL de, Santos LM dos. (2010)	Observational study	Tactical and street military police officers	Perception of mental health across different police units	Perceived mental health among tactical and street police officers	Brazil	Study analyzing how military police officers perceive their mental health across different service units.
Professional Quality of Life: What Sustains the Psychological Well-Being of Firefighters?	Lopes, Helyssa Luana, & Barbosa, Silvânia da Cruz. (2020)	Qualitative study	101 military firefighters	Factors influencing psychological well-being and professional quality of life	Identification of factors affecting firefighters' psychological well-being	Brazil	Qualitative study exploring the factors that influence psychological well-being among firefighters.
Musculoskeletal Symptoms in Military Firefighters of the Federal District	Oliveira, Eva Pereira de, et al. (2019)	Observational study	Military firefighters in the Federal District	Osteomuscular symptoms in firefighters	Identification of osteomuscular symptoms among military firefighters	Brazil	Study on osteomuscular symptoms among military firefighters in the Federal District.
Relationship of fatigue, physical fitness and cardiovascular endurance to the hypoxic response of military pilots in Indonesia	Sucipta, I. J.; Adi, N. P.; Kaunang, D. (2018)	Experimental study	Military pilots in Indonesia	Fatigue, physical fitness, and cardiovascular endurance in the context of hypoxic response	Assessment of the relationship between fatigue, physical fitness, and hypoxic response	Indonesia	Study published in IOP Conference Proceedings focused on hypoxic response in military pilots.
Changes in physiological tremor resulting from sleep deprivation under conditions of increasing fatigue during prolonged military training	Tomczak, A., Gajewski, J., & Mazur-Różycka, J. (2014)	Experimental study	Soldiers in prolonged military training	Sleep deprivation under increasing fatigue during extended military training	Changes in physiological tremor due to sleep deprivation and fatigue	Poland	Study on the effect of sleep deprivation on physiological tremor under fatigue during military training.
Neuromuscular fatigue analysis of soldiers using DWT based EMG and EEG data fusion during load carriage	Damit, D. F. P., Aroscha Senanayake, S. M. N., Malik, O. A., & Tuah, N. J. (2017)	Experimental study	Soldiers undergoing load carriage training	Neuromuscular fatigue analysis using EMG and EEG data fusion during load transport	Neuromuscular fatigue measured through EMG and EEG data fusion during load carriage	Brunei	Study uses EMG and EEG data integration to assess neuromuscular fatigue in soldiers during load-bearing activities.
Avaliação da qualidade do sono e fadiga em tripulação de helicópteros militares	da Silva Mazariolli, A. (2023)	Observational study	Military helicopter crew members	Evaluation of sleep quality and fatigue in helicopter crew members	Fatigue, sleep quality, and their effects on crew performance and health	Brazil	Focus on helicopter crews and the relationship between sleep quality and fatigue in military aviation.
Exercise-Induced Cardiac Fatigue in Soldiers Assessed by Echocardiography	Charton, M., Kervio, G., Matelot, D., Lachard, T., Galli, E., Donal, E., ... & Schnell, F. (2023)	Experimental study	58 military soldiers	Exercise-induced cardiac fatigue assessed via echocardiography	Cardiac fatigue induced by intense exercise, evaluated with echocardiographic analysis	France	Study examines the effects of high-intensity exercise on cardiac fatigue in military personnel.
Energy deficiency during cold weather mountain training in NSW SEAL qualification students	Beals, K., Perlsweig, K. A., Haubenstriker, J. E., Lovalekar, M., Beck, C. P., Yount, D.	Experimental study	NSW SEAL qualification students	Energy deficiency during cold-weather mountain training, with emphasis on nutrition	Assessment of energy deficiency during physical training under extreme conditions	United States	Study focuses on the relationship between endurance training and nutrition in cold environments.

Article title	Authors and year	Study type	Population studied	Intervention/exposure	Main outcomes	Country	Additional notes
	L., ... & Nindl, B. C. (2019)						
Heart rate variability to assess combat readiness	Fogt DL, Cooper PJ, Freeman CN, Kalns JE, Cooke WH (2009)	Experimental study	Military personnel in combat readiness training	Use of heart rate variability to assess combat readiness	Combat readiness evaluated through heart rate variability measures	United States	Study explores how heart rate variability can serve as an indicator of readiness in military contexts.