



WARFIGHTER

PERFORMANCE OPTIMIZATION

FORGING PEAK READINESS

Using the Warfighter Performance Optimization Framework to Understand Sleep's Critical Role in Readiness



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Sleep: The Key to Medical Readiness

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Dr. Theresa Santo has no financial relationships or conflicts of interest to disclose in relation to this presentation.



Learning Objectives

By the end of this session, participants will be able to...

01

Explain how the modernized Total Force Fitness (TFF) framework positions **sleep as a foundational contributor** to readiness.

02

Describe how **system-level factors** across multiple domains and readiness levels **influence sleep outcomes** in military contexts.

03

Identify **organizational and policy leverage points** to improve sleep in support of sustained readiness and performance.

Sleep is Foundational to Readiness

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Sleep is a **critical, system-level readiness enabler** that leadership must actively **manage** and **protect**.

CRITICAL READINESS ENABLER

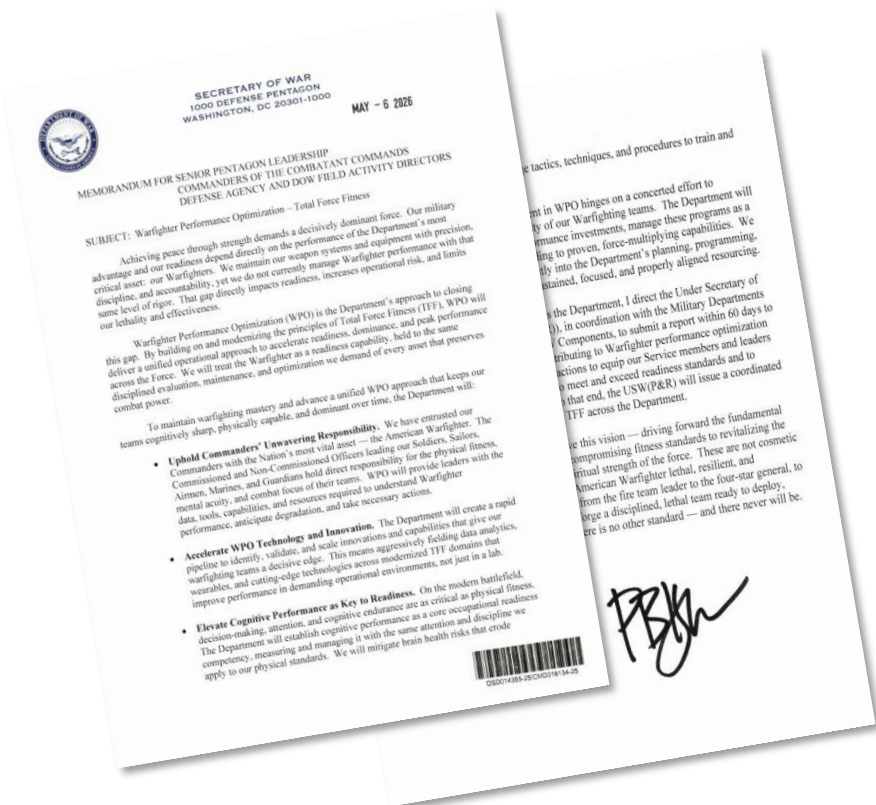
Sleep is a **foundational determinant** of **cognitive, physical, and psychological performance**. Historically, sleep has been treated as an **individual responsibility**, not a **system-level requirement**.



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Setting the Standard for Warfighter Performance



“

We maintain our weapon systems and equipment with precision, discipline, and accountability, yet we do not currently manage Warfighter performance with that same level of rigor. That gap directly impacts readiness, increases operational risk, and limits our lethality and effectiveness. Warfighter Performance Optimization (WPO) is the Department's approach to closing this gap.

”

THE REQUIREMENTS

UPHOLD

Commanders' Unwavering Responsibility

ACCELERATE

Technology and Innovation

ELEVATE

Cognitive Performance as a Central Readiness Enabler

INVEST

In Warfighter Lethality

Warfighter Performance Optimization (WPO)



THE WARFIGHTER

A highly trained, predominantly young population with a 3:1 male-to-female ratio. Warfighters routinely operate under immense physical and psychological stress.

WARFIGHTER PERFORMANCE OPTIMIZATION

The continuous, integrated conditioning of the cognitive, physical, psychological, social, and spiritual dimensions of the Warfighter to sustain and maximize performance.



Warfighter Performance
Optimization Directorate

DOW-LEVEL ENABLING
READINESS PROGRAMS

SERVICE-LEVEL WPO PROGRAMS



Air Force



Army



Marine Corps



Navy



Space Force



*Warfighter First
Operational Agility
Military Dominance*



END
STATE

Warfighters sustain cognitive, physical, psychological, social, and spiritual dominance across operational cycles, enabled by cohesive teams, performance support systems, and a sense of purpose. Command teams can **assess, predict, and optimize performance to maintain readiness and overmatch.**



Total Force Fitness (TFF) Framework

PERFORMANCE IS MULTIDIMENSIONAL

All capabilities center around **the Warfighter**, who stands at the absolute center of WPO's operations and anchors the TFF framework

Five interdependent, science-backed domains that define total fitness

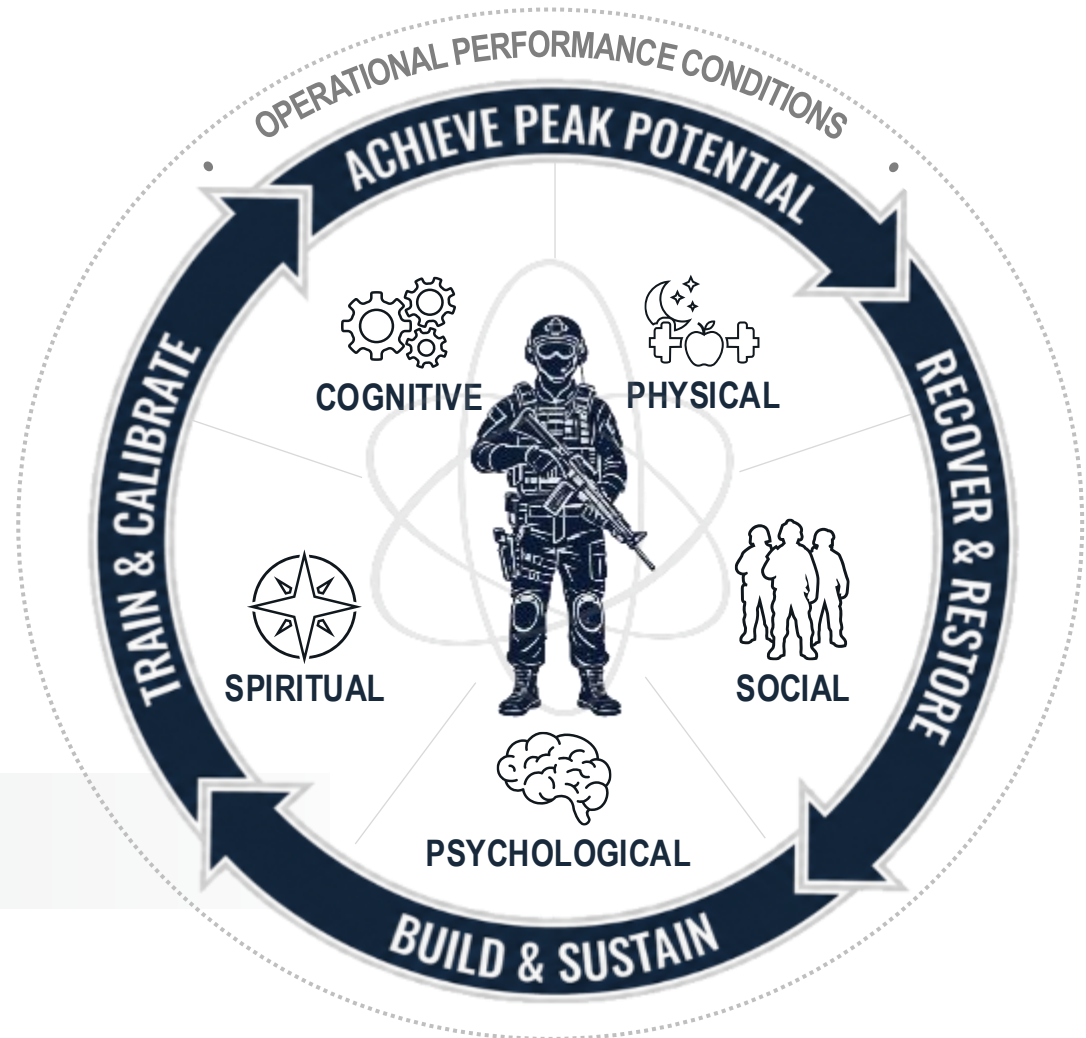
A **four stage, cyclical process** of training, performing, and recovering to achieve peak readiness

Dynamic **external factors** (environmental, organizational, mission) that challenge and shape mission performance

Sleep has cross-cutting impact across all five domains and fuels the readiness cycle

WARFIGHTER PERFORMANCE OPTIMIZATION

DEFEND • DETER • PREVAIL





Multi-Domain Approach: Sleep & Fatigue

*"Slower response and processing times lead to **greater possibility of mistakes while sleep deprived.**"*

– Aviation maintainer, Sleep & Fatigue GAO Report



Cognitive Impacts

Degraded ability to **operate complex weapons systems** and make **split-second decisions**



Physical Impacts

Increased **risk of physical injury** and prolonged recovery



Psychological Impacts

Psychological grit gives way to **emotional volatility**, increasing the **risk of mission failure**



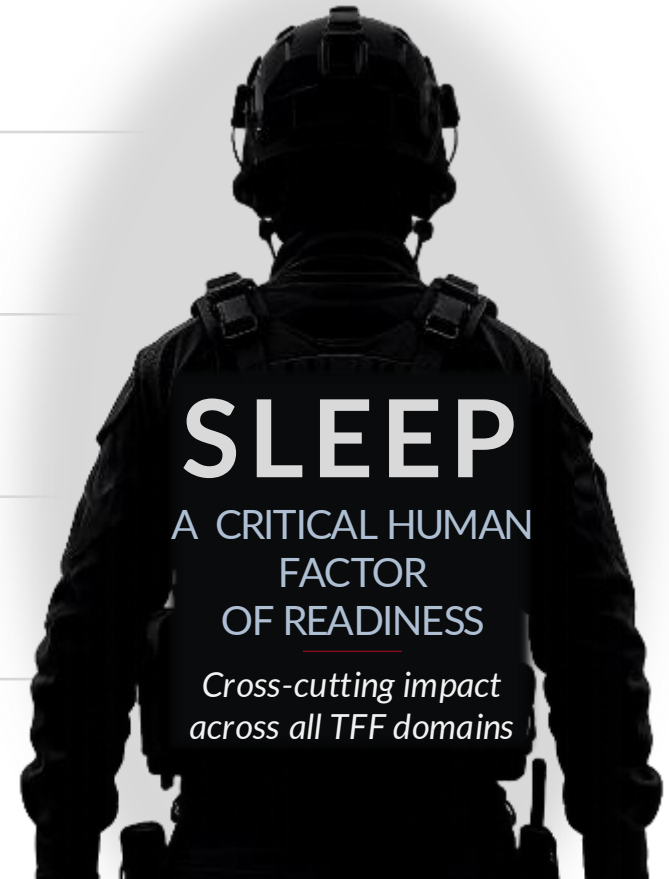
Social Impacts

Catastrophic **breakdowns in communication** that cost lives and destroy trust



Spiritual Impacts

Impaired connection to core values, leading to **lapses in moral judgment** under pressure



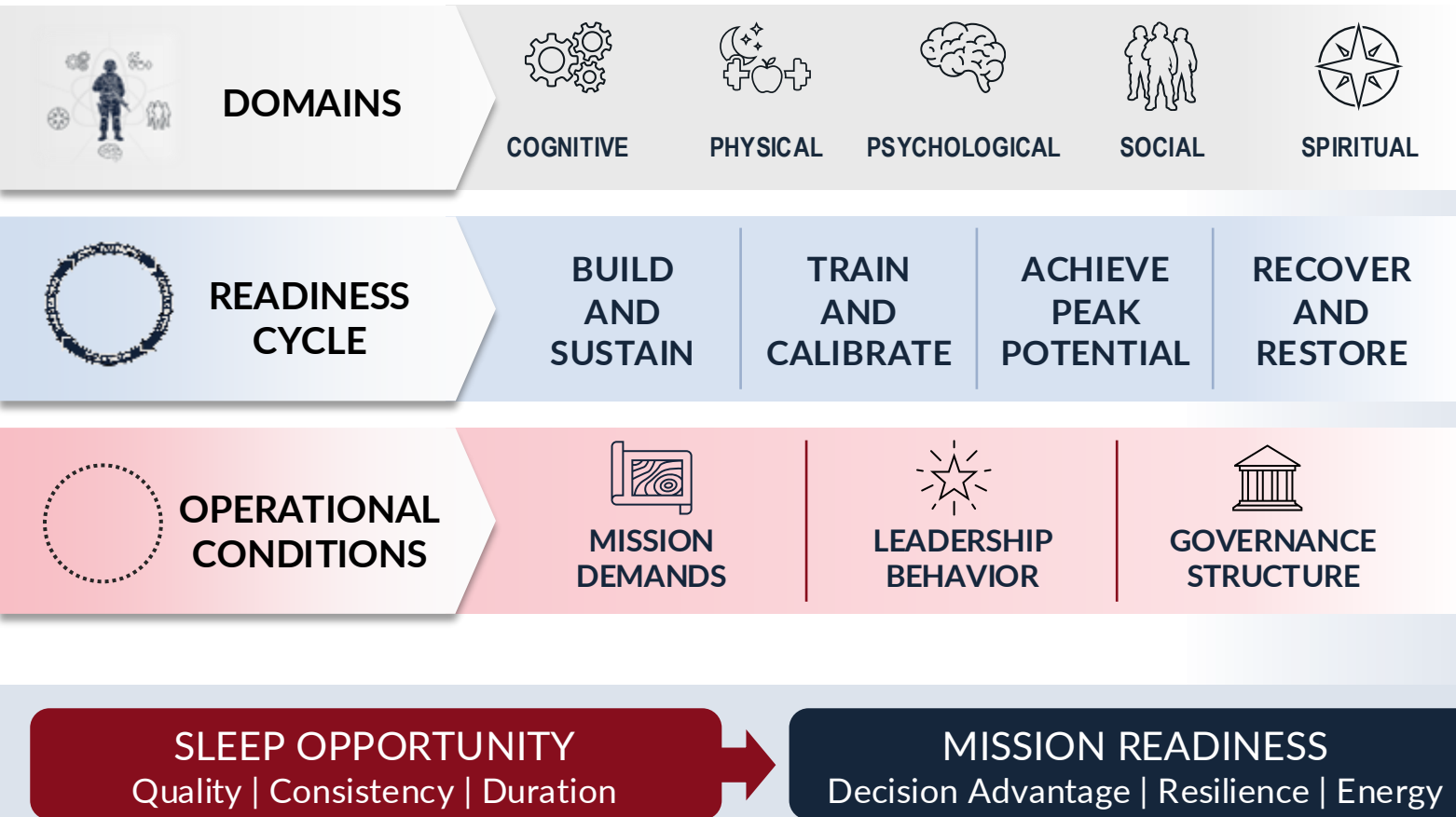
*"Sleep may be the **most important biological factor** that determines service member health and combat readiness."*

– 2021 DoD Study on Effects of Sleep Deprivation



System-Level Drivers of Fatigue

The TFF Framework provides a structured lens for examining how **interacting system-level** factors shape sleep opportunity and readiness.



DRIVERS OF FATIGUE

- OPERATIONAL DEMANDS**
 - High OPTEMPO, erratic schedules, and shift work
- ENVIRONMENTAL FACTORS**
 - Substandard barracks
 - Inadequate Sleep Conditions
 - Shipboard Living
- LEADERSHIP & CULTURE**
 - Equating sleep deprivation with toughness and dedication
- POLICY CONSTRAINTS**
 - Lack of mandated sleep windows

When mission demands and system conditions misalign, **fatigue increases**, **injury risk rises**, and **readiness declines**



Actionable Leverage Points

Operationalizing Sleep to Master Warfighter Performance

DRIVERS OF FATIGUE



OPERATIONAL DEMANDS



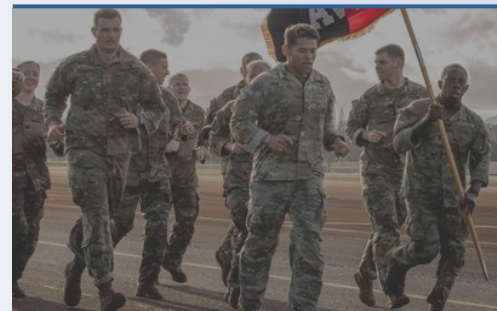
ENVIRONMENTAL FACTORS



LEADERSHIP & CULTURE



POLICY CONSTRAINTS



WPO'S ACTIONS

STRATEGIC GUIDANCE & POLICY

- Embed **sleep and recovery principles** into doctrine
- Drive a unified, **enterprise-wide strategy** for warfighter performance

LEADERSHIP ADVOCACY

- Provide **top-cover** for commanders to prioritize recovery & sleep as a **tactical necessity**
- Shift **cultural norms** from “toughing it out” to comprehensive readiness

UNIFIED & INTEGRATED DATA

- Standardize metrics to **track sleep's impact** on readiness
- Pilot and scale tools to **measure and optimize sleep** during operational conditions



The Way Forward for Warfighter Sleep

Systemic Solutions to Optimize Performance Across the Lifecycle



SYSTEMIC SOLUTIONS

DoW is addressing fatigue at the environmental and organizational levels rather than focusing solely on individual behavior.



TARGETED INTERVENTIONS

The TFF Framework provides a comprehensive lens through which to examine sleep and fatigue-related outcomes and intervention opportunities.



INSTITUTIONAL PRIORITY

The newly established WPO Directorate is establishing human performance policy and recognizes sleep as a mission-essential priority.

Questions & Discussion

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References

1. Government Accountability Office. (2024). Military readiness: Comprehensive approach needed to address service member fatigue and manage related efforts (Report No. GAO-24-105917). U.S. Government Accountability Office. <https://www.gao.gov/products/gao-24-105917>
2. All photos were sourced from the Digital Visual Information Distribution System ([DVIDS](#))