WOUNDED WARRIOR PROJECT®

WARRIOR SURVEY

WOUNDED WARRIOR
CHRIS GORDON

★ ★ ★ ★ ★ LONGITUDINAL: WAVE 3 ★ ★ ★ ★ ★

WOUNDED WARRIOR
CHRIS GORDON AND SON

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AUTHORS AND ACKNOWLEDGMENTS

AUTHORS

This Report of Findings was written by:

Mayara Fontes Marx, Ph.D.

Sarah Evans, MSc

Elizabeth Gaynor

Amanda W. Peterson

Nicole Chisolm, MPH

ACKNOWLEDGMENTS

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SUGGESTED CITATION

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GLOSSARY OF TERMS

Table of most commonly used abbreviations:

AUDIT-C	Alcohol Use Disorders Identification Test-Concise
BMI	Body Mass Index
DAST-10	Drug Abuse Screening Test
DoD	U.S. Department of Defense
FSS	The U.S. Household Food Security Survey
IFDFW	InCharge Financial Distress/Financial Well-Being Scale
MCS	VR-12 Mental Component Score (Mental Health Quality of Life Score)
MET	Metabolic Equivalent Value
MST	Military Sexual Trauma
PCL-5	Post-Traumatic Stress Disorder Checklist
PCS	VR-12 Physical Component Score (Physical Health Quality of Life Score)
PEG	The Pain, Enjoyment of Life, and General Activity Scale
PHQ	Patient Health Questionnaire
PSQI	Pittsburgh Sleep Quality Index
PTG	Post-Traumatic Growth
PTSD	Post-Traumatic Stress Disorder
QoL	Quality of Life
TBI	Traumatic Brain Injury
VA	U.S. Department of Veterans Affairs
VR-12	The Veterans RAND 12-Item Health Survey
WHO	World Health Organization
WWP	Wounded Warrior Project

EXECUTIVE SUMMARY

ABOUT WOUNDED WARRIOR PROJECT

Wounded Warrior Project is a nonprofit 501(c)(3) veterans service organization that is transforming the way America's post-9/11 wounded, ill, and injured veterans and service members are empowered, employed, and engaged in their communities. WWP supports warriors through and beyond their transitions to civilian life with services in mental health, physical health, peer connection, independence, and financial wellness.

In addition to its direct services to warriors, WWP advocates before Congress, the U.S Department of Veterans Affairs (VA), and the U.S Department of Defense (DoD) for policies and initiatives that make a real difference in the lives of veterans, active duty, their families, and caregivers. These efforts have led to the creation and passage of life-changing legislation, including the Honoring Our Promise to Address Comprehensive Toxics Act of 2022 (known as the PACT Act), Servicemembers' Group Life Insurance Traumatic Injury Protection program, the Caregivers and Veterans Omnibus Health Services Act of 2010, the Ryan Kules and Paul Benne Specially Adaptive Housing Improvement Act of 2019, and the Veteran Families Financial Support Act of 2020.

WWP's programs, services, and advocacy efforts are all driven by warriors' greatest needs, which are informed by the responses to this survey.

ABOUT THE WARRIOR SURVEY

AIM

The Warrior Survey aims to identify and highlight emerging trends among WWP warriors over time and understand the impact of different factors on quality of life.

WAVE 3

WWP's 2023 Warrior Survey (Wave 3) has grown to represent more than 185,000 post-9/11 veterans across the U.S. and its territories. The Warrior Survey gives WWP warriors a platform to be heard by individuals and organizations who have the power to initiate change. This data provides a 360-degree view of the warriors WWP serves and allows us to understand and address warriors' most pressing needs. It guides WWP's efforts and the efforts of those who share and support our mission of honoring and empowering warriors.

Wave 3 is the 14th administration of the survey and includes questions addressing warrior demographics, military experience, service-connected injuries, whole health, access to health care, financial wellness, social connection, and support. The survey is not intended to measure the impact of individual WWP programs; however, WWP uses Warrior Survey data to determine how it can better serve warriors through direct service programs and advocacy efforts.

METHODOLOGY

The first survey was administered in 2010 and has been revised over the years to collect the most timely and pertinent information as warriors' needs evolve. As part of this evolution and WWP's commitment to understanding warriors' most pressing needs, the survey transitioned in 2021 from a cross-sectional census to a longitudinal sample survey. This shift in design and methodology was retained for Wave 3 and will remain for future iterations.

The primary advantage of a longitudinal design over a cross-sectional design is that it allows WWP to observe individual changes over time. This makes it possible for WWP to identify, with greater accuracy, how aging and particular life events affect warriors. Additionally, WWP will administer the survey biennial instead of every year. This was done to reduce the survey burden for WWP warriors and allow more time between data collection periods to fully understand how warriors' needs change.

POPULATION SAMPLING

Wave 3 survey was administered by NORC at the University of Chicago and sent to 102,739 WWP warriors. Data collection continued for nine and a half weeks, from May 25 to August 1, 2023. A multimodal survey recruitment approach was used for the Wave 3 survey. Warriors were contacted by postal mail and email for the initial survey invitation and received weekly email reminders, digital newsletters, and final reminder postcards throughout the field period. Incentive gifts were provided to thank warriors for their time and increase participation. Warriors who submitted the survey received a WWP-branded beanie.

The final response rate in Wave 3 was 18.39% (18,891 completed surveys among 102,739 eligible WWP warriors in the survey population), representing the 185,033 warriors registered with WWP as of March 2023. Compared to prior waves, the assessment of the Wave 3 sample found no meaningful differences in respondent characteristics. The Appendix includes more details on survey methods and administration.

WAVE 3: NEW TOPICS AND UPDATES TO EXISTING TOPICS

- **Depression:** Measured by the Patient Health Questionnaire (PHQ-2). In Wave 2, this was measured by the nine-item Patient Health Questionnaire (PHQ-9).
- **Sleep quality:** Measured by two items from the Pittsburgh Sleep Quality Index (PSQI). In Wave 2, this was measured by the 19-item PSQI.
- **Financial wellness:** Updated questions.
- **Service-related injuries and conditions:** Updated questions.
- **Telehealth:** Updated questions.
- **Gaming:** Updated questions.
- **Access to care:** Updated questions.
- **Toxic exposure:** Updated questions to account for the passage of the PACT Act.

HOW TO INTERPRET THIS REPORT

WHO IT REPRESENTS: WWP WARRIORS

Results from the Warrior Survey represent veterans and service members registered with WWP, referred to in this report as "warriors" or "WWP warriors." Veterans and service members registered with WWP served in the military on or after September 11, 2001, and incurred a mental or physical injury, illness, or wound as a result of their service.

COMPARISONS

Throughout the report, comparisons between Wave 1, Wave 2, and Wave 3 data will be made to provide context for the information presented.

WAVE 1	WAVE 2	WAVE 3
2021 Warrior Survey	2022 Warrior Survey	2023 Warrior Survey

The report also makes comparisons between the WWP warrior population, findings from the literature, and these three other populations:

THE U.S. VETERAN POPULATION: The broader U.S. adult population who are veterans of the U.S. Armed Forces, as reported by the 2022 U.S. Census.[1]

THE U.S. POST-9/11 VETERAN POPULATION: U.S. veterans who served after September 2001, as reported by the 2022 U.S. Census.[1]

THE U.S. GENERAL POPULATION: U.S. adults aged 18 years or older, as reported by the 2022 U.S. Census.[1]

Updated question

UPDATED CONTENT FLAG:

This icon is used throughout the report to flag instances where questions have been updated between the iterations of the Warrior Survey. Updates to questions are important to consider when drawing comparisons across waves.

CALLOUT BOXES

The callout boxes provide additional information to aid readers in understanding the content of this report.

APPENDIX

The Appendix includes the questionnaire scales used in Wave 3 and provides detailed supplemental information on the analysis, methodology, weighting, and survey communications. It also includes complete table of findings and 360 data points with comparisons to the populations outlined above, as well as a list of all WWP programs, and the contact information for the WWP Resource Center.

OVERALL FINDINGS

This report explored the risk and protective characteristics associated with the most significant factors identified in Wave 2. These factors were found to have the strongest association with quality of life, as measured by the Veterans RAND 12-Item Health Survey (VR-12) or QoL scores.[2] This report aimed to build on the Wave 2 findings and explore the characteristics that increase or decrease the likelihood of warriors experiencing those factors.

The analysis revealed common risk and protective characteristics across the different factors. The predominant protective characteristics were good sleep quality, higher levels of post-traumatic growth, and higher resilience. In contrast, the predominant risk characteristics were related to feelings of loneliness and symptoms of one or more mental health conditions.*

WAVE 3 PREDOMINANT CHARACTERISTICS

RISK CHARACTERISTICS

Defined as: Characteristics that **DECREASE** ↓ the likelihood (in terms of odds) of factors associated with high QoL scores.

- ★ Loneliness
- ★ Symptoms of one or more mental health conditions

PROTECTIVE CHARACTERISTICS

Defined as: Characteristics that **INCREASE** ↑ the likelihood (in terms of odds) of factors associated with high QoL scores.

- ★ Sleep quality
- ★ Post-traumatic growth
- ★ Resilience

In Wave 3, WWP warriors had an average physical health quality of life (QoL) score of 38.0 and an average mental health score of 36.5, compared with U.S. population standard scores of 39.8 for physical health and 50.1 for mental health.[2]

WARRIOR SURVEY LIMITATIONS

The sample included in this report is representative of the post-9/11 WWP warrior population and may not be relevant to the broader veteran community. The analyses in this report explore the risk and protective characteristics associated with factors that may impact WWP warriors' quality of life. Other background factors, such as pre-existing characteristics, may affect WWP warriors' quality of life and are not included in the analyses. For instance, lifetime traumas, such as childhood trauma or a family history of mental health disorders, may increase the likelihood of mental health issues. It is important to consider these pre-existing characteristics when interpreting the findings from this report.

This report presents overall trends across the three Warrior Survey longitudinal wave periods, and some caution should be taken when reviewing them. These findings provide an overview of those points in time and explain neither individual circumstances nor why they exist. It is also important to consider that the number of registered WWP warriors has increased over the years.

*Symptoms of one or more mental health conditions include WWP warriors reporting scores that are indicative of PTSD symptoms or presenting with moderate to severe symptoms for depression or anxiety.

WWP WARRIORS:
A 360-DEGREE VIEW

This 360-degree view shows the fundamental traits that illustrate who the Wave 3 survey represents — WWP warriors. It provides an overview of social, economic, and demographic characteristics that can influence health outcomes in positive or negative ways,[3] and these characteristics will be referred to throughout the report as "sociodemographic" characteristics.

AVERAGE AGE

41

SEX

81.8%
Male

18.2%
Female

MARITAL STATUS

Married — 65.6%

Divorced or separated — 20.9%

Never married, single — 12.8%

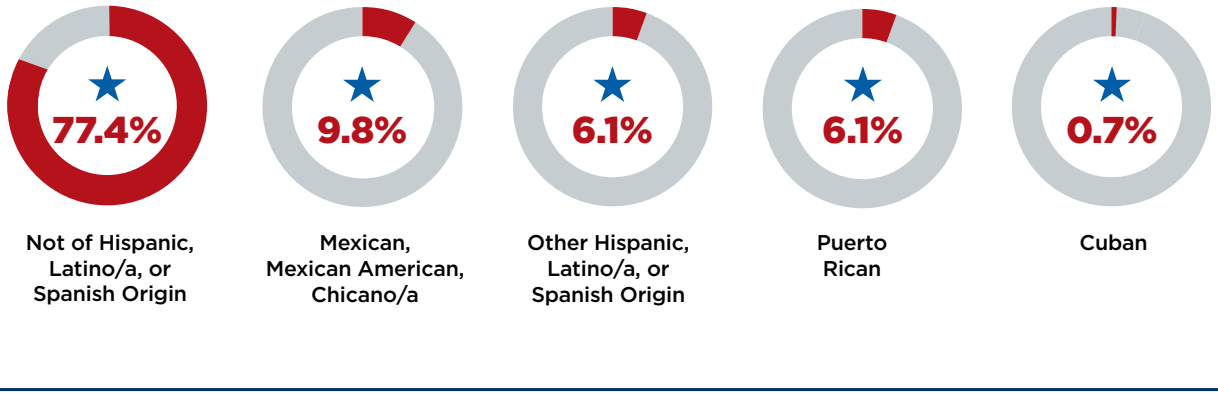
Widowed — 0.7%

NUMBER OF CHILDREN LIVING IN THE HOUSEHOLD

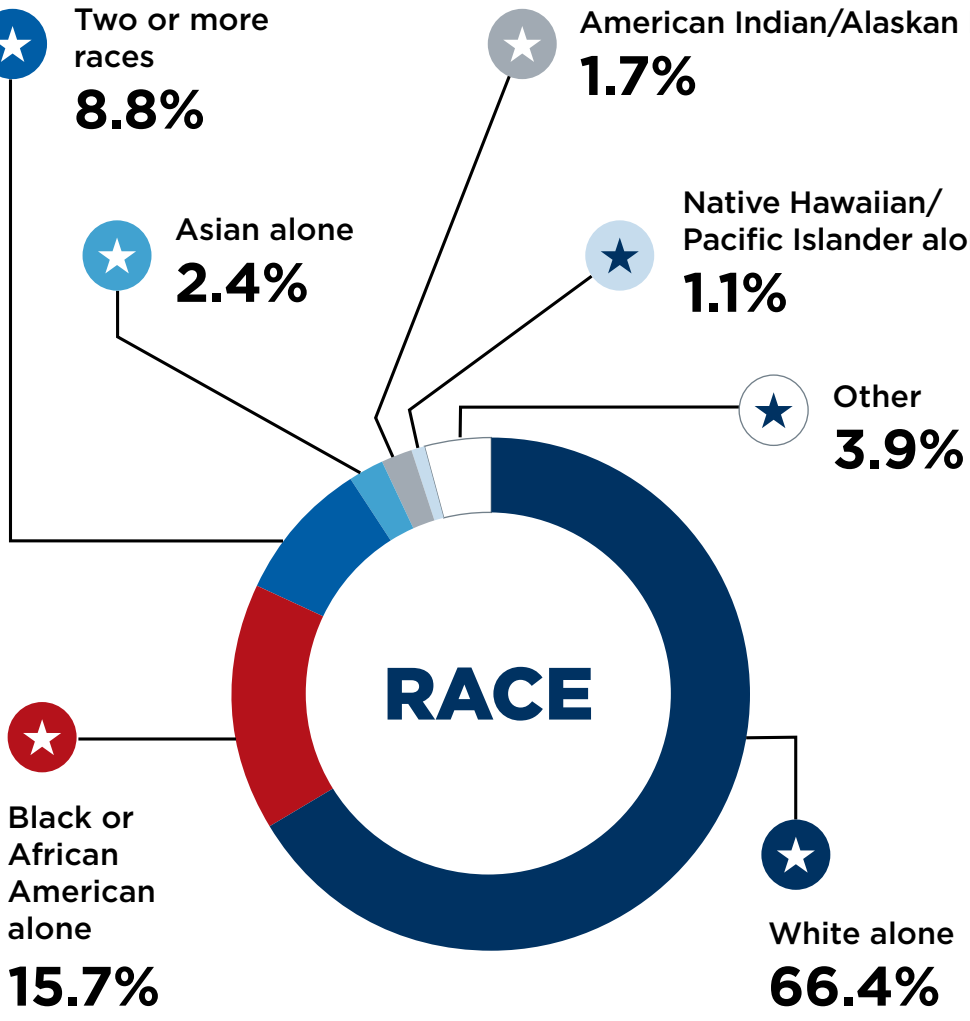
One or more
61.0%

None
39.0%

ETHNICITY



RACE



WOUNDED WARRIOR
TIM APONTE

TOP 5

Self-reported **CONDITIONS**

82.5%
Sleep problems

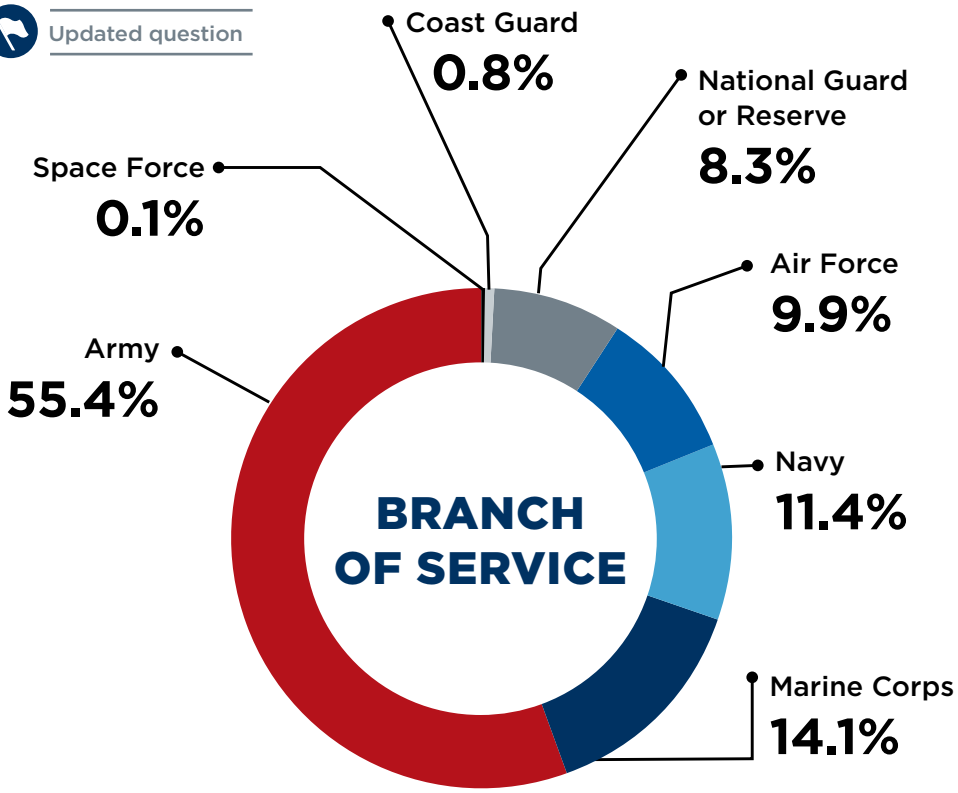
80.3%
Anxiety

76.7%
Depression

76.5%
Post-traumatic stress disorder (PTSD)

55.5%
Migraines or chronic headaches

Updated question



CURRENT MILITARY STATUS:

3.6%
ACTIVE DUTY

PAY GRADES/RANKS:

42.7%	E5-E6 (Midgrade Enlisted)
34.2%	E1-E4 (Junior Enlisted)
15.1%	E7-E9 (Senior Enlisted)
3.7%	O4-O10 (Senior Officers)
3.0%	O1-O3 (Junior Officers)
1.2%	W1-W5 (Warrant Officers)

DISABILITY RATING:

78.8%
Disability rating of 70% or higher

8.4%
None/pending or on appeal

EMPLOYMENT AND EDUCATION:

12.4%
unemployment rate.

42.0%
have obtained a bachelor's degree or higher.

HOMELESSNESS AND HOUSING INSTABILITY:

7.7%
experienced homelessness in the past 12 months.

4.1%
think they may experience homelessness in the next 12 months.

FOOD INSECURITY:

37.3%
met the threshold for being food insecure.

TRANSPORTATION CHALLENGES:

4.9%
report that a lack of transportation impacts their access to health care.

[*] Head Injury and TBI: The Warrior Survey asks warriors to report the injuries they experienced as a result of their military service. Head injury and TBI are both provided as options. A head injury is any bump, blow, jolt, or penetrating injury to the head that may affect the brain or surrounding structures, without necessarily causing lasting impairment. TBI is a specific type of head injury that disrupts normal brain function, often resulting in cognitive, physical, or emotional impairments. While all TBIs are head injuries, not all head injuries result in TBIs.[4]

WOUNDED WARRIOR
MELISSA MCMAHON

TOP 5

Self-reported **INJURIES**

67.4%
Hearing loss or tinnitus

58.6%
Bone, joint, or muscle injury (i.e., fracture, break, or injury to extremities, back, shoulder, or neck)

37.4%
Head injury*
(i.e., bump, blow, jolt, or penetrating injury to the head)

35.2%
Traumatic brain injury (TBI)*

15.0%
Spinal cord injury

INTRODUCTION

WOUNDED WARRIOR
AARON CORNELIUS

QUALITY OF LIFE

For this report, "quality of life" is defined as the degree to which a warrior's health and wellness promote fulfilling participation in and enjoyment of life.

HOLISTIC WELL-BEING COMPONENTS

WWP is committed to better understanding what hinders and contributes to warriors' ability to enjoy life. This understanding drives the direction and need for support that WWP provides. In line with this commitment, a holistic approach highlights and appreciates how different components of warriors' lives are interdependent and change over time. The holistic approach focuses on the multiple components of well-being — mental, physical, financial, social connection, and spiritual — and how those components are interdependent and impact warriors' quality of life.

The findings from Wave 2 highlighted the factors within each of the five components that had the strongest associations with WWP warriors' QoL scores (measured by the Veterans RAND 12-Item Health Survey (VR-12)). This report (Wave 3) will build on these findings by exploring each factor's risk and protective characteristics to determine areas for recommendations and actionable insights.

FIGURE 1:
Quality of Life Components

VR-12:

The Veterans RAND 12-Item Health Survey (VR-12)[2] measures the quality of life in the Warrior Survey. The VR-12 is a widely used quality of life measure that provides physical and mental health summary scores, reported as a Physical Component Score (PCS) and a Mental Component Score (MCS). Higher PCS and MCS indicate better health.

QUALITY OF LIFE

VR-12
QoL Measurement

Measured by Veterans RAND 12-Item Health Survey (VR-12)

higher **PHYSICAL COMPONENT SCORE (PCS)** + *higher* **MENTAL COMPONENT SCORE (MCS)** = *better* **QUALITY OF LIFE**

WAVE 2 FINDINGS

Factors that had the strongest associations with WWP warriors' quality of life

- ★ PTSD and depression (Mental Health)
- ★ Body mass index (BMI) and sleep (Physical Health)
- ★ Employment (Financial Wellness)
- ★ Loneliness (Social Connection)
- ★ Post-traumatic growth (Spirituality)

AIM OF WAVE 3

RISK

PROTECTIVE

What risk and protective characteristics influence key quality of life factors for WWP warriors? For example, what characteristics increase or decrease the odds of reporting good sleep quality?

ACTIONABLE INSIGHTS

Identifying risk and protective characteristics can highlight areas of intervention and lead to informed research and policy recommendations.

QUALITY OF LIFE

Table 1 shows the mean QoL scores from Waves 1, 2, and 3. Higher QoL scores indicate better quality of life.

TABLE 1: Mean QoL scores from Waves 1, 2, and 3

Mean QoL scores from Waves 1, 2, and 3					
	WAVE 1	WAVE 2	WAVE 3	U.S. Population Average[2]	U.S. Military/Veterans Average[5]
Mental Health QoL Score (MCS)	36.1	35.7	**36.5**	50.1	42.9
Physical Health QoL Score (PCS)	38.8	39.0	**38.0**	39.8	40.7

LOGISTIC REGRESSION ANALYSES

In Wave 2, we identified the factors that had the most significant impact on WWP warriors' quality of life. This report explores which characteristics are associated with those factors. For example, we found in Wave 2 that good sleep quality had the strongest positive association with WWP warrior's quality of life. This report explores which characteristics increase the likelihood of WWP warriors having good sleep quality. By understanding those characteristics, we offer recommendations to help improve sleep quality and, consequently, warriors' quality of life.

Please note: This report focuses on actionable insights and recommendations for areas of intervention to help improve quality of life. For further details about the analysis methodology and results, please see the Appendix.

WHAT DO WE MEAN BY RISK AND PROTECTIVE CHARACTERISTICS?

RISK CHARACTERISTICS

Characteristics that **DECREASE** ↓ the likelihood (in terms of odds) of factors associated with high QoL scores.

PROTECTIVE CHARACTERISTICS

Characteristics that **INCREASE** ↑ the likelihood (in terms of odds) of factors associated with high QoL scores.

MENTAL HEALTH AND WELLNESS

This section will explore topics such as anxiety, depression, PTSD, and self-directed violence.

WOUNDED WARRIORS **DREW CARPENTER** (LEFT) AND **ANTHONY CRAIDEN** (RIGHT)

Mental health conditions continue to be an area of focus when supporting the well-being of veterans.[6] Previous research has shown that co-occurring mental health conditions can be more detrimental to well-being than having one mental health condition.[7]

This section examines the mental health findings from Wave 3. Due to the high prevalence and overlap of PTSD, depression, and anxiety symptoms among the WWP warrior population, the analysis for this section will explore the characteristics that increase or decrease the likelihood of presenting with symptoms for one or more of these three conditions.

SERVICE-RELATED CONDITIONS VS. CURRENT SYMPTOMS:

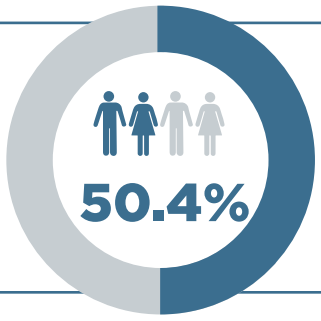
The Warrior Survey asks warriors to report the conditions and injuries they experienced as a result of their military service. In this report, those are referred to as self-reported injuries and conditions. Additionally, the survey includes validated measures to determine if warriors are experiencing symptoms of mental health conditions, referred to in this report as presenting with symptoms.

ANXIETY

Along with PTSD and depression, anxiety was one of the top self-reported service-connected injuries and conditions, with 80.3% of WWP warriors self-reporting that they have anxiety.

Anxiety can cause restlessness, disruptive sleep, and trouble with day-to-day tasks.[8] Overall, WWP warriors had an average anxiety score of 10.4, which falls within the moderate range of anxiety symptom severity.

When asked about anxiety symptoms in the past two weeks, half (50.4%) of WWP warriors presented with moderate to severe anxiety symptoms.



This is a higher prevalence rate compared to a U.S. general population sample from 2019 (6.1%).[9]

FIGURE 2: Severity of Anxiety Symptoms Among WWP Warriors

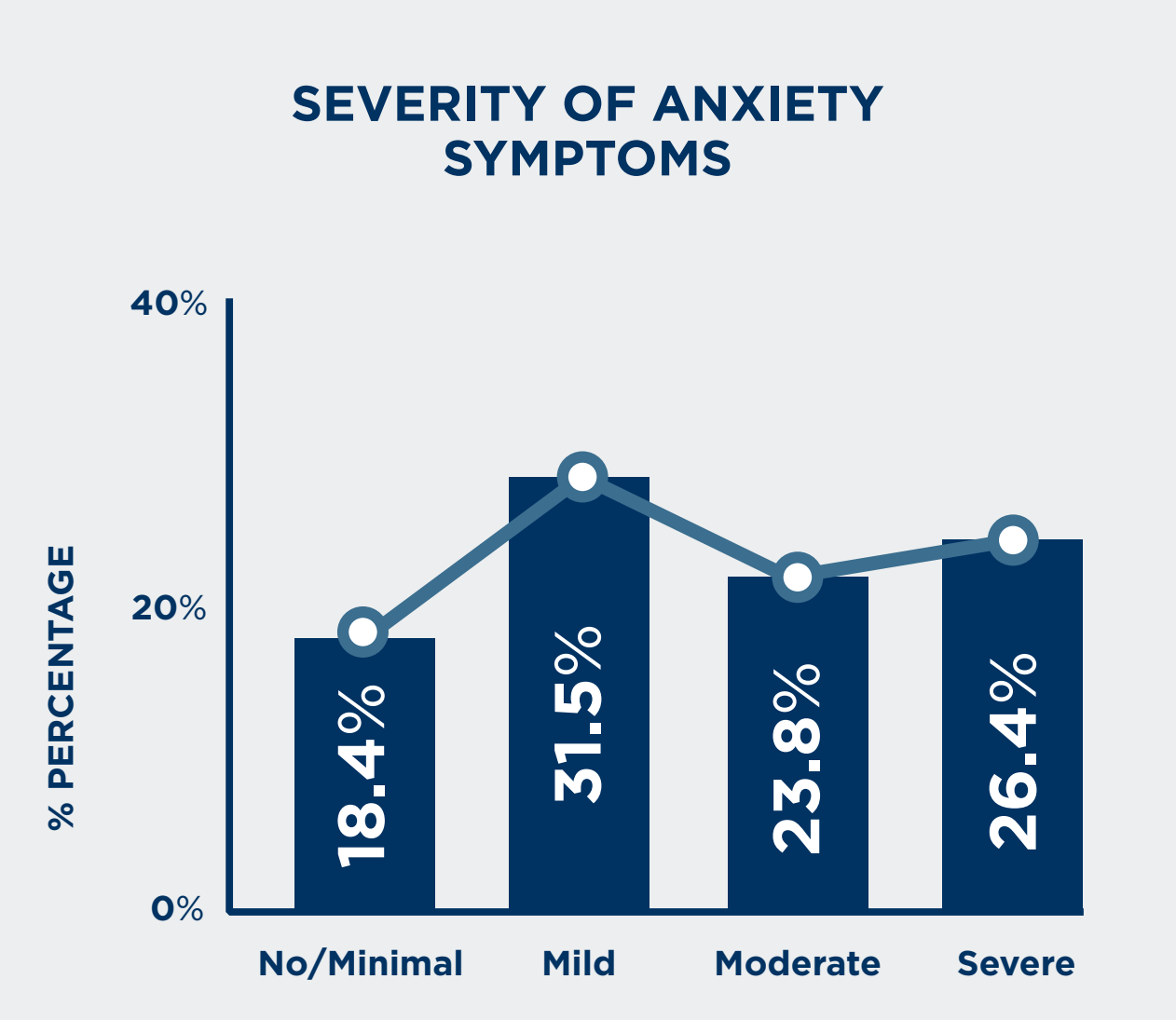


TABLE 2: Severity of Anxiety Symptoms Among WWP Warriors

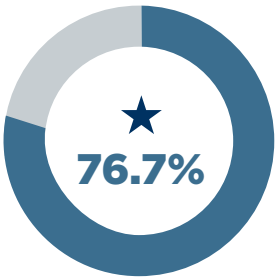
GAD Total Severity Score (0-21)	★ WWP WARRIORS
Below 10: Indicative of no/minimal or mild anxiety symptoms	**49.7%**
Above or equal to 10: Indicative of moderate to severe anxiety symptoms	**50.4%**

DEPRESSION

Updated question

Depression is the third most common health issue self-reported by WWP warriors. Symptoms can include trouble falling asleep or sleeping too much, little interest in doing things, and feeling tired or having little energy.[10]

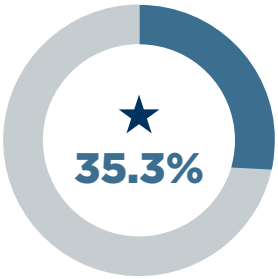
Over three in four WWP warriors



self-reported having depression when asked about service-connected injuries and conditions.

WWP warriors had an average depression score of 2.8,† which falls within the mild range of depressive symptom severity.

When asked about depressive symptoms in the past two weeks,



of WWP warriors presented with moderate to severe depressive symptoms. This is a higher prevalence rate compared to a U.S. general population sample from 2019 (6.5%).[11]

TABLE 3: Severity of Depressive Symptoms Among WWP Warriors

PHQ-2 Total Severity Score (0-6)	★ WWP WARRIORS
Below 3 **Indicative of no or mild depressive symptoms**	**64.7%**
Above or equal to 3 **Indicative of moderate to severe depressive symptoms**	**35.3%**

†NOTE: In Wave 3, the severity of depressive symptoms score was measured on a scale of 0-6, which is different from Wave 2, which used a scale of 0-27, due to using a shorter questionnaire scale (PHQ-2 vs PHQ-9).

POST-TRAUMATIC STRESS DISORDER

PTSD can significantly impair a person's daily functioning and overall quality of life.[12,13,14] The prevalence rates of PTSD among WWP warriors have been consistently higher than the approximated rates amongst the general population.[15,16] **More than three in four (76.5%) WWP warriors self-reported having PTSD when asked about service-connected injuries and conditions.**

WWP warriors reported an average PCL-5 score of 34.5, which falls within the range indicating the presence of PTSD symptoms.

TABLE 4: PCL-5 Severity Scores Among WWP Warriors Indicating the Presence of PTSD Symptoms

PCL-5 Total Severity Score (0-80)	★ WWP WARRIORS
Below 33	**47.7%**
Above or equal to 33 **Indicative of PTSD symptoms**	**52.3%**

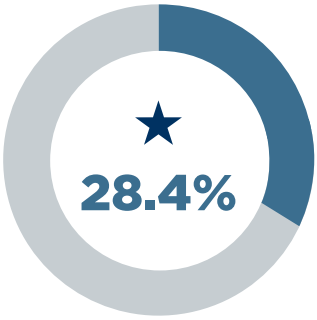
HOW WE MEASURE IT:

The PCL-5 is a validated tool used by the VA that assesses symptoms over the past month.[17] Each item scores how often an individual has been bothered by symptoms, from 0 (not at all) to 4 (extremely), and provides a total severity score in the range of 0-80. There are currently no standardized severity ranges for PCL-5, but a cut-off score of 31-33 is often referenced as an indication of the presence of PTSD symptoms.[18]

WOUNDED WARRIOR
TIM APONTE (LEFT)

SELF-DIRECTED VIOLENCE

Veteran suicide continues to be a large focus among veteran service organizations and support communities.[19,20] In the most recent VA National Veteran Suicide Prevention report, the age- and sex-adjusted suicide rate among veterans was 71.8% greater than the age- and sex-adjusted rate among non-veteran U.S. adults.[19]



of WWP warriors reported having SUICIDAL THOUGHTS IN THE PAST 12 MONTHS

When asked to whom they talk about suicidal thoughts or attempts, the three most common responses from WWP warriors were:

- Counselor or therapist
- Family member
- Friends

TOP 5 TOOLS AND RESOURCES

The top five tools and resources used by WWP warriors in the past year to help with feelings of stress or emotional or mental health concerns included:

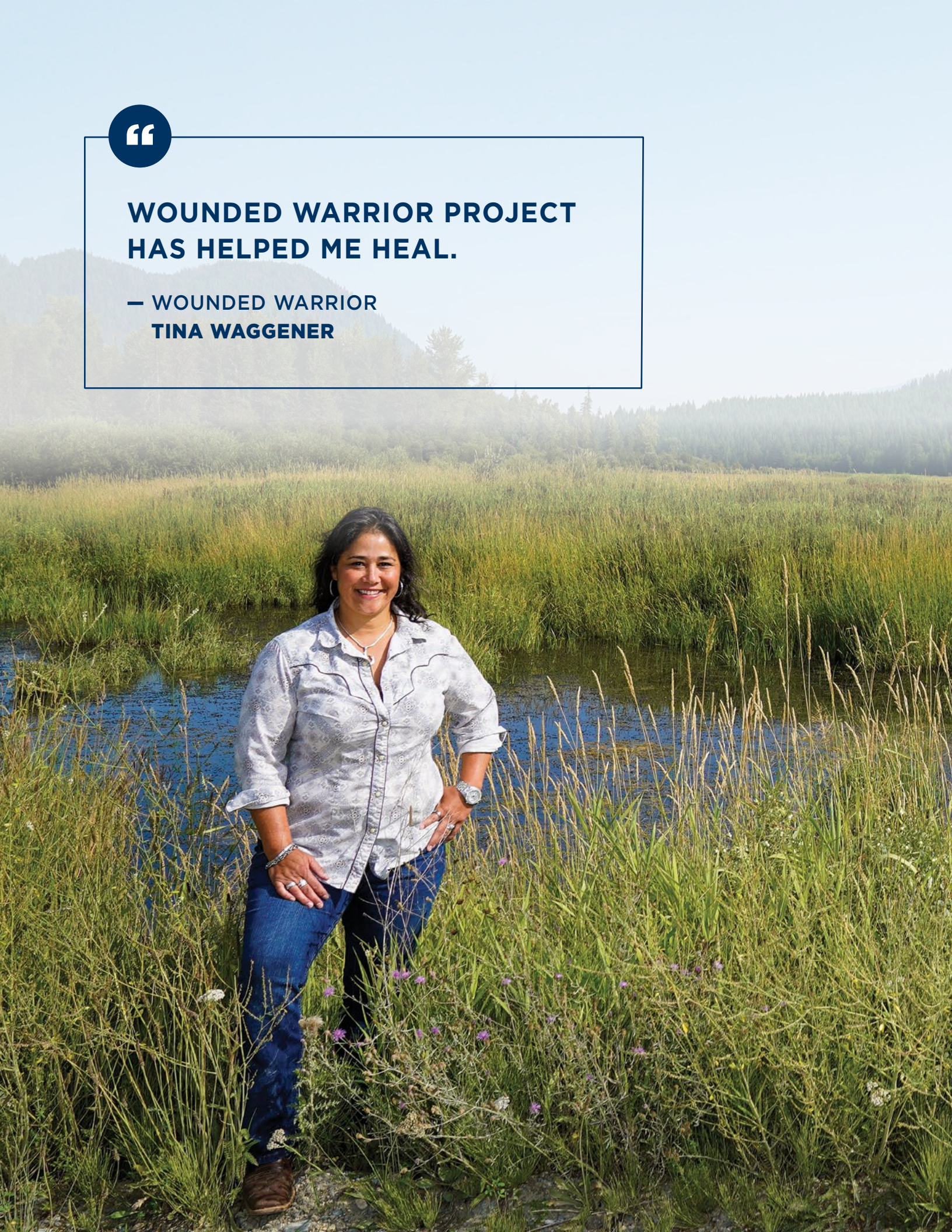
67.3%
Talking with another veteran

64.4%
Prescription medication

60.0%
Self-medication (alcohol, non-prescription marijuana, or narcotics)

59.6%
Support groups (for example, PTSD groups, peer-to-peer counseling, Alcoholics Anonymous, cognitive behavioral therapy groups, etc.)

58.4%
Services at VA Medical Center



WOUNDED WARRIOR PROJECT HAS HELPED ME HEAL.

— WOUNDED WARRIOR
TINA WAGGENER

BRAIN HEALTH

Updated question

HEAD-RELATED TRAUMA

Military service members are at greater risk of head injury due to their experiences while serving.[21,4] **The majority of WWP warriors (87.4%) reported being injured during military service as a result of one of the following events:**

- Blast or explosion
- Motor vehicle
- Aircraft accident
- Water transportation accident
- Falls
- Fragment wound or bullet wound above the shoulders
- Injury from sports or physical training

Furthermore, 37.4% of WWP warriors self-reported experiencing head injury (i.e., bump, blow, jolt, or penetrating injury to the head), and 35.2% of WWP warriors self-reported experiencing TBI as a result of serving in the military after September 11, 2001.*

SUBSTANCE USE

DRUG ABUSE

Drug abuse refers to the use of illicit drugs and misuse of over-the-counter and prescription drugs and is assessed separately from alcohol use.

Just over half of WWP warriors (55.4%) report no problems related to drug abuse, while 2.0% report a substantial or severe level of problems related to drug abuse.

HOW WE MEASURE IT:

To measure drug abuse, warriors were asked questions from the Drug Abuse Screening Test (DAST-10).[22] The DAST-10 measures the degree of consequences related to drug abuse.

TABLE 5: Degree of Problems Related to Drug Abuse Among WWP Warriors

DAST-10 Score	Degree of Problems Related to Drug Abuse	★ WWP WARRIORS
0	No problems reported	55.4%
1-2	Low Level	38.1%
3-5	Moderate Level	4.5%
6-8	Substantial Level	1.5%
9-10	Severe Level	0.5%

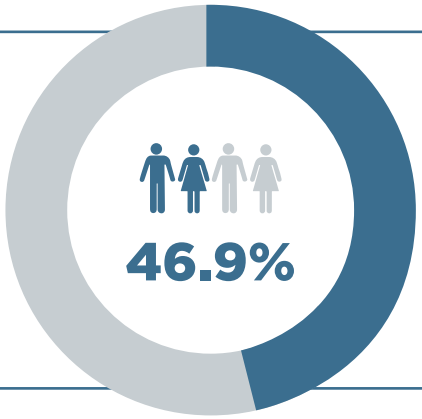
*Refer to page 13 for more information on head injuries and TBI.

> **I HAVE BEEN DOING AS MANY THINGS AS I CAN TO BE THE BEST VERSION OF MYSELF THAT I CAN BE.**
>
> — WOUNDED WARRIOR **XANDER HERNANDEZ**

ALCOHOL

While alcohol consumption may be considered routine for some individuals, caution is advised when it jeopardizes and endangers the health and well-being of the individual and/or others.[23]

Nearly half (46.9%) of WWP warriors screened positive for potential hazardous drinking or active alcohol use disorders, indicating they may have unhealthy and unsafe drinking habits.



This is a higher prevalence rate in comparison to the findings from a recent study with U.S. veterans (14.9%).[24]

HOW WE MEASURE IT:

The Alcohol Use Disorders Identification Test-Concise (AUDIT-C) scale[25,26] was included in the survey to measure warriors' drinking behaviors. This screening consists of questions about weekly consumption, daily average of drinks, and frequency of six or more drinks on one occasion.

PREVALENCE OF MENTAL HEALTH AND WELLNESS CONDITIONS ACROSS THREE WAVES OF THE WARRIOR SURVEY

Over the three waves, there were some changes in the prevalence of mental health symptoms, suicidal thoughts, TBI, and substance abuse among WWP warriors.

TABLE 6: Prevalence of Mental Health and Related Issues Over Three Waves Among WWP Warrior Population

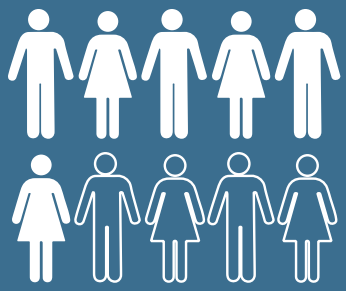
MENTAL HEALTH	Wave 1	Wave 2	Wave 3
Indication of PTSD symptoms	48.6%	48.6%	**52.3%**
Moderate to severe symptoms of depression	33.1%	35.0%	**35.3%**
Moderate to severe symptoms of anxiety	63.3%	46.7%	**50.4%**
SUICIDAL THOUGHTS			
Suicidal thoughts in the past 12 months	24.8%	28.3%	**28.4%**
BRAIN HEALTH			
TBI (self-reported)	35.0%	36.5%	**35.2%**
SUBSTANCE USE			
Drug abuse (DAST-10)	-	2.0%	**2.0%**
Alcohol use disorders (AUDIT-C)	-	43.5%	**46.9%**

NOTE: The results are a snapshot of the WWP warrior population in time.

MENTAL HEALTH ANALYSIS

This section explores the prevalence and impact of presenting with symptoms for one or more mental health conditions (PTSD, depression, and/or anxiety) compared to no or mild symptoms. It explores characteristics that decrease or increase the likelihood of presenting with symptoms for one or more mental health conditions among WWP warriors.

CO-OCCURRING MENTAL HEALTH CONDITIONS



More than six in 10 (62.7%) of WWP warriors presented with symptoms of one or more mental health conditions, while 37.3% presented with mild or no symptoms of one or more mental health conditions.

For this report, "one or more mental health conditions" refers to WWP warriors reporting scores that include at least one of the following: indicative of PTSD symptoms or presenting with moderate to severe symptoms of depression or anxiety.

Anxiety was not one of the factors identified in Wave 2 as having a strong association with QoL scores among the mental health QoL component. However, it has been included in this analysis due to previous Warrior Survey findings showing anxiety being consistently self-reported as one of the top injuries or health conditions amongst WWP warriors and the high prevalence of anxiety, depression, and PTSD among this population. Furthermore, findings from the external literature highlight the common co-occurrence of anxiety, depression, and PTSD.[27,28]

WOUNDED WARRIORS (LEFT TO RIGHT) **LISA PRIME, MELVIN GATEWOOD, RACHEL MARCHBANKS**

CHANGES IN MENTAL HEALTH SYMPTOMS OVER TIME

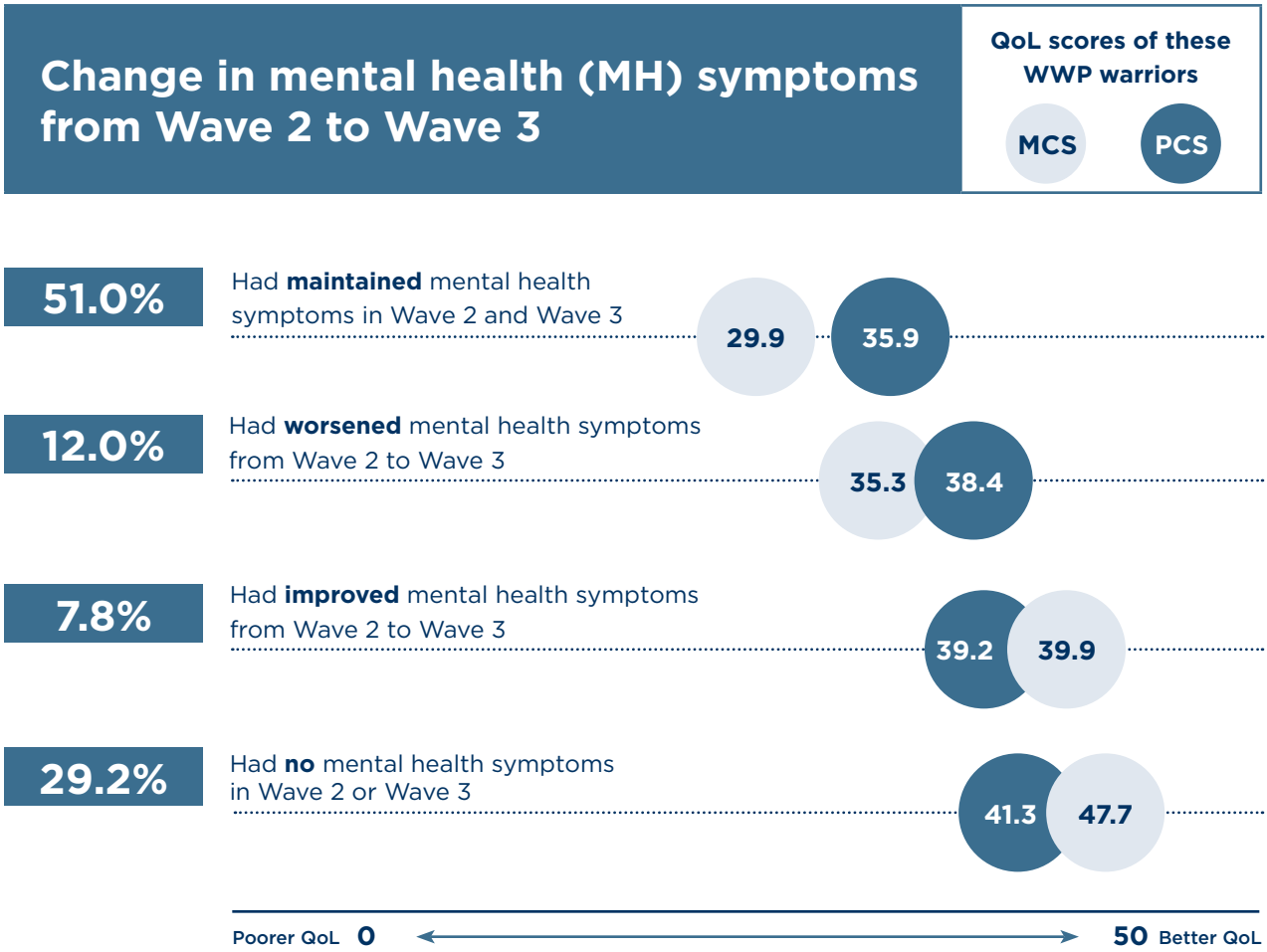
Figure 3 presents the changes in mental health status between Wave 2 and Wave 3, categorized into four groups based on the presence or absence of mental health symptoms in each wave. Just over half of WWP warriors (51.0%) continued to present with mental health symptoms in Wave 2 and Wave 3, 12.0% did not experience mental health symptoms in Wave 2 but did in Wave 3, and 7.8% improved, shifting from presenting with mental health symptoms in Wave 2 to no symptoms in Wave 3.

★ WWP warriors who maintained mental health symptoms in Wave 2 and Wave 3 had the lowest PCS and MCS QoL scores.

★ WWP warriors who went from having no mental health symptoms in Wave 2 to having mental health symptoms in Wave 3 (worsened) had lower QOL scores than warriors who showed improvement in mental health symptoms from Wave 2 to Wave 3.

★ WWP warriors who had no mental health symptoms in Wave 2 or Wave 3 had the highest PCS and MCS QoL scores.

FIGURE 3. Changes in Mental Health Symptoms Across Two Time Points and QoL Scores



MENTAL HEALTH RISK AND PROTECTIVE CHARACTERISTICS

The findings show that presenting with mild or no mental health symptoms is associated with higher QoL scores. We then conducted further analysis to explore which characteristics increase (risk) or decrease (protective) the likelihood of WWP warriors presenting symptoms for one or more mental health conditions one year later.

RISK CHARACTERISTICS

- ★ Loneliness
- ★ MST
- ★ Financial strain
- ★ Obesity

→

WWP warriors who reported loneliness, have experienced military sexual trauma (MST), did not have enough money to make ends meet, or were in the obese BMI category in Wave 2 showed a higher likelihood of presenting with symptoms for one or more mental health conditions in Wave 3.

PROTECTIVE CHARACTERISTICS

- ★ Good sleep quality
- ★ Employment
- ★ Higher post-traumatic growth

→

WWP warriors who reported good sleep quality, employment, or higher post-traumatic growth in Wave 2 showed a lower likelihood of presenting with symptoms for one or more mental health conditions in Wave 3.

Further details about the analysis can be found in the Appendix.

PHYSICAL HEALTH

This section will explore topics such as physical activity, sleep, and chronic pain.

WOUNDED WARRIOR
YOLANDA POULLARD

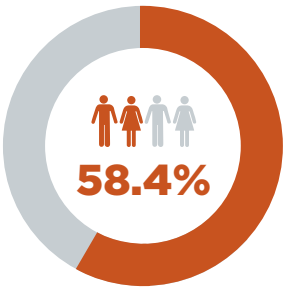
Previous studies have shown that sleep quality, healthy lifestyle, physical activity, and exercise can positively impact an individual's quality of life.[29,30] This section examines the physical health findings from Wave 3 and explores characteristics that decrease or increase the likelihood of good sleep quality and obesity among WWP warriors.

SLEEP

Updated question

Sleep is important to consider when assessing overall well-being; external research shows an association between sleep and mental health, TBI, and chronic pain among veterans.[31,32,33]

Overall, WWP warriors reported sleeping an average of 5.5 hours per night, with 79.2% reporting fewer than the recommended seven hours or more of sleep per night for adults.[34]



More than half of WWP warriors indicated poor sleep quality.

BODY MASS INDEX (BMI)

Obesity among the WWP warrior population continues to be a concern because of the negative associations found in the wider literature with physical and mental health and overall quality of life.[35,36] Half of WWP warriors (50.1%) are in the obese category (based on BMI ≥ 30), which is similar to the U.S. adult population (51.1%; 41.9% are considered obese, and 9.2% are severely obese).[37] The average BMI among all WWP warriors is 30.7, which falls within the range for obesity.

TABLE 7: BMI Weight Categories Among WWP Warriors

BMI Weight Categories	★ WWP WARRIORS
Underweight (< 18.5)	0.4%
Healthy weight (18.5-24.9)	13.4%
Overweight (25-29.9)	36.0%
Obese (30+)	50.1%

HOW WE MEASURE IT:

BMI is defined as a person's weight (pounds) relative to his or her height (inches) [weight (lbs) / height (in^2) x 703]. It's an inexpensive and indirect screening method for assessing weight category.[38]

PHYSICAL ACTIVITY

Physical activity and exercise are key to maintaining a higher quality of life.[39,40] About two in five WWP warriors (42.7%) reported using physical activity (e.g., exercise, golf, gym workouts, biking, etc.) as a resource or tool to help them with feelings of stress or emotional or mental health concerns.

Getting the benefits of even moderate amounts of daily exercise can be challenging for some WWP warriors due to their service-related injuries. For physical activity (including leisure, household, and occupational activities), only 35.7% of WWP warriors met the World Health Organization (WHO) recommendation of 10 "metabolic equivalent value" (MET)‡ hours per week.[41,42]

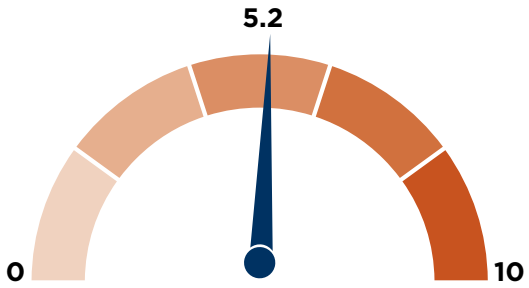
‡ The "metabolic equivalent value" (MET) indicates the intensity of exercise.

CHRONIC PAIN

Chronic pain can impact an individual's physical and mental well-being and quality of life,[43] and there is evidence to suggest veterans have a higher prevalence of chronic pain than civilians.[44]

The majority of WWP warriors (95.0%) self-reported experiencing some pain in the past three months. Three-quarters (75.5%) of WWP warriors scored in a range indicating moderate to severe interference with activities and enjoyment of life.

PEG SCORE



The overall average PEG score among WWP warriors was 5.2, indicating moderate to severe interference with activities and enjoyment of life.

HOW WE MEASURE IT:

The Pain, Enjoyment of Life, and General Activity scale (PEG scale) consists of three questions and is used as a pain screening tool to capture how pain has interfered with activities and enjoyment of life. It's best used to detect changes over time in the same individual, but in general, a higher score indicates more severe pain and pain-related interference with life and activities.[45]

PAIN MANAGEMENT

Among the WWP warriors who reported experiencing some pain in the past three months (95.0%), 51.7% reported they were "only a little effective" or "not at all effective" in managing their pain (40.4% and 11.3%, respectively). Only 5.5% of WWP warriors say they were "very effective" at managing pain, and 41.5% say they were "somewhat effective."

TABLE 8: Pain Management Effectiveness Among WWP Warriors Reporting Pain (Past Three Months)

Over the past three months, how effective do you think you were in managing your pain?	★ WWP WARRIORS
Very effective	5.5%
Somewhat effective	41.5%
Only a little effective	40.4%
Not at all effective	11.3%
I haven't had pain in the past three months	0.2%
Don't know	1.1%

NOTE: Among the WWP warriors who reported experiencing some pain in the past three months (95.0%)

TOP 5

The top five most common methods reported by WWP warriors to treat or manage pain in the past 12 months were:

Updated question

76.4%
Over-the-counter pain medication

64.1%
Exercise

50.1%
Prescription pain medication

38.1%
Chiropractic therapy, acupuncture, or massage

35.5%
Meditation
(for example, mindfulness, mantra, or spiritual meditation)

The complete list of responses can be found in the Appendix.

WOUNDED WARRIOR
JOSH SOMMERS

PREVALENCE OF PHYSICAL HEALTH CONDITIONS ACROSS THREE WAVES OF THE WARRIOR SURVEY

Over Waves 1 to 3, there were some changes in the prevalence of good sleep quality and obesity.

TABLE 9: Prevalence of Physical Health Conditions Among WWP Warrior Population

Conditions	Wave 1	Wave 2	Wave 3
Good sleep quality	38.9%	38.8%	**41.6%**
Obesity (BMI 30+)	51.6%	51.9%	**50.1%**
Physical activity (Met WHO recommendation of 10 MET hours per week)	-	35.9%	**35.7%**
Experienced some pain in the past three months	-	95.0%	**95.0%**
Moderate to severe interference with activities and enjoyment of life	-	75.8%	**75.5%**

NOTE: The results are a snapshot of the WWP warrior population in time.

PHYSICAL HEALTH ANALYSIS

SLEEP QUALITY

CHANGES IN SLEEP QUALITY OVER TIME

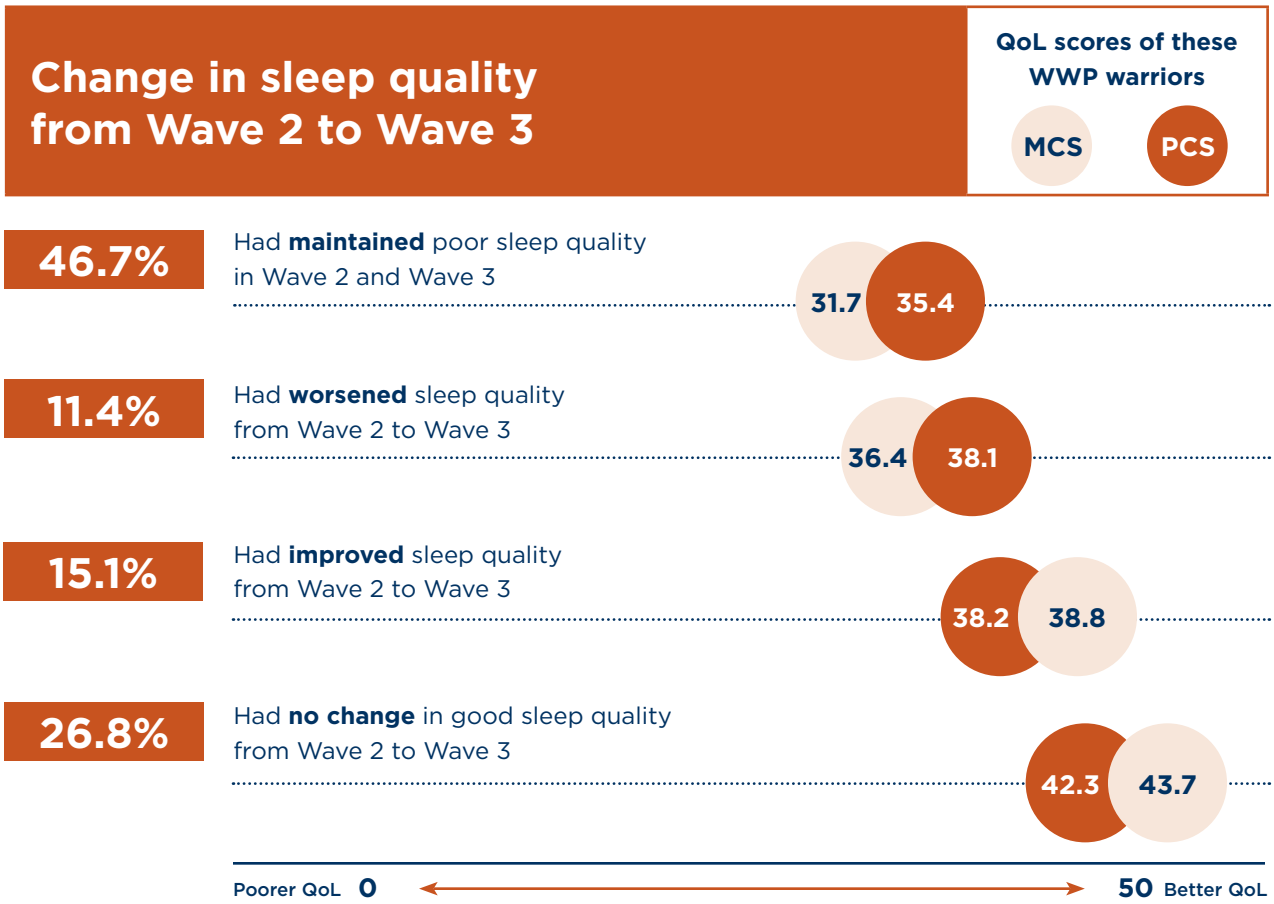
Figure 4 presents the changes in sleep quality between Waves 2 and 3 categorized into four groups based on poor or good sleep quality at each wave. Nearly half (46.7%) of WWP warriors continued to report poor sleep quality in Wave 2 and Wave 3, 11.4% did not report poor sleep quality in Wave 2 but did in Wave 3, and 15.1% reported improved sleep quality from Wave 2 to Wave 3. Just over a quarter of WWP warriors (26.8%) had no change in good sleep quality from Wave 2 to Wave 3.

★ WWP warriors who maintained poor sleep quality in Wave 2 and Wave 3 had the lowest MCS and PCS QoL scores.

★ WWP warriors who went from reporting good sleep quality in Wave 2 to poor sleep quality in Wave 3 (worsened) had lower QoL scores than warriors who reported improvement in sleep quality from Wave 2 to Wave 3.

★ WWP warriors who had no change, reporting good sleep quality in both Wave 2 and Wave 3, had the highest MCS and PCS QoL scores.

FIGURE 4: Changes in Sleep Quality Across Two Time Points and QoL Scores



SLEEP QUALITY RISK AND PROTECTIVE CHARACTERISTICS

The findings show that good sleep quality is associated with higher QoL scores. We then conducted further analysis to explore which characteristics decrease (risk) or increase (protective) the likelihood of WWP warriors reporting good sleep quality one year later.

RISK CHARACTERISTICS

- ★ Presenting with symptoms for one or more mental health conditions

→ WWP warriors who presented with symptoms for one or more mental health conditions in Wave 2 showed a lower likelihood of good sleep quality in Wave 3.

PROTECTIVE CHARACTERISTICS

- ★ Effectively managing or no recent pain
- ★ Physical activity (some intentional exercise)
- ★ Higher post-traumatic growth

→ WWP warriors who reported effectively managing or no recent pain, participated in some intentional exercise, or had high post-traumatic growth in Wave 2 showed a higher likelihood of good sleep quality in Wave 3.

Further details about the analysis can be found in the Appendix.

I NEED THE PHYSICAL BENEFITS OF ADAPTIVE SPORTS TO BOOST MY MENTAL HEALTH. THERE ARE DAYS I DON'T FEEL LIKE TRAINING, BUT WHEN I'M DONE, IT'S A SENSE OF ACCOMPLISHMENT.

— WOUNDED WARRIOR
KELLY ELMLINGER

BMI

CHANGES IN BMI OVER TIME

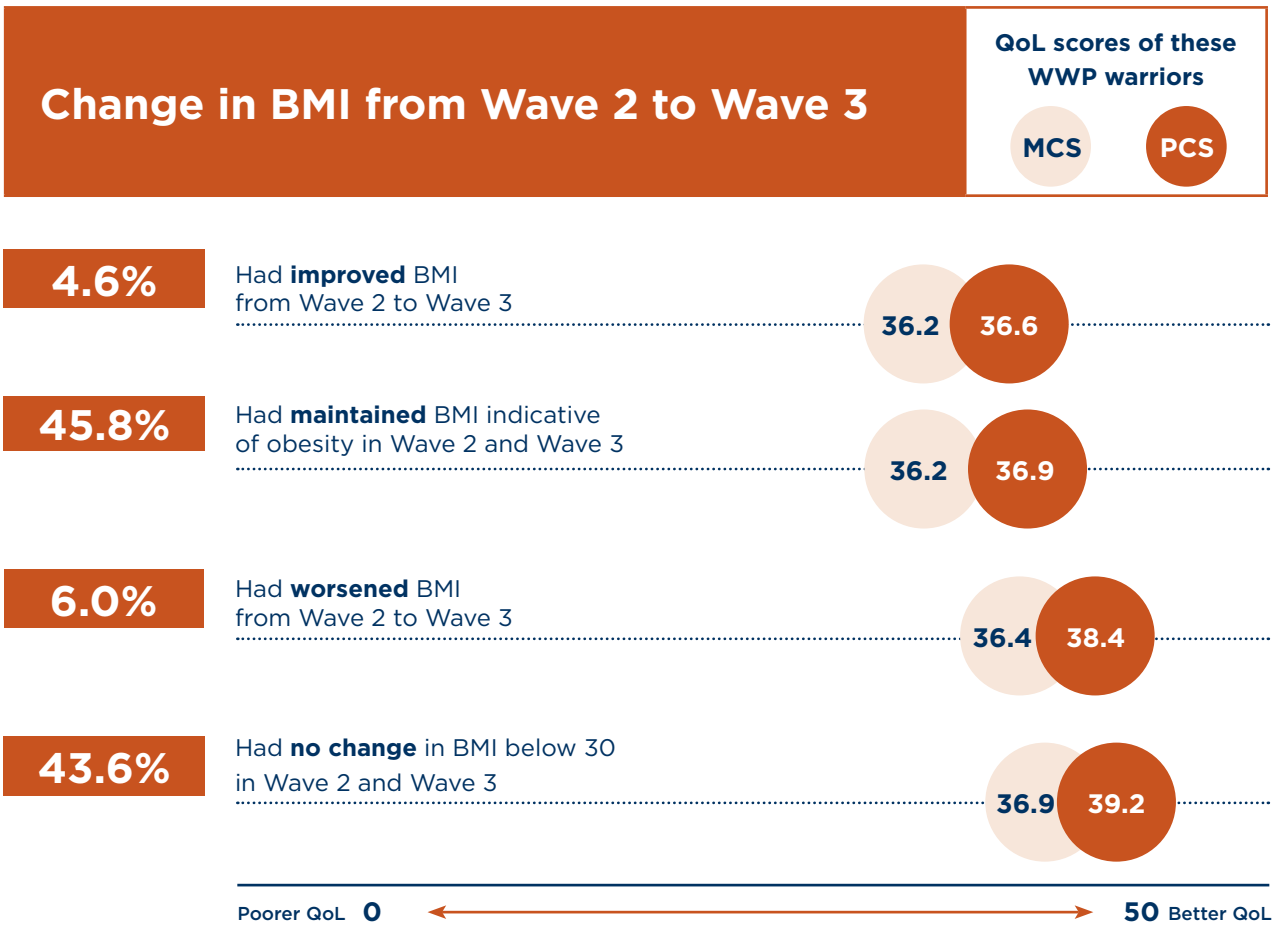
Figure 5 presents the changes in BMI between Wave 2 and Wave 3 categorized into four groups based on BMI scores indicative of obesity at each wave. Most WWP warriors (45.8%) maintained a BMI indicative of obesity (30+) across Wave 2 and Wave 3. However, 43.6% had a BMI below 30 in both Wave 2 and Wave 3. Smaller percentages of warriors experienced changes in BMI from Wave 2 to Wave 3, with 4.6% improving BMI from Wave 2 to Wave 3 and 6.0% shifting from a BMI below 30 in Wave 2 to a BMI indicative of obesity (30+) in Wave 3.

★ WWP warriors who improved BMI from Wave 2 to Wave 3 and maintained a BMI indicative of obesity (30+) in both Wave 2 and Wave 3 had similar MCS and PCS QoL scores.

★ WWP warriors who transitioned from a BMI below 30 in Wave 2 to a BMI indicative of obesity (30+) in Wave 3 (worsened) had MCS QoL scores similar to other groups but poorer PCS QoL scores.

★ WWP warriors who had no change in BMI below 30 in both Wave 2 and Wave 3 had the highest MCS and PCS QoL scores.

FIGURE 5: Changes in BMI Across Two Time Points and QoL Scores



BMI RISK AND PROTECTIVE CHARACTERISTICS

The findings show that a consistent BMI below 30 is associated with higher QoL scores. We then conducted further analysis to explore which characteristics increase (risk) or decrease (protective) the likelihood of WWP warriors having a BMI of 30 or above (obesity) one year later.

RISK CHARACTERISTICS

★ No risk characteristics were found

→ No risk characteristics were exhibited for WWP warriors in Wave 2 that showed a higher likelihood of a BMI of 30 or above in Wave 3.

PROTECTIVE CHARACTERISTICS

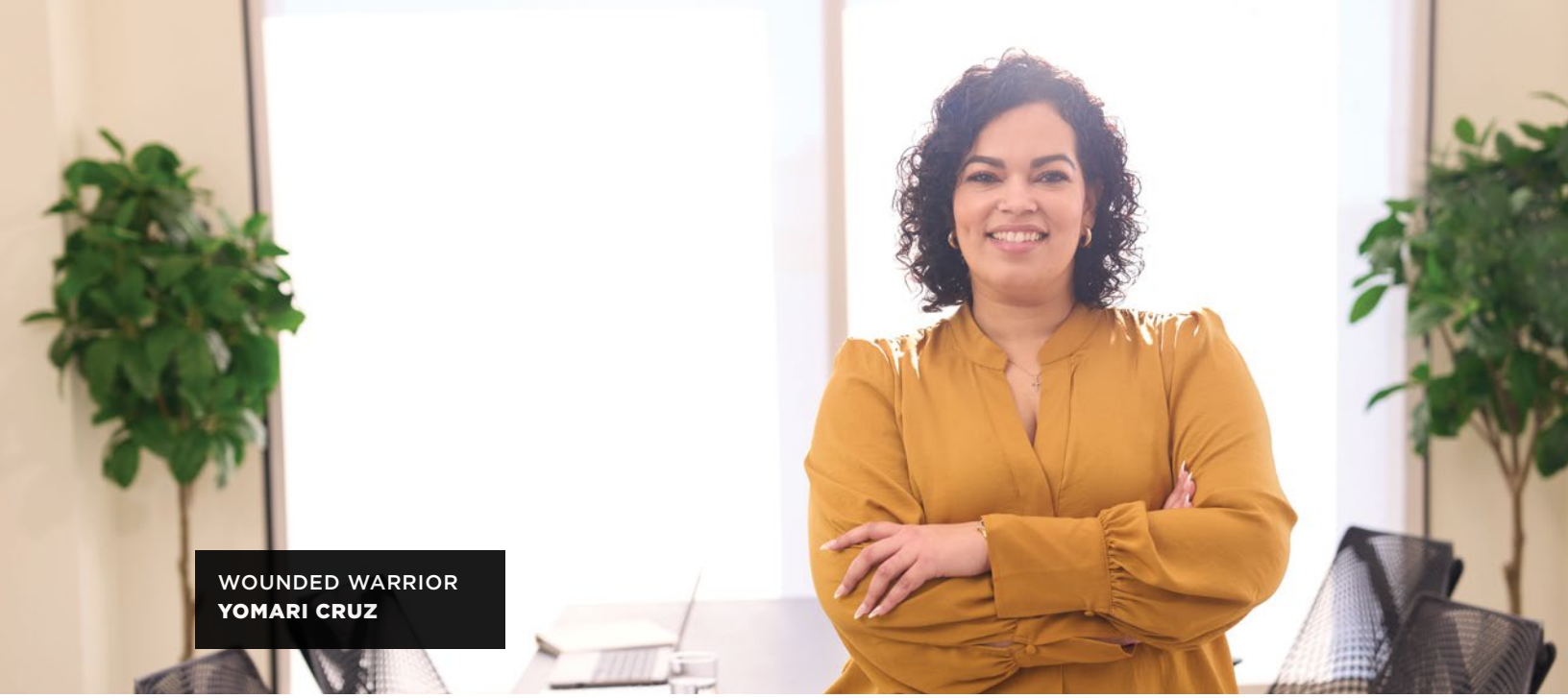
★ Physical activity
(some intentional exercise)

→ WWP warriors who reported participating in some intentional exercise in Wave 2 showed a lower likelihood of a BMI of 30 or above in Wave 3.

Further details about the analysis can be found in the Appendix.

FINANCIAL WELLNESS

This section will explore topics such as income, employment, food security, and debt.



Previous studies have found that financial wellness can positively impact quality of life by increasing access to resources and opportunities and promoting longevity and health.[46] **This section outlines the financial wellness findings from Wave 3 and further explores characteristics that decrease or increase the likelihood of employment.**

EMPLOYMENT

Updated question

Among WWP warriors, 59.6% are currently employed, with 44.4% working full time and 5.4% working part time, and 9.8% retired from the military and still working. Furthermore, only 28.1% reported that their employer had a resource group for veterans or a veteran mentorship program, and 58.3% reported experiencing some form of underemployment.

TABLE 10. Employment Status of WWP Warriors

Current Employment Status	★ WWP WARRIORS
Employed full time (35 or more hours per week through an employer or self-employed)	44.4%
Employed part time (Less than 35 hours per week through an employer or self-employed)	5.4%
Retired from the military, but working	9.8%
Retired from the workforce	11.4%
Not working, temporarily laid off	1.4%
Not working, looking for work in past four weeks	8.5%
Not working, not looking for work	19.2%

JOB MOBILITY

Job mobility can provide growth opportunities and align skills and aspirations with meaningful work. However, some veterans experience barriers to these opportunities and underemployment when transitioning to civilian employment.[47] Among employed WWP warriors, 36.6% report not making enough money relative to their skill level, 28.3% feel overqualified for their current roles, and 9.9% must work multiple jobs to make ends meet.

36.6%
of warriors reported not making enough money relative to their skill level

28.3%
of warriors reported feel overqualified for their current roles

9.9%
of warriors must work multiple jobs to make ends meet

TABLE 11: Underemployment Work Situations Among WWP Warriors Currently Employed

Underemployment Work Situations	★ WWP WARRIORS
I am not making enough money at my current job, given my skill level	36.6%
I am overqualified for my current job	28.3%
I must work more than one job to make ends meet	9.9%
I can't find a job that aligns with my skill set	8.3%
I can't get as many hours as I need/want at my job	6.0%
I can't find a job in my geographic area	4.0%
I am underqualified for my current job	2.0%
None of the above	41.8%

NOTE: The sum of the percentages is greater than 100%, as WWP warriors were asked to select all that apply.

Despite the unique training and skills WWP warriors receive while in the military, they still experience challenges while seeking other employment opportunities. **Among WWP warriors currently employed, 52.2% reported at least one barrier that makes it difficult to obtain employment or change jobs.** The top barriers related to obtaining employment or changing jobs were:

★ Mental health or psychological distress

★ Family and/or child care responsibilities

★ Difficulty translating military skills to the civilian workforce

TABLE 12: Barriers to Obtaining Employment or Changing Jobs Among WWP Warriors Currently Employed

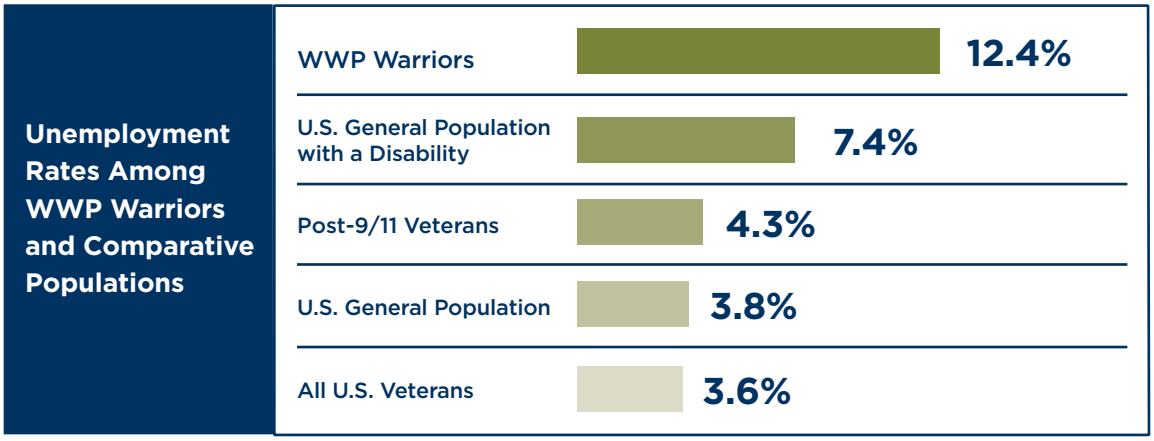
Barrier	★ WWP WARRIORS
Mental health or psychological distress	23.8%
Family and/or child care responsibilities	16.0%
Difficulty translating military skills to the civilian workforce	14.1%
Lack of education	13.2%
Would lose financial or medical benefits	11.9%
Other	8.7%
Criminal history	1.9%
Does not apply (Active duty (3.8% of warriors) or employed full-time in the civilian sector and not seeking a job change)	47.8%

NOTE: The sum of the percentages is greater than 100%, as WWP warriors were asked to select all that apply.

UNEMPLOYMENT RATE

The WWP warrior unemployment rate is higher than the U.S. veteran population, the U.S. general population, and the U.S. general population with a disability.[48]

FIGURE 6: Unemployment Rates Among WWP Warriors and Comparative Populations



NOTE: Data from the U.S. Bureau of Labor Statistics at the time of Wave 3 (August 2023).[48]

KEY DEFINITIONS

Unemployment Rate: Calculated as the proportion of WWP warriors who had no employment but were actively looking for work in the previous four weeks among all WWP warriors in the labor force.

Labor Force: Comprised of those who are employed and those who are unemployed but actively seeking employment.

EMPLOYMENT STATUS QUESTION CHANGE

In Wave 3, employment status was asked in a single question to help ease the survey burden and streamline responses for participants. It accounts for WWP warriors who are retired, as well as those who are currently employed or are seeking employment. Please note that due to these streamlined changes and the detailed criteria included in the Wave 2 employment status questions, there is a chance it may lead to a broader classification of respondents as unemployed in the labor market.

BARRIERS TO ENTERING THE LABOR FORCE

Approximately one out of five WWP warriors are not in the labor force, defined as unemployed and not actively seeking employment (19.2%). The top reasons for not looking for work were:

- ★ Psychological distress or mental health issues from a service-connected disability prevent me from working
- ★ Physical injury from a service-connected disability prevents me from working
- ★ Retired

TABLE 13: Reasons for Not Looking for Work Among WWP Warriors Not in the Labor Force

Reasons for Not Looking for Work	★ WWP WARRIORS
Psychological distress or mental health issues from a service-connected disability prevent me from working	24.7%
Physical injury from a service-connected disability prevents me from working	22.4%
Retired	14.8%
Receiving individual unemployability benefits	10.5%
In school or in a training program	8.7%
Family responsibilities	5.5%
Do not currently want/need to work	4.9%
Other (non-service-connected disability) medical/health condition (or treatment) prevents me from working	3.4%
I would like to work but have become discouraged about finding work and did not look for work in the past four weeks	3.0%
Would lose medical or financial benefits	1.3%
Criminal history	0.4%
Difficulty translating military skills to the civilian workforce	0.4%
Currently active duty	0.1%

WOUNDED WARRIOR
RICHARD DORR WITH HIS FAMILY

INCOME

The household income range most frequently reported by WWP warriors was $60,000 to $79,999. That income range encompasses the median income of $74,580 for the U.S. general population.[49]

On average, WWP warriors' household incomes supported three people.

$60,000 to $79,999

FINANCIAL STRAIN

Updated question

More than four in six WWP warriors (67.3%) indicated that at some point in the last 12 months, they did not have enough money to make ends meet (i.e., to pay for rent/mortgage, food, utilities, phone, or other basic needs).

The proportion of WWP warriors who reported not having enough money to make ends meet in the past 12 months was higher among WWP warriors who are currently not employed (72.7%) than among those WWP warriors who are currently employed (64.7%).

In the past 12 months, the top two reasons for financial strain or struggle were the increased cost of goods (for example, food, gas, rent) and other unexpected financial hardships (natural disaster, car or home repairs, etc.)

TABLE 14: Top Reasons for Financial Strain or Struggle Among WWP Warriors
(WWP warriors were asked to report the top two reasons for financial strain or struggle in the past 12 months.)

Top Reasons for Financial Strain or Struggle	★ WWP WARRIORS
Increased cost of goods (for example, food, gas, rent)	54.8%
Not applicable	22.2%
Other unexpected financial hardship (natural disaster, car, home repairs, etc.)	20.9%
Working but not making enough money	20.3%
Family obligations (care for a parent or child, taking on dependents, funeral costs, etc.)	19.7%
Out of work	14.2%
Living beyond means (overspending)	9.3%
Medical bills	3.7%

DEBT

Updated question

Managing or taking on too much debt can affect an individual's stress level, mental health, and overall quality of life.[50,51] More than nine in 10 WWP warriors (92.8%) have outstanding debt other than mortgage debt, of which over half (60.2%) have at least $20,000 in total debt (excluding the mortgage on their primary residence).

The top three current types of debts that WWP warriors have in their names were:

Credit card

Auto loan

Mortgage on primary home

TABLE 15: Types of Debt Among WWP Warriors

Type of Debt	★ WWP WARRIORS
Credit card	75.3%
Auto loan	67.7%
Mortgage on primary home	63.5%
Student loans	21.0%
Medical	20.3%
Recreational or secondary vehicle(s)	13.2%
Other	8.8%
Mortgage on secondary home(s)	5.1%

NOTE: The sum of the percentages is greater than 100%, as WWP warriors were asked to select all that apply.

Overall, 75.3% of WWP warriors reported that their debts (excluding the mortgage on primary residence) were either "somewhat unmanageable" or "very unmanageable."

TABLE 16: Manageability of Debt Among WWP Warriors (Excluding mortgages on primary residences)

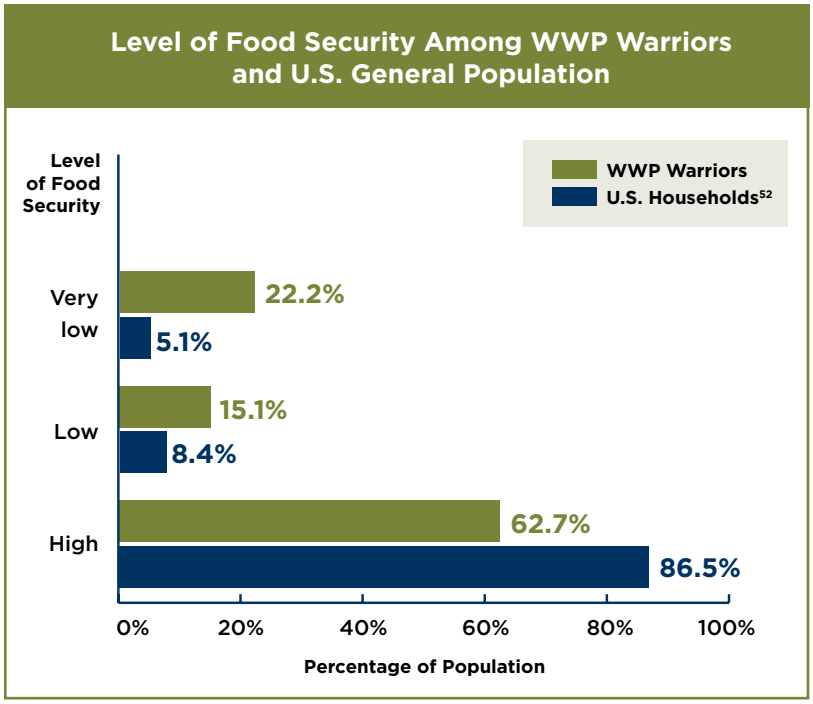
Manageability of Debt	★ WWP WARRIORS
Very manageable	35.2%
Somewhat manageable	40.1%
Somewhat unmanageable	16.4%
Very unmanageable	8.3%

WOUNDED WARRIOR
ERIC DELION WITH HIS FAMILY

FOOD SECURITY

Nearly four in 10 WWP warriors met the threshold for being food insecure (37.3%), almost three times higher than the U.S. general population (13.5%).[52] Similarly, high food security is less common among WWP warriors than in U.S. households (62.7% and 86.5%, respectively).

FIGURE 7: Food Security Among WWP Warriors and the U.S. General Population (FSS Scores)



HOW WE MEASURE IT:

The U.S. Household Food Security Survey (FSS) Module: Six-Item Short Form was used to measure food security levels among WWP warriors. Final summary scores range from 0 to 6, with higher scores indicating lower food security. FSS scores can be categorized as high/marginal food security (0 to 1), low food security (2 to 4), and very low food security (5 to 6). Overall scores can be divided into two dichotomous groups: food secure (scores 0 to 1) and food insecure (scores 2 or more).[53]

> I'M A DIFFERENT PERSON TODAY. A BETTER FATHER. A BETTER HUSBAND. WOUNDED WARRIOR PROJECT CHANGED MY LIFE.
>
> — WOUNDED WARRIOR **ARNULFO DAUTO**

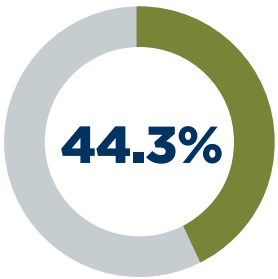
FINANCIAL WELL-BEING

Over two in five WWP warriors (43.6%) report that they live paycheck-to-paycheck ("sometimes" to "all the time"), and 44.3% say they have little to no confidence that they could find the money to cover a $1,000 emergency expense. Circumstances such as these, among others, can contribute to financial distress.

The mean score for WWP warriors' overall financial well-being was 5.4, indicating moderate financial distress. This aligns with overall scores among a sample of recently discharged U.S. veterans or soon-to-be veterans (5.3)[5] and the U.S. general population (5.7),[54] indicating moderate financial distress.

43.6%

2 in 5 WWP warriors live PAYCHECK-TO-PAYCHECK.



of WWP warriors say they have LITTLE TO NO CONFIDENCE THAT THEY COULD FIND MONEY TO COVER A $1,000 emergency expense.

HOW WE MEASURE IT:

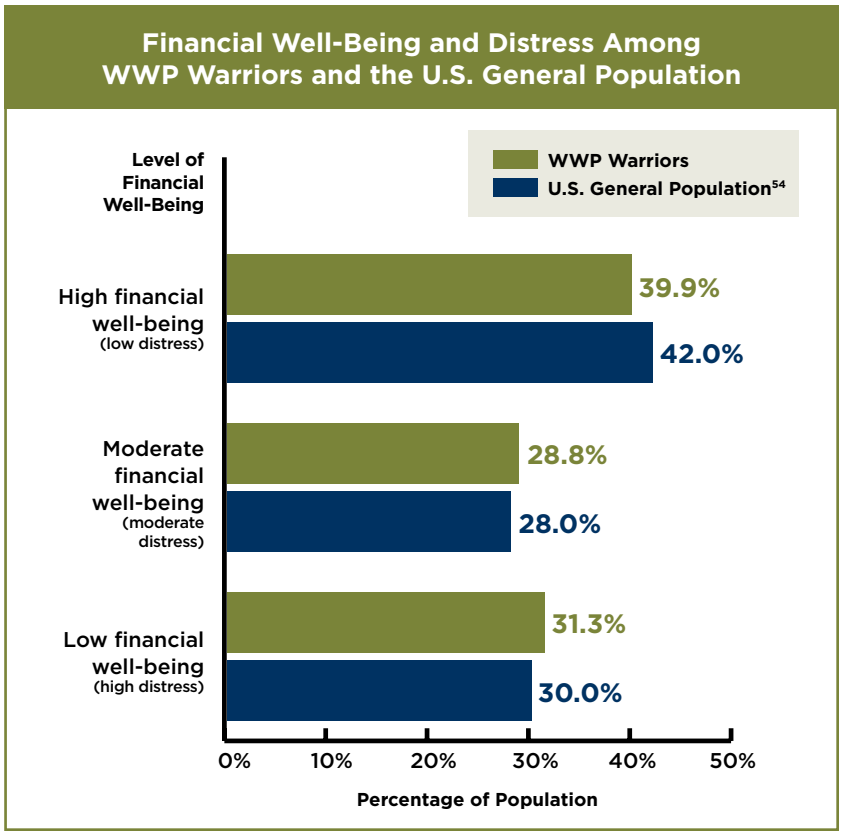
The InCharge Financial Distress/Financial Well-Being Scale (IFDFW) was used to measure overall financial distress and well-being.[54] Final scores can be categorized as:

Low (1 to 4)

Moderate (5 to 6)

High (7 to 10)

FIGURE 8: Financial Well-Being and Distress Among WWP Warriors and the U.S. General Population



HOMELESSNESS

In the past 12 months, about 2 in 25 (7.7%) of WWP warriors reported they had experienced homelessness. Among all WWP warriors, 4.1% thought they might experience homelessness in the next 12 months, while 12.7% reported that they don't know if they might experience homelessness.

For the purposes of this report, we used the same definition of homelessness as the National Health and Resilience Veterans Study: "not had permanent housing and stayed in a shelter, transitional housing, outdoors, or some other unstable or non-permanent situation."[55]

7.7%
of WWP warriors **EXPERIENCED** homelessness in the last 12 months.

4.1%
of WWP warriors **THOUGHT THEY MIGHT** experience homelessness in the next 12 months.

12.7%
of WWP warriors reported that they **DON'T KNOW IF THEY MIGHT** experience homelessness in the next 12 months.

PREVALENCE OF FINANCIAL WELLNESS ACROSS THREE WAVES OF THE WARRIOR SURVEY

The prevalence of financial strain, food insecurity, and homelessness changed over Waves 1 to 3.

TABLE 17: Prevalence of Financial Wellness and Related Issues Among WWP Warrior Population

Financial-Related Issues	Wave 1	Wave 2	Wave 3
Most frequently reported household income range	$50,000 to $74,999	50,000 to $74,999	**$60,000 - $79,999**
Financial strain	42.0%	64.2%	**67.3%**
Food insecure	33.1%	38.7%	**37.3%**
High financial well-being (low distress)	30.8%	38.3%	**39.9%**
Unemployment rate*	13.4%	6.8%	**12.4%**
Homelessness in the past 12 months	-	4.0%	**7.7%**

NOTE: The results are a snapshot of the WWP warrior population in time. Wave 1 homelessness data in the previous 12 months was not available.

*The difference in unemployment rates between Wave 2 and Wave 3 could be attributed to several potential factors, including changes in the survey questions. We highlight how changes in the employment status questions may have influenced the observed differences in the Unemployment Rate section of this report.

WOUNDED WARRIOR PROJECT MADE MY PATH TO RECOVERY POSSIBLE.

— WOUNDED WARRIOR
JASON MAJOR

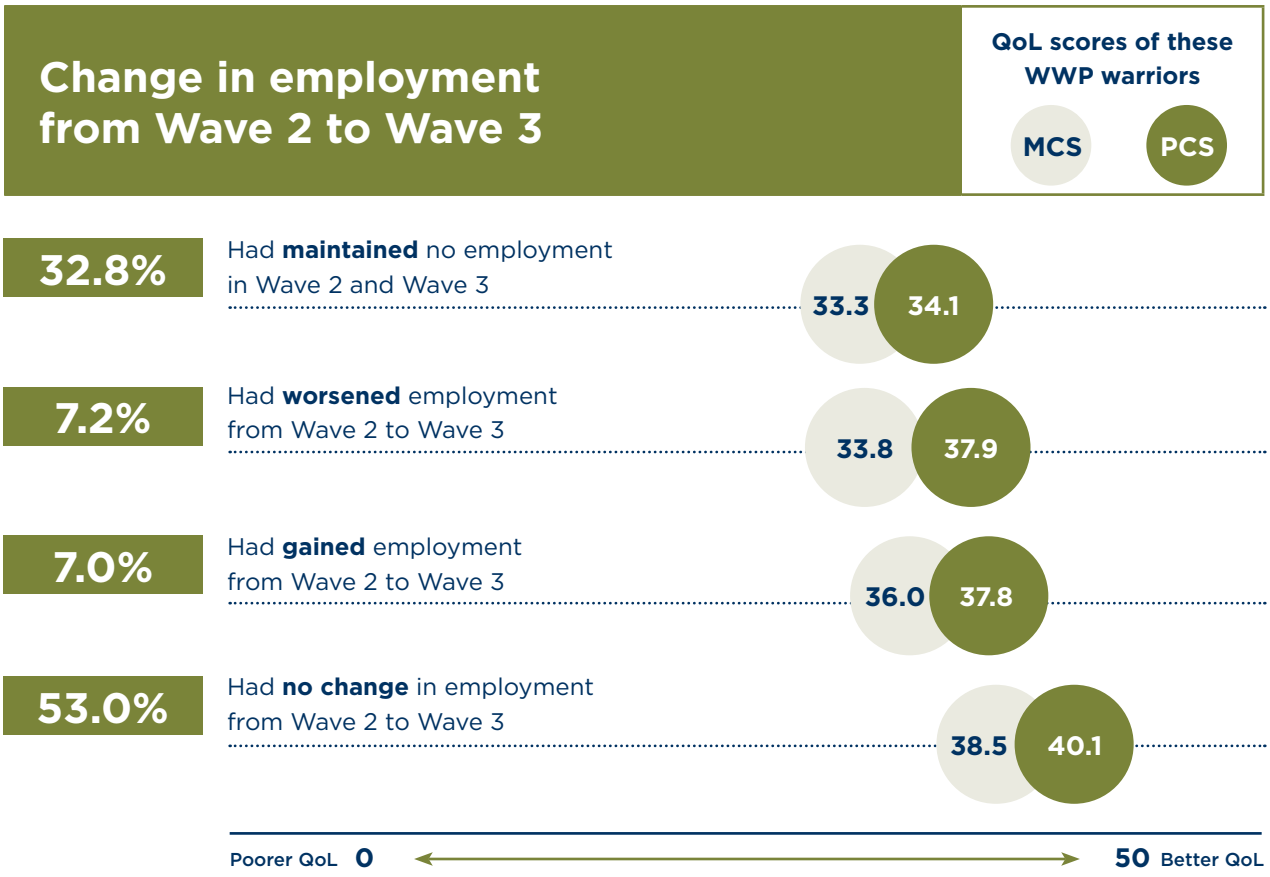
FINANCIAL WELLNESS ANALYSIS

CHANGES IN EMPLOYMENT OVER TIME

Figure 9 presents the changes in employment between Wave 2 and Wave 3, categorized into four groups based on WWP warriors reporting whether they are employed or not employed within each wave. Most WWP warriors (53.0%) reported no change in their employment across waves. In both Wave 2 and Wave 3, 32.8% of WWP warriors were not employed, which also includes WWP warriors who are retired or do not necessarily want to be employed at this time. Smaller percentages of WWP warriors experienced changes in employment from Wave 2 to Wave 3, with 7.2% reporting employment in Wave 2 but no employment in Wave 3 and 7.0% reporting gaining employment from Wave 2 to Wave 3.

- ★ WWP warriors who maintained no employment in Wave 2 and Wave 3 had the lowest MCS and PCS QoL scores.
- ★ WWP warriors who went from employment in Wave 2 to no employment in Wave 3 (worsened) had lower MCS QoL scores than warriors who gained employment from Wave 2 to Wave 3. Both groups reported similar PCS QoL scores.
- ★ WWP warriors who had no change in employment, reporting being employed in both Wave 2 and Wave 3, displayed the highest MCS and PCS QoL scores.

FIGURE 9: Changes in Employment Across Two Time Points and QoL Scores



EMPLOYMENT RISK AND PROTECTIVE CHARACTERISTICS

The findings show that employment is associated with higher QoL scores. We then conducted further analysis to explore which characteristics decrease (risk) or increase (protective) the likelihood of WWP warriors being employed one year later.

One thing to note is that the "not currently employed" group includes WWP warriors who are retired or do not necessarily want to be employed at this time, which may influence the findings.

RISK CHARACTERISTICS

★ Presenting with symptoms for one or more mental health conditions	WWP warriors who presented with symptoms for one or more mental health conditions in Wave 2 showed a lower likelihood of employment in Wave 3.

PROTECTIVE CHARACTERISTICS

★ No protective characteristics were found	No protective characteristics were exhibited for WWP warriors in Wave 2 that showed an increased likelihood of employment in Wave 3.

Further details about the analysis can be found in the Appendix.

SOCIAL CONNECTION

This section will explore loneliness and its impact on quality of life.

WOUNDED WARRIOR
PHIL KRABBE (LEFT)

Research suggests that social connections play an important role in general well-being and a key element to successfully transitioning from military service into civilian life.[56] **This section outlines the social connection findings from Wave 3, with further analysis exploring characteristics that decrease or increase the likelihood of experiencing loneliness.**

LONELINESS

Loneliness is often defined as the emotional discomfort individuals can experience when social interactions and connections are not what they want them to be.[57] Loneliness can negatively impact an individual's physical and emotional health.[57] Over a third (38.2%) of WWP warriors reported that, during the past four weeks, their physical health or emotional problems interfered with their social activities either "most of the time" or "all of the time."

TABLE 18: How Often Physical Health or Emotional Problems Interfered with Social Activities (in past four weeks)

Frequency of Interference	★ WWP WARRIORS
All of the time	11.9%
Most of the time	26.3%
Some of the time	34.3%
A little of the time	17.9%
None of the time	9.6%

HOW WE MEASURE IT:

Loneliness is measured using the Three-Item Loneliness Scale, which measures three dimensions of loneliness: relational connectedness, social connectedness, and perceived isolation. Final scores can be grouped as not lonely (scores 3 to 5) or lonely (scores 6 to 9).[58]

The average loneliness score among WWP warriors was 6.3, which falls within the threshold indicating loneliness.[58] When further categorized into groups, **the majority of WWP warriors are considered lonely (68.0% compared to 32.0% considered not lonely).**

79.2%
of warriors reported feeling isolated – sometimes or often

74.7%
of warriors reported feeling left out

71.6%
of warriors reported that they lack companionship

TABLE 19: Three-Item Loneliness Scale Responses Among WWP Warriors

	Hardly Ever	Some of the Time	Often
How often do you feel that you lack companionship?	**28.4%**	**41.7%**	**29.9%**
How often do you feel left out?	**25.3%**	**42.6%**	**32.1%**
How often do you feel isolated from others?	**20.8%**	**39.3%**	**39.9%**

PREVALENCE OF LONELINESS ACROSS THREE WAVES OF THE WARRIOR SURVEY

Over Waves 1 to 3, there were some changes in the prevalence of loneliness. The percentage of WWP warriors reporting loneliness has increased over the three waves. However, the percentage of those reporting that physical health or emotional problems interfere with social activities has remained relatively consistent.

TABLE 20: Prevalence of Loneliness Among WWP Warrior Population

	Wave 1	Wave 2	Wave 3
Loneliness	62.4%	66.3%	**68.0%**
Physical health or emotional problems interfered with social activities	38.8%	39.1%	**38.2%**

NOTE: The results are a snapshot of the WWP warrior population in time.

YOU START TO REALIZE YOU HAVE A LOT IN COMMON WITH OTHER VETERANS. NOW, I GET TO BE THE GUY WHO SHARES HIS STORY AND GETS SOMEBODY ELSE TO REALIZE THEY AREN'T ALONE.

— WOUNDED WARRIOR
DAVID DALY

SOCIAL CONNECTION ANALYSIS

CHANGES IN LONELINESS OVER TIME

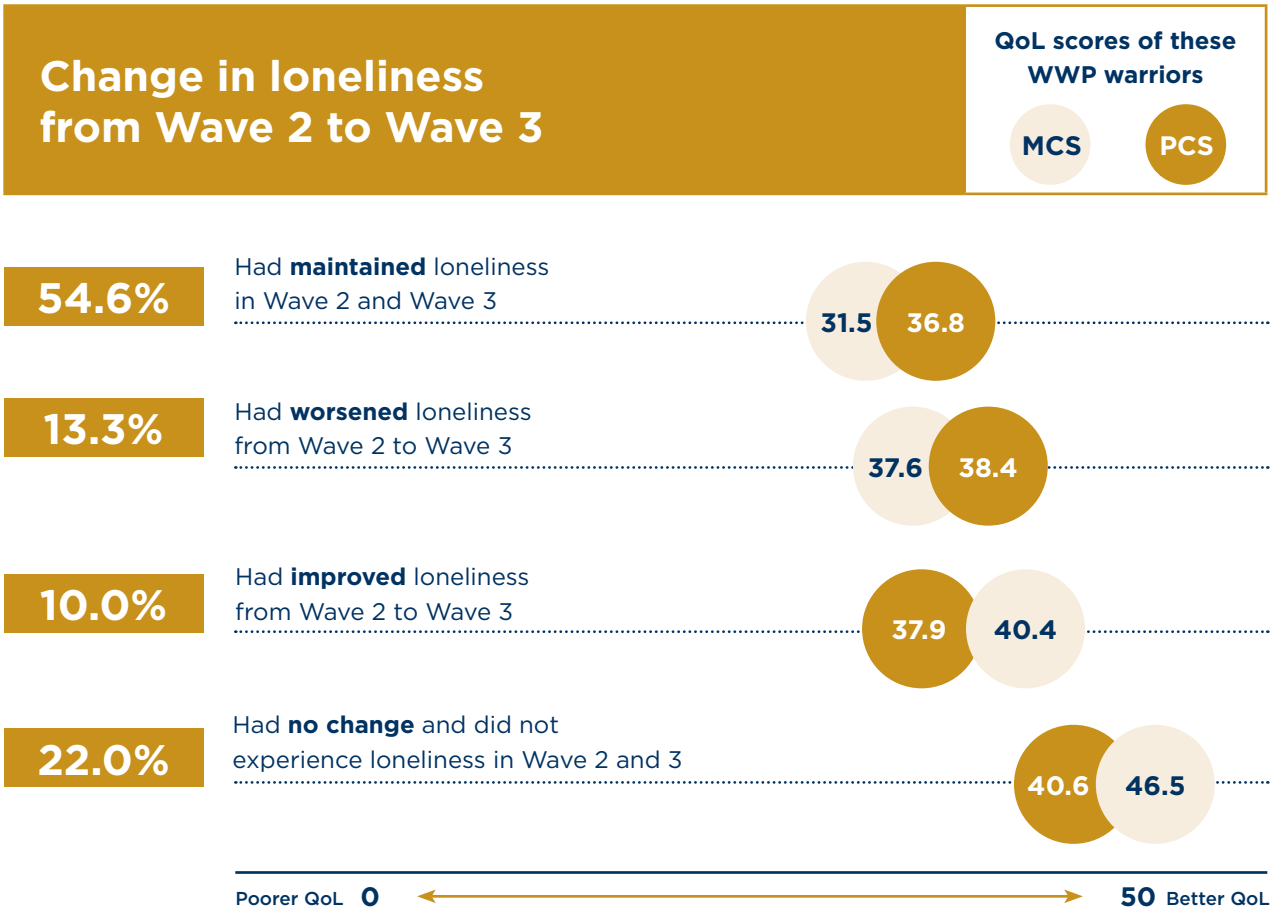
Figure 10 presents the changes in loneliness between Wave 2 and Wave 3, categorized into four groups based on the presence of loneliness in each wave. Over half (54.6%) of WWP warriors reported experiencing loneliness in both Wave 2 and Wave 3, 13.3% did not report loneliness in Wave 2 but did in Wave 3, 10.0% reported loneliness in Wave 2 but improved in Wave 3, while 22.0% of WWP warriors reported not experiencing loneliness in both Wave 2 and Wave 3.

★ WWP warriors who maintained loneliness in both Wave 2 and Wave 3 displayed the lowest MCS and PCS QoL scores.

★ WWP warriors who did not experience loneliness in Wave 2 but did in Wave 3 (worsened) had a lower MCS QoL score than warriors who experienced loneliness in Wave 2 but not in Wave 3 (improved).

★ Warriors who had no change and did not experience loneliness in either Wave 2 or Wave 3 had the highest MCS and PCS QoL scores.

FIGURE 10: Changes in Loneliness Across Two Time Points and QoL Scores



LONELINESS RISK AND PROTECTIVE CHARACTERISTICS

The findings show that not feeling lonely is associated with higher QoL scores. We then conducted further analysis to explore which characteristics increase (risk) or decrease (protective) the likelihood of WWP warriors reporting loneliness one year later.

RISK CHARACTERISTICS

- ★ Presenting with symptoms for one or more mental health conditions

→ WWP warriors who presented with symptoms for one or more mental health conditions in Wave 2 showed an increased likelihood of loneliness in Wave 3.

PROTECTIVE CHARACTERISTICS

- ★ High resilience
- ★ Good sleep quality
- ★ Higher post-traumatic growth

→ WWP warriors who reported high resilience, good sleep quality, and high post-traumatic growth in Wave 2 showed a lower likelihood of loneliness in Wave 3.

Further details about the analysis can be found in the Appendix.

SPIRITUAL

This section will explore topics such as post-traumatic growth and resilience.

Veterans may encounter significant challenges that can impact their perspective on life, including during transition when leaving the military. This period can be marked by a loss of purpose and meaning in life, which has been linked to well-being.[59] This section outlines the spirituality findings from Wave 3, with further analysis exploring characteristics that decrease or increase the likelihood of experiencing post-traumatic growth.

POST-TRAUMATIC GROWTH

Updated question

HOW WE MEASURE IT:

PTG was measured using the short form expanded version of the Post-Traumatic Growth Inventory (PTGI-SF-X). This tool helps measure how an individual copes positively after trauma and includes five elements: connecting with others, seeing new possibilities, inner strength, spiritual changes, and appreciation for life.[60]

WWP warriors have an overall mean growth score of 22.0, similar to the mean scores reported in previous studies exploring PTG in military personnel and veterans.[61] We then focused on each of the five PTG domains and found the highest mean growth scores within appreciation of life, followed by personal strength and new possibilities.

TABLE 21: WWP Warriors' Mean Scores Within the Five Post-Traumatic Growth Domains

PTG Domain	★ WWP WARRIORS
Appreciation of life	5.5
Personal strength	4.8
New possibilities	4.5
Spiritual change	3.9
Relating to others	3.3

WWP warriors were asked to identify areas where their lives have changed due to traumatic experiences. Most commonly, WWP warriors agreed that:

37.6%
I have a greater appreciation for the value of my own life.

32.7%
I changed my priorities about what is important in life.

27.1%
I discovered that I'm stronger than I thought I was.

I HAD THE CHANCE TO DEFINE WHAT THE REST OF MY LIFE WAS GOING TO BE LIKE. AND WOUNDED WARRIOR PROJECT WAS THERE EVERY STEP OF THE WAY.

— WOUNDED WARRIOR
DAN NEVINS

RESILIENCE

Resilience is an individual's ability to overcome adversity and bounce back from challenges and has been shown to have a positive impact on well-being.[62] WWP warriors have a mean resilience score of 4.9, which falls within moderate levels of resilience. This is lower than the overall score for a general population sample (6.9).[63]

TABLE 22: Resilience Among WWP Warriors

	"I am able to adapt when changes occur."	"I tend to bounce back after illness, injury, or other hardships."
Not at all	**3.7%**	**4.4%**
Rarely true	**9.8%**	**10.7%**
Sometimes true	**37.1%**	**38.5%**
Often true	**32.8%**	**30.3%**
True nearly all the time	**16.6%**	**16.1%**

PREVALENCE OF SPIRITUALITY ACROSS THREE WAVES OF THE WARRIOR SURVEY

Over Waves 1 to 3, there were changes in the prevalence of post-traumatic growth and resilience. The increase in post-traumatic growth scores reflects a positive shift, suggesting a rise in psychological, social, or spiritual growth experienced after trauma.[61]

TABLE 23: Prevalence of Post-Traumatic Growth and Resilience Among WWP Warrior Population

	Wave 1	Wave 2	Wave 3
High post-traumatic growth*	-	26.6%	**29.5%**
High resilience	-	38.5%	**40.1%**

NOTE: The results are a snapshot of the WWP warrior population in time.

*Determined by PTGI score >=30 for the purpose of this analysis. The authors of the PTGI measure updated the spiritual domain questions in 2023. Please refer to Appendix for more details.

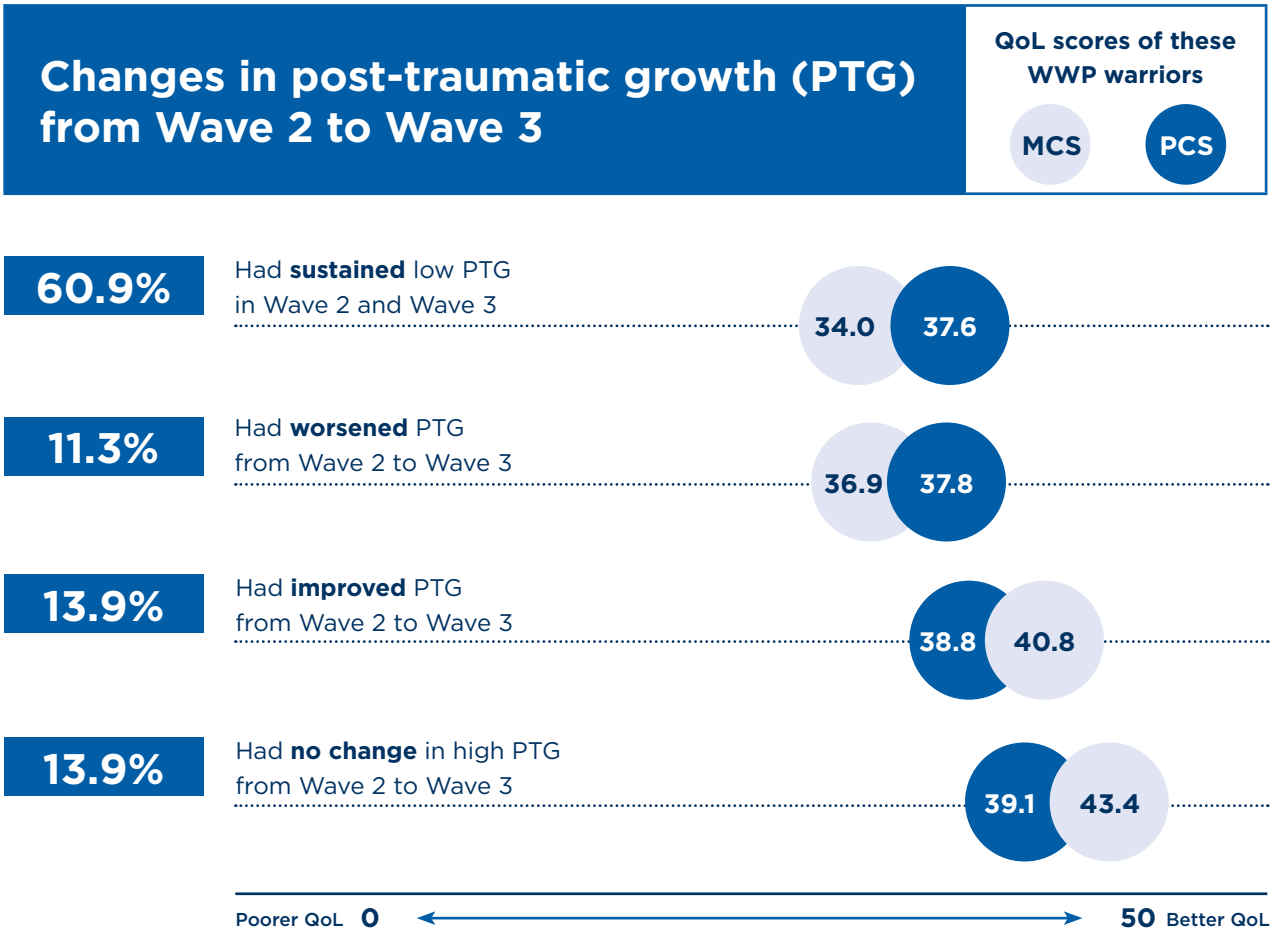
SPIRITUAL ANALYSIS

CHANGES IN POST-TRAUMATIC GROWTH OVER TIME

Figure 11 presents the changes in post-traumatic growth between Wave 2 and Wave 3, categorized into four groups based on whether WWP warriors reported high or low levels of post-traumatic growth. Most WWP warriors (60.9%) reported low post-traumatic growth at both Wave 2 and Wave 3. However, 11.3% of WWP warriors reported worsened post-traumatic growth from Wave 2 to Wave 3, 13.9% had improved post-traumatic growth from Wave 2 to Wave 3, while another 13.9% had high post-traumatic growth in both Wave 2 and Wave 3.

- ★ WWP warriors who sustained low post-traumatic growth at both Wave 2 and Wave 3 had the lowest QoL scores.
- ★ WWP warriors who went from having high post-traumatic growth in Wave 2 to low post-traumatic growth in Wave 3 (worsened) had lower QoL scores than warriors who showed improvement in post-traumatic growth from Wave 2 to Wave 3.
- ★ Warriors who consistently reported high post-traumatic growth in Wave 2 and Wave 3, having no change in both years, displayed the highest QoL scores.

FIGURE 11: Changes in Post-Traumatic Growth Across Two Time Points and QoL Scores



POST-TRAUMATIC GROWTH RISK AND PROTECTIVE CHARACTERISTICS

The findings show that higher post-traumatic growth is associated with higher QoL scores. We then conducted further analysis to explore which characteristics decrease (risk) or increase (protective) the likelihood of WWP warriors experiencing higher post-traumatic growth over time.

RISK CHARACTERISTICS

★ Loneliness	WWP warriors who reported loneliness in Wave 2 showed a lower likelihood of high post-traumatic growth in Wave 3.

PROTECTIVE CHARACTERISTICS

★ Good sleep quality ★ High resilience ★ Participation in a support group for stress, emotional or mental health concerns ★ Previous deployment to a combat area	WWP warriors who reported good sleep quality, high resilience, participation in a support group to help with feelings of stress or emotional or mental health concerns, or had a previous deployment to a combat area in Wave 2 showed an increased likelihood of high post-traumatic growth in Wave 3.

Further details about the analysis can be found in the Appendix.

SUPPORT AND CARE

The support and care individuals may receive while navigating life events can affect their quality of life.[64] In addition to the findings around the five quality of life components, this section of the report focuses on the impact of WWP warriors' experiences around access to health care, family planning, VA health care experiences, utilization of assistive or adaptive technologies, and aid and assistance. Understanding WWP warriors' experiences in these areas will not only help warriors overcome barriers but also allow WWP to champion broader systematic change for all veterans.

ACCESS TO CARE

For WWP warriors living with service-related injuries and health problems, having access to reliable physical and mental health care is critical to their recovery and overall quality of life. This section provides a breakdown of health care coverage, providers and services, barriers to care, and telehealth use among WWP warriors.

HEALTH CARE COVERAGE

Updated question

WWP warriors most frequently cited VA health care (58.7%) or TRICARE (22.0%) as their primary health insurance or health coverage plans. Over two-thirds (70.1%) of WWP warriors reported having multiple insurers.

TABLE 24: Types of Primary Health Care Coverage Reported by WWP Warriors

Primary Health Insurance or Health Coverage Plan	★ WWP WARRIORS
VA (enrolled for VA health care)	58.7%
TRICARE or other military health care	22.0%
Insurance through a current or former employer or union (by you or another family member)	14.0%
Medicare, for people 65 and older, or people with certain disabilities	3.1%
Medicaid, medical assistance, or any government assistance plan for those with low incomes or a disability	1.4%
Insurance purchased directly from an insurance company (by you or another family member)	0.5%
Indian Health Service	0.1%
Government health insurance from a country other than the U.S.	0.1%
Other	0.1%

HEALTH CARE PROVIDERS

Table 25 outlines where WWP warriors prefer to receive care for specific services. **Overall, the VA medical center is the provider that most WWP warriors prefer to utilize for health care.** Same-day/urgent care and emergency room care were the only services WWP warriors reported as a preference to non-VA providers.

When looking specifically at VA medical centers, the top three services WWP warriors prefer utilizing VA medical centers for are primary care, mental/behavioral health care, and specialty care.

TABLE 25: Providers Preferred by WWP Warriors for Specific Services

Providers Preferred by WWP Warriors for Specific Services						
	VA Medical Center	VA Community-Based Outpatient Clinic	Vet Center	Community Care Network Provider	Non-VA Provider	Does Not Apply to Me
Any of the below services	79.2%	64.6%	18.0%	27.3%	47.3%	82.0%
Primary care	50.5%	15.6%	0.5%	8.1%	21.2%	4.1%
Specialty care (for example, cardiologist, endocrinologist, gastroenterologist)	43.8%	6.7%	0.5%	13.9%	22.2%	12.9%
Mental/ behavioral health care	45.6%	11.5%	3.7%	7.9%	16.7%	14.7%
Women's health care	13.2%	2.2%	0.3%	2.9%	6.4%	75.0%
Reproductive health and/ or family planning	15.0%	2.5%	0.3%	4.2%	9.7%	68.5%
Same-day or urgent care	32.1%	6.5%	0.4%	16.1%	34.5%	10.5%
Emergency room care	33.6%	3.3%	0.2%	15.1%	38.2%	9.5%

- **VA Medical Centers** provide a wide range of hospital-based services through the VA, such as surgery, critical care, mental health, pharmacy, and physical therapy.
- **VA Community-Based Outpatient Clinics** aim to make access easier by providing common outpatient services, including health and wellness visits in clinics outside of the larger medical centers.
- **Community Care Network Provider** refers to care that is received from a provider in the warrior's community but paid for by the VA (formerly known as the Choice Program).
- **Private Provider (non-VA provider)** is a health care provider outside of the VA that provides direct services to the public.
- **Vet Centers** are defined by the VA as "community-based counseling centers" that provide a wide range of social and psychological services, including professional counseling to eligible veterans, service members, including National Guard and Reserve components, and their families.[65]

IMPORTANT FACTORS WHEN SELECTING A HEALTH CARE PROVIDER

TABLE 26: Most Important Factors When Selecting a Health Care Provider Among WWP Warriors

What five factors are MOST important to you when selecting a health care provider for yourself? Select up to five.	★ WWP WARRIORS
Time to get an appointment	69.5%
Ease of scheduling appointments	66.9%
Provider's qualifications (for example, education, experience, and credentials)	61.7%
Office location	57.3%
Experience with veterans	52.0%
In-network	44.8%
Low-cost care	24.6%
Telehealth	20.9%
Reviews or recommendations	20.2%
Care coordination or patient advocacy	19.5%
Culturally sensitive (i.e., they are respectful of my race, ethnicity, age, LGBTQ+ friendly, etc.)	8.1%
Other	4.0%

TOP 5

The top five factors most important to WWP warriors when selecting a health care provider for themselves are:

69.5%
Time to get an appointment

66.9%
Easy to schedule appointments

61.7%
Provider's qualifications (for example, education, experience, and credentials)

57.3%
Office location

52.0%
Experience with veterans

TOP 5

BARRIERS TO CARE

The top five barriers that WWP warriors reported most impacted accessing health care are:

Wait time to get an appointment

Poor experiences with provider

Personal schedule (work, school, family responsibilities)

Difficulty scheduling appointments

Limited options in my geographic area

BARRIERS TO CARE

Understanding the barriers to care WWP warriors encounter in the health care system is fundamental to providing warriors with the support they need.

TABLE 27: Top Barriers That Impacted Access to Health Care Among WWP Warriors

What are the top FIVE barriers that most impacted accessing health care? Select up to five.	★ WWP WARRIORS
Wait time to get an appointment	58.4%
Poor experiences with provider	46.5%
Personal schedule (work, school, family responsibilities)	37.8%
Difficulty scheduling appointments	35.4%
Limited options in my geographic area	30.7%
Did not know about available resources	28.3%
Delays or cancellations in treatment	25.9%
The cost was too expensive	25.3%
VA care options are limited	25.0%
Too many requirements to see a specialist	19.3%
Did not feel comfortable using available resources	16.5%
Lack of experience with veterans	14.6%
No care coordination or patient advocacy	10.2%
Telehealth not offered	6.2%
Lack of transportation	4.9%
Culturally insensitive (i.e., lack of respect, ethnicity, age, LGBTQ+ friendly, etc.)	3.7%
None of the above	8.7%

DIFFICULTY ACCESSING HEALTH CARE THROUGH THE VA

Updated question

Just over half of WWP warriors (55.4%) experienced some degree of difficulty accessing health care through the VA. Nearly one in five (18.3%) WWP warriors reported the degree of difficulty as either "extremely difficult" or "very difficult."

TABLE 28: Difficulty Accessing Health Care Through the VA Among WWP Warriors

During the past 12 months, to what degree did you have difficulty accessing health care through the VA?	★ WWP WARRIORS
Extremely difficult	8.6%
Very difficult	9.7%
Somewhat difficult	37.1%
Not at all difficult	30.9%
Don't know	4.1%
Not applicable	9.6%

NOTE: Active duty are not included in the calculation.

TELEHEALTH

Updated question

Telehealth can help address some of the barriers to care because it provides cost-effective care for various medical needs and is more accessible. Most WWP warriors (58.5%) have utilized telehealth in the past 12 months. Of the WWP warriors who did not utilize telehealth services, 15.1% reported that it was not offered to them, and 26.4% preferred in-person services.

TABLE 29: Telehealth Utilization Among WWP Warriors

In the past 12 months, have you used telehealth services?	★ WWP WARRIORS
Yes, and would use telehealth again	52.4%
No, preferred to use in-person services	26.4%
No, telehealth services were not offered	15.1%
Yes, but would not use telehealth again	6.1%

SEXUAL AND REPRODUCTIVE HEALTH

Access to family planning, infertility, and reproductive health services is essential for those who wish to become parents. Due to the unique challenges WWP warriors may face from service-related injuries, these services might be crucial for helping them achieve their family planning goals and addressing any infertility issues.

FAMILY PLANNING SERVICES

Overall, 9.4% of WWP warriors reported using one of the family planning services listed below, with the top three utilized services being infertility testing, surgery to correct medical conditions, and advice. Of the WWP warriors who have used those services, 7.7% reported experiencing delays or trouble accessing family planning services.

TABLE 30: Utilization of Family Planning Services Among WWP Warriors Needing Assistance

Which of the following family planning services have you used?	★ WWP WARRIORS
No, I have not used any family planning services	81.7%
Don't know	5.3%
Prefer not to answer	4.1%
Infertility testing	3.6%
Advice	2.8%
Surgery to correct medical conditions	2.3%
Drugs to improve your fertility	1.6%
Other types of medical help	1.6%
Artificial insemination	1.1%
Adoption	0.7%

NOTE: The sum of percentages is greater than 100%, as WWP warriors were asked to select all that apply.

TABLE 31: Barriers to Accessing Family Planning Services Among WWP Warriors

Experienced delays or trouble accessing family planning services among warriors who have used family planning services	★ WWP WARRIORS
No	12.3%
Yes	7.7%
Not applicable	4.4%
Skipped	75.1%
Prefer not to answer	0.5%

TOP 3

Top 3 types of delays or trouble accessing family planning services experienced by WWP warriors were:

I couldn't get an appointment with a doctor, clinic, or pharmacy soon enough.

I couldn't get through to a doctor, clinic, or pharmacy on the telephone.

I couldn't afford it.

MILITARY SEXUAL TRAUMA

The VA defines military sexual trauma (MST) as sexual assault or harassment experienced during military service.[66] Among WWP warriors, 9.9% self-reported experiencing military sexual assault, and 8.8% self-reported experiencing military sexual harassment. **About one in eight (12.4%) WWP warriors are MST survivors; 53.0% of all women and 3.5% of all male warriors are MST survivors.**

VA WOMEN'S HEALTH SERVICES

Updated question

When asked about coordinating routine women's health services (such as Pap smears, contraception, and mammograms), 43.2% of WWP women warriors reported that the VA was "extremely helpful" or "very helpful."

TABLE 32: Helpfulness of the VA in Coordinating Routine Women's Health

How helpful was the VA in coordinating your routine women's health services? (such as Pap smears, contraception, and mammograms)	★ WWP WARRIORS
Extremely helpful	19.0%
Very helpful	24.2%
Somewhat helpful	24.2%
Not at all helpful	13.5%
Don't know	6.3%
Not applicable	12.9%

Approximately one-third (32.9%) of WWP women warriors felt the VA was "extremely helpful" or "very helpful" at coordinating their gynecology referral services.

TABLE 33: Helpfulness of the VA in Coordinating Gynecology Referral Services Among WWP Women Warriors

How helpful was the VA in coordinating your gynecology referral services? (such as abnormal Pap, abnormal bleeding, and gynecology surgery)	★ WWP WARRIORS
Extremely helpful	15.3%
Very helpful	17.6%
Somewhat helpful	19.3%
Not at all helpful	13.4%
Don't know	7.3%
Not applicable	27.1%

The majority of WWP women warriors (64.4%) reported that the VA coordinating their pregnancy or fertility care was not applicable to them. One in seven (14.2%) felt the VA was "extremely helpful" or "very helpful" at coordinating their pregnancy or fertility care.

TABLE 34: Helpfulness of the VA in Coordinating Pregnancy or Fertility Care Among WWP Women Warriors

How helpful was the VA in coordinating your pregnancy or fertility care?	★ WWP WARRIORS
Extremely helpful	7.8%
Very helpful	6.4%
Somewhat helpful	7.6%
Not at all helpful	8.6%
Don't know	5.2%
Not applicable	64.4%

VA CLAIMS AND BENEFITS

Updated question

Nearly eight in 10 (77.4%) WWP warriors reported having used a VA or government benefit. The top three most common benefits utilized were the post-9/11 GI Bill, otherwise known as the New GI Bill, the VA's Veteran Readiness and Employment Program (VR&E, formerly VocRehab), and the Military Tuition Assistance (TA) Program.

TABLE 35: VA or Government Benefits Utilized by WWP Warriors

Which of the following VA or government benefits have you used?	★ WWP WARRIORS
Post-9/11 GI bill, otherwise known as the New GI Bill	58.7%
VA's Veteran Readiness and Employment Program (VR&E, formerly VocRehab)	21.1%
I have not used any VA or government benefits	19.8%
Military Tuition Assistance Program	19.3%
Federal Pell Grant	18.8%
Montgomery GI bill	18.7%
Sergeant First Class (SFC) Heath Robinson Honoring our Promise to Address Comprehensive Toxics (PACT) Act	8.0%
I am not aware of any VA or government benefits that are available to assist me with my education	6.7%
Program of Comprehensive Assistance for Family Caregivers (commonly referred to as the Caregiver Program or Family Caregiver)	5.5%

NOTE: The sum of the percentages is greater than 100%, as WWP warriors were asked to select all that apply.

Of those who reported using the VA's VR&E program (21.1%), the top services WWP warriors were either previously or currently enrolled in were independent living, self-employment, and rapid access to employment.

TABLE 36: Services Previously or Currently Utilized Within the VR&E Program Among 21.1% of Warriors Who Reported Using the VA's VR&E Program

If you previously used, or are currently using, the VA's VR&E, please select the services you enrolled in.	★ WWP WARRIORS		
	No	Yes	I don't know
Reemployment – helping veterans to return to work with a previous employer (for example, job accommodations, job modifications, coordination with other services and the employer)	62.5%	26.2%	11.3%
Rapid access to employment – direct job placement (for example, job seeking, resume development) for those who have transferable skills and who do not need additional training	74.7%	12.5%	12.8%
Self-employment – for those with limited access to traditional employment or who need a more accommodating work environment	80.2%	7.6%	12.2%
Employment through long-term services – training/education (for example, postsecondary training at a college, vocational, technical school); on-the-job training, apprenticeships, internships, and nonpaid work experience	44.8%	43.8%	11.5%
Independent living – service for those who are not currently able to return to work due to significant disabilities and need assistance to live independently. Services may improve functioning so that employment becomes feasible at a later time	81.7%	5.8%	12.5%

SUPPORT AND CAREGIVING

ASSISTIVE TECHNOLOGY OR ADAPTIVE EQUIPMENT

Updated question

Due to the severity and nature of service-related injuries, some WWP warriors require additional support. This could be help from another person or, in some cases, specialized equipment. Overall, 45.3% of WWP warriors report needing a form of assistive technology or adaptive equipment for injuries or conditions experienced while serving, or as a result of serving, in the military after September 11, 2001. The most common form of technology or equipment reported used or in need of WWP warriors was sensory aids (for example, hearing aids, guide and service dogs). **Compared to those currently using assistive technology or adaptive equipment, more WWP warriors reported needing it but not having it.**

TABLE 37: Utilization of Assistive Technology or Adaptive Equipment Among WWP Warriors

Do you need any of the following assistive technology or adaptive equipment for injuries or conditions you experienced while serving, or as a result of serving, in the military after September 11, 2001?	★ WWP WARRIORS		
	Yes, and I use it	Yes, I need it but don't have it	No, I don't need it
Prosthesis	6.7%	2.7%	90.6%
Sensory aids (for example, hearing aids, guide and service dogs)	14.0%	19.5%	66.5%
Mobility – mobility assistive equipment (for example, manual wheelchairs, powered mobility devices) or adapted driving/vehicle modifications	5.7%	5.6%	88.7%
Communication and electronic devices (for example, augmentative and alternative communication devices, electronic cognitive devices, ECUs/ EADLs, computer access)	2.2%	5.5%	92.4%
Recreational (for example, adapted sports and recreational technology)	3.2%	13.1%	83.6%
Home adaptations (for example, home improvements and structural alterations)	3.3%	12.9%	83.8%

WOUNDED WARRIOR
RICHARD DANIEL WITH HIS WIFE

CAREGIVING

Updated question

A caregiver provides the additional support warriors may need to help them with daily activities. **About one in four (26.0%) WWP warriors reported needing aid and/or assistance from another person due to service-connected injuries or health problems.**

TABLE 38: Need and Utilization of Aid and/or Attendance of Another Person Among WWP Warriors

As a result of any injuries (physical or mental) or health problems you experienced while serving in the military after September 11, 2001, do you currently receive the aid and/or attendance of another person?	★ WWP WARRIORS
No, I don't need an aide or caregiver	74.0%
No, but I need an aide or caregiver	13.7%
Yes, I have an aide or caregiver	10.6%
Yes, I have an aide or caregiver, but it is insufficient	1.7%

For all WWP warriors who report needing aid and/or assistance from another person (26.0%), even if they are not currently receiving it (13.7%), the top three most reported tasks they need help with are mental health or emotional regulation, mobility (walking, going upstairs, transferring from bed to chair, etc.), and dressing or undressing oneself.

TABLE 39: Tasks WWP Warriors Report Needing Assistance With

Which of the following do you need assistance with?	★ WWP WARRIORS
Mental health or emotional regulation	77.2%
Mobility (walking, going upstairs, transferring from bed to chair, etc.)	32.7%
Dressing or undressing oneself	27.0%
Grooming oneself in order to keep oneself clean and presentable	25.2%
Bathing	23.2%
Something else	19.4%
Toileting or attending to toileting	11.2%
Adjusting any special prosthetic or orthopedic appliance that, by reason of the particular disability, cannot be done without assistance	7.2%
Feeding oneself due to loss of coordination of upper extremities, extreme weakness, inability to swallow, or the need for a non-oral means of nutrition	6.0%

NOTE: The sum of the percentages is greater than 100%, as WWP warriors were asked to select all that apply. The above tasks are only for the 26% of WWP warriors who report needing assistance.

More than eight in 10 WWP warriors (82.1%) report their spouse as their primary caregiver, providing, on average, nine hours of assistance daily for six days a week.

Due to their service-related injuries and unique needs and experiences, some WWP warriors may continue to require various levels of caregiving and support. Changes or uncertainty around caregiver support could cause additional challenges both physically and mentally. Among all WWP warriors, 19.0% reported concerns about their future regarding their caregiving needs.

SPECIAL TOPICS

In addition to exploring risk and protective characteristics associated with quality of life components and WWP warriors' experiences of support and care, WWP identified and included timely topics of special interest related to gaming and exposure to environmental hazards.

GAMING Updated question

Livestreaming and gaming have been shown to be beneficial for mental health and be an effective way for veterans to connect with others.[67] In Wave 3, 32.4% of WWP warriors reported engaging in gaming or livestreaming. On average, over the past 30 days, they spent 10 days and three hours per day either gaming or creating their own livestreams (excluding time spent solely watching livestreams). The most common platforms reported for playing games were iPhone/Android, PC/Mac, and PS5. Twitch, TikTok, and Instagram were the most preferred platforms for livestreaming content.

TABLE 40: Platforms WWP Warriors Utilize for Gaming

Which platforms do you play games on?	★ WWP WARRIORS
iPhone/Android	38.9%
PC/Mac	31.8%
PS5	29.0%
Nintendo Switch	26.4%
Xbox Series S/X	22.3%
Xbox One	19.9%
PS4	18.6%
Other	4.5%

NOTE: The sum of the percentages is greater than 100%, as WWP warriors were asked to select all that apply. The above data represents the 32.4% of WWP warriors who reported engaging in gaming or livestreaming.

TABLE 41: Method for Livestreaming Content Among WWP Warriors

What is your preferred method for livestreaming content?	★ WWP WARRIORS
I do not livestream	74.1%
Twitch	9.6%
TikTok	6.0%
Instagram	3.9%
Facebook Live	3.2%
YouTube	3.2%
Other	0.1%

NOTE: The above data represents the 32.4% of WWP warriors who reported engaging in gaming or livestreaming.

WOUNDED WARRIOR
MARY MCGRIFF

EXPOSURE TO ENVIRONMENTAL HAZARDS

Updated question

WWP warriors reported exposure to loud noises, dust and sand, and diesel, kerosene, and/or other petrochemical fumes as the most common environmental hazards.

On August 10, 2022, the PACT Act was signed into law. Since then, 9.0% of WWP warriors have received treatment at the VA for toxic exposure hazards, with an additional 14.4% who have tried but not received treatment at the VA.

TABLE 42: Utilization of VA Toxic Exposure Treatment After the PACT Act Among WWP Warriors

Have you received treatment at the VA for toxic exposure hazards since August 2022 (the passage of the PACT Act)?	★ WWP WARRIORS
No, I have not tried to receive treatment at the VA	76.6%
No, but I tried to receive treatment at the VA	14.4%
Yes	9.0%

Over one in five (22.6%) WWP warriors have filed a VA disability claim for a condition they believe is related to military toxic exposures, and 9.0% of WWP warriors have been granted VA service connection for a condition related to toxic exposures.

TABLE 43: Exposures to Environmental Hazards During Service Among WWP Warriors

During military service, were you exposed to or did you experience any of the following?	★ WWP WARRIORS
Loud noises	95.2%
Dust and sand	90.7%
Diesel, kerosene, and/or other petrochemical fumes	84.9%
Insect repellant (spray, lotion, or cream applied to your skin)	80.4%
Ate local food other than food provided by the Armed Forces	77.0%
Solvents or degreasers	74.1%
Burning trash/feces	72.9%
Skin exposure to JP8, diesel, or other petrochemical fluid	70.3%
Pesticide-treated uniforms	61.9%
Industrial pollution	57.8%
Other exposure you consider harmful	57.2%
Smoke from oil fires	53.9%
Paint operations (vehicles or equipment)	49.5%
Radiation	31.1%
Contact with prisoners of war (POWs)	27.7%
Depleted uranium (DU) (for example, handling DU munitions)	22.8%

OVERALL IMPACT ON WWP WARRIORS' QUALITY OF LIFE

WOUNDED WARRIOR
ERIK SCHEI WITH HIS FAMILY

RISK AND PROTECTIVE CHARACTERISTICS

Throughout this report, we have explored the risk and protective characteristics for each factor that had the strongest association with QoL scores. The risk and protective analysis highlighted some similarities across the different factors. The top characteristics were:

RISK CHARACTERISTICS

- ★ Presenting with symptoms for one or more mental health conditions
- ★ Experiencing loneliness

PROTECTIVE CHARACTERISTICS

- ★ Good sleep quality
- ★ Higher post-traumatic growth
- ★ High resilience

These shared characteristics suggest how the different aspects of quality of life for WWP warriors are connected. Prioritizing interventions that focus on these traits may have a widespread impact on WWP warriors' overall well-being.

WOUNDED WARRIOR PROJECT IS ABOUT HELPING YOU LEARN MORE SO YOU CAN MOVE BEYOND PHYSICAL OR MENTAL WORRIES AND LIVE YOUR LIFE.

— WOUNDED WARRIOR
JESSICA COULTER

RECOMMENDATIONS TO IMPROVE QUALITY OF LIFE

This research highlights how important it is to take a holistic approach to understand and address veterans' needs. Considering all factors — mental health, physical health, financial wellness, social connection, and spiritual well-being — provides better insights into the complex needs of veterans, helping create solutions that enhance their overall well-being. While the findings are specific to WWP warriors, the insights serve as a call to action for all public and private organizations supporting post-9/11 veterans and their families. Based on this research, WWP offers the following recommendations.

RECOMMENDATION 1:

Advance policies that improve access to mental health resources and reduce barriers to care.

Barriers to care significantly impact WWP warriors' ability to access timely treatment; over half (55.4%) reported difficulty accessing VA health care. Common barriers include long wait times, poor provider experiences, personal conflicts, scheduling difficulties, and limited appointment options. Additionally, more than six in 10 (62.7%) warriors reported symptoms of one or more mental health conditions, highlighting the need to address these challenges. By improving access to mental health resources, we can improve outcomes and provide critical support to veterans in need.

Enhance and Promote Accessible Mental Health Care: Accessible, holistic mental health care is essential for overall well-being. Work to eliminate barriers to access by improving program availability, reducing stigma, and ensuring affordability. Enhance delivery modes through expansion and innovation of technology, such as tele-mental health and asynchronous counseling, to increase access to mental health care.

Address the Shortage of Mental Health Professionals: Increase the workforce of mental health professionals and promote legislative changes to streamline certification and licensure processes, reduce administrative burdens, and incentivize workforce retention. This includes expanding interstate licensure to facilitate broader access to mental health care across state lines through legislative support for interstate compacts like the Psychology Interjurisdictional Compact (PSYPACT®).

RECOMMENDATION 2:

Enhance care and treatment for co-occurring conditions.

Improve the quality of life for veterans with a multifaceted approach that actively involves them in their care. An integrated approach prioritizes overall well-being and accounts for the various conditions and injuries veterans may be experiencing. Analysis throughout this report showed that the presence of one or more mental health conditions was a risk characteristic for sleep quality, obesity, employment, loneliness, and post-traumatic growth.

Develop and Implement Whole Health Initiatives that Include Awareness, Education, and Non-pharmacological Treatments for Co-occurring Conditions:

- ★ **Alcohol Abuse and Mental Health Conditions:** Nearly half (46.9%) of WWP warriors screened positive for potential hazardous drinking or active alcohol use disorders, and 62.7% reported symptoms of one or more mental health conditions. Given the high prevalence of both unhealthy alcohol use and mental health challenges among this population, it is crucial to allocate resources to programs and studies that connect veterans with comprehensive care for co-occurring disorders.

- ★ **Sleep Disorders:** Given that research has shown veterans are more likely to suffer from sleep disorders than the general population,[68,69] improving sleep management is crucial for overall health. Poor sleep quality can exacerbate other health conditions, including chronic pain,[33] anxiety, [70] PTSD,[71] depression,[72] and unhealthy weight.[73] Develop educational and care programs for veterans and health care providers about the importance of sleep quality and available treatment options, including the integration of non-pharmacological approaches such as exercise, behavior-based sleep therapy, and lifestyle modifications.

- ★ **Chronic Pain:** Most WWP warriors (95.0%) self-reported experiencing some pain in the past three months, and 75.5% of WWP warriors faced moderate to severe interference in activities and enjoyment of life. To address chronic pain, physical activity programming can provide quality instruction, consistent engagement, and a variety of movement options. This includes modified exercise to accommodate a range of ability and injury types. Additionally, increased support for low-impact movement modalities that offer short- and long-term pain relief is needed.

RECOMMENDATION 3:

Enhance and expand suicide prevention training for both the veteran community and the public sector.

With the veteran suicide rate 71.8% greater than that of non-veteran U.S. adults (age- and sex-adjusted),[19] addressing this critical issue is urgent. By enhancing knowledge and skills in suicide prevention, we can improve early detection, support at-risk individuals more effectively, and foster a more informed and proactive community response. Nonprofit organizations, federal agencies, first responder entities, and corporations should consider implementing or expanding suicide prevention training for their entire workforce to support veterans within their communities.

Develop and Implement Comprehensive Suicide Prevention Training Programs: Increase training on suicide prevention for both the veteran community and the public sector by incorporating suicide prevention training and mental health education into workforce development programs. Implement comprehensive training programs that educate veterans, their families, and public sector professionals on the recognition of warning signs, effective intervention strategies, and available resources.

Implement Veteran Suicide Prevention Programs at the State and Federal Levels: Develop and apply statewide suicide prevention best practices through a public health framework. Partner with mental health organizations and experts to design and deliver high-quality training content. Organize regular workshops, seminars, and refresher courses to ensure that veterans, nonprofit staff, and public sector workers remain updated on best practices in suicide prevention and mental health support.

RECOMMENDATION 4:

Expand opportunities for veterans to connect both within the veteran community and with the broader public.

The prevalence of social isolation among WWP warriors is a significant concern, with the majority (68.0%) currently experiencing loneliness. This isolation can exacerbate mental health issues and hinder overall well-being. Social connections play a critical role in improving veterans' well-being, reducing loneliness, and supporting positive behavior change. Create and promote programs designed to strengthen connections within the veteran community and with the wider public.

Encourage Volunteerism and Civic Engagement: Foster opportunities for veterans to engage in volunteer work and civic activities. Research has shown a positive association between both civic engagement and sense of purpose on well-being.[74,75,76] Providing these opportunities can enhance veterans' sense of purpose and strengthen ties with the broader community. This includes organizing events, support groups, and networking opportunities that facilitate meaningful interactions.

Research and Invest in Peer Support Groups: Invest in demonstration projects aimed at expanding and enhancing peer support groups for veterans through structured environments for mutual support, shared experiences, and social engagement. Research the effectiveness of and best practices for peer support groups in reducing loneliness and improving mental health outcomes among veterans.

RECOMMENDATION 5:

Enhance financial wellness and employment opportunities for veterans.

Survey results showed that consistently employed warriors displayed the highest quality of life scores when compared with warriors who are not employed and warriors who gained employment over Wave 2, emphasizing the importance of employment and financial stability in their well-being. However, 75.3% of WWP warriors reported that their debts (excluding the mortgage on primary residence) were either "somewhat unmanageable" or "very unmanageable." This highlights the urgent need to incorporate financial wellness education into the military service life cycle rather than waiting until post-separation.

Implement Financial Management Training Earlier in the Transition Process: Prepare service members for stability before transitioning to civilian life through training in financial management, covering topics such as education, budgeting, credit management, and debt payoff assistance. Develop interventions aimed at increasing income through career advancement and employment opportunities. This includes investing in workshops and resources to help veterans translate their military experience into civilian job qualifications, improving their employability.

Enhance Veteran Employment Resources and Employer Engagement: Initiate campaigns to educate organizations about the services and benefits available to veterans, including resources for improving veteran employment and retention. Encourage employers to establish veterans-specific employee resource groups to foster a supportive community and facilitate networking and mentorship opportunities.

APPENDIX

SCALES

Topic Page Number	How We Measure It	Interpretation of Scores	Scale Reference
Quality of life Pgs. 15-16	Veterans RAND 12-Item Health Survey (VR-12)	Higher scores indicate better health.	Selim AJ, Rogers W, Fleishman JA, Qian SX, Fincke BG, Rothendler JA, Kazis LE. Updated US population standard for the Veterans RAND 12-item Health Survey (VR-12). Quality of Life Research. 2009 Feb;18:43-52.
Anxiety Pg. 19	General Anxiety Disorder 7-Item (GAD-7)	Cutoff scores of 5, 10, and 15 were used for mild, moderate, and severe anxiety, respectively. Further evaluation is recommended for scores of 10 or greater.	Löwe B, Decker O, Müller S, Brähler E, Schellberg D, Herzog W, et al. Validation and standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the general population. Medical Care. 2008 Mar:266-74.
Depression Pg. 21	Patient Health Questionnaire-2 (PHQ-2)	A cutoff score of 3 was used to indicate the presence of depressive symptoms, warranting further consideration for treatment.	Kroenke, K., Spitzer, R.L., Williams, J.B. (2003). The Patient Health Questionnaire-2: validity of a two-item depression screener. Medical Care, 41:1284–92.
Post-Traumatic Stress Disorder (PTSD) Pg. 22	PTSD Checklist for DSM-5 (PCL-5)	A cutoff score of 32 was used to denote the presence of PTSD.	Weathers FW, Litz BT, Keane TM, Palmieri PA, Marx BP, Schnurr PP. The PTSD checklist for DSM-5 (PCL-5). Scale available from the National Center for PTSD. 2013.
Drug abuse Pg. 25	The Drug Abuse Screening Test (DAST-10)	Higher scores indicated a higher degree of problem related to drug abuse.	Skinner HA. The drug abuse screening test. Addictive Behaviors. 1982;7(4):363-71.
Alcohol Pg. 26	The Alcohol Use Disorders Identification Test-Concise (AUDIT-C) scale	For males, a score of 4 or more is suggestive of hazardous drinking or active alcohol use disorders, and a score of 3 or more for women is suggestive of this behavior. Overall, higher scores indicate unhealthy or unsafe drinking behavior.	Bush K, Kivlahan DR, McDonell MB, et al. The AUDIT Alcohol Consumption Questions (AUDIT-C): An effective brief screening test for problem drinking. Archives of Internal Medicine. 1998;158(16):1789-1795.
Sleep Pg.33	The Pittsburgh Sleep Quality Index (PSQI)	This report used two items from the PSQI to measure sleep quality and hours of sleep per night.	Buysse DJ, Reynolds III CF, Monk TH, Berman SR, Kupfer DJ. The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research. Psychiatry Research. 1989 May 1;28(2):193-213.

Topic Page Number	How We Measure It	Interpretation of Scores	Scale Reference
Physical activity Pg. 34	The Physical Activity Scale for Persons with Physical Disabilities (PASIPD)	The scale measures the "metabolic equivalent value" (MET), which indicates the intensity of exercise and includes household and occupational activities, as well as leisure (moderate, vigorous, and strengthening physical activity). The scale rates responses from 1 (never) to 4 (often) for how often participants complete an activity in a week and rates the duration from 1 (less than 1 hour/day) to 4 (greater than 4 hours/day). The total PASIPD score is calculated by multiplying the duration (hours per week) by the weight (the METs) and adding the results together.	Washburn RA, Zhu W, McAuley E, Frogley M, Figoni SF. The physical activity scale for individuals with physical disabilities: development and evaluation. Archives of Physical Medicine and Rehabilitation. 2002 Feb 1;83(2):193-200.
Pain Pg. 35	The Pain, Enjoyment of Life, and General Activity scale (PEG scale)	The screening tool is best used to detect changes over time in the same individual, but in general, a higher score indicates more severe pain and pain-related interference with life and activities.	Krebs EE, Lorenz KA, Bair MJ, Damush TM, Wu J, Sutherland JM, Asch SM, Kroenke K. Development and initial validation of the PEG, a three-item scale assessing pain intensity and interference. Journal of General Internal Medicine. 2009 Jun;24(6):733-8.
Food security Pg. 51	U.S. Household Food Security Survey (FSS) Module: Six-Item Short Form	Final summary scores range from 0 to 6, with higher scores indicating lower food security. FSS scores can be categorized as high/marginal food security (0 to 1), low food security (2 to 4), and very low food security (5 to 6). Overall scores can be collapsed further into two dichotomous groups: food secure (scores 0 to 1) and food insecure (scores 2 or more).	United States Department of Agriculture. U.S. Household Food Security Survey Module: six-item short form. 2012. www.ers.usda.gov/media/8282/short2012.pdf
Financial well-being Pg. 52	InCharge Financial Distress/Financial Well-Being Scale (IFDFW)	Final scores can be categorized as low (1 to 4), moderate (5 to 6), and high (7 to 10) financial well-being.	Prawitz A, Garman ET, Sorhaindo B, O'Neill B, Kim J, Drentea P. InCharge financial distress/well-being scale: development, administration, and score interpretation. Journal of Financial Counseling and Planning. 2006;17(1).
Loneliness Pg. 59	Three-Item Loneliness Scale	Overall loneliness scores range from 3 to 9, with a higher score representing greater loneliness. Final scores can also be grouped as not lonely (scores 3 to 5) or lonely (scores 6 to 9).	Hughes ME, Waite LJ, Hawkley LC, Cacioppo JT. A short scale for measuring loneliness in large surveys: results from two population-based studies. Research on Aging. 2004 Nov;26(6):655-72.

Topic Page Number	How We Measure It	Interpretation of Scores	Scale Reference
Post-Traumatic Growth (PTG) Pg. 65	Post-Traumatic Growth Inventory - Short Form Expanded (PTGI-SF-X)	A total PTGI-SF-X score is created by adding all the scores from the 10 statements (scores range from 0 to 50). Following communication with the authors, an updated measure was included in Wave 3 to incorporate the updated spiritual domain questions into the PTGI-SF.	Cann A, Calhoun LG, Tedeschi RG, Taku K, Vishnevsky T, Triplett KN, Danhauer SC. A short form of the Posttraumatic Growth Inventory. Anxiety, Stress, & Coping. 2010 Mar 1;23(2):127-37. https:// www.tandfonline.com/doi/abs/1...80/10615800903094273. Falke, K. WWP meeting materials [email]. Message to: Tyson, E. 2022 Aug 2. Tedeschi RG, Cann A, Taku K, Senol-Durak E, Calhoun LG. The posttraumatic growth inventory: A revision integrating existential and spiritual change. Journal of traumatic stress. 2017 Feb;30(1):11-8.
Resilience Pg. 67	Connor Davidson Resilience Scale 2-Item (CD-RISC 2)	The final summary resilience score ranges from 0 to 8, with higher scores indicative of greater resiliency.	Vaishnavi S, Connor K, Davidson JR. An abbreviated version of the Connor-Davidson Resilience Scale (CD-RISC), the CD-RISC2: Psychometric properties and applications in psychopharmacological trials. Psychiatry Research. 2007 Aug 30;152(2-3):293-7. https://www. ncbi.nlm.nih.gov/pmc/articles/PMC2041449/pdf/nihms29561.pdf

WWP PROGRAMS AND SERVICES

WWP is committed to helping warriors and their families confidently face the future. We understand that there is always another goal to achieve and another mission to discover — that's why we provide a variety of programs and services, all available at no cost to warriors and their families. This is a brief overview of what WWP offers.

To learn more about these programs, scan the code, visit woundedwarriorproject.org/discover or call the WWP Resource Center at 888.WWP.ALUM (997.2586), Monday - Friday, 9 am - 9 pm EST.

Helping warriors build resilience to help overcome mental health conditions

Telephonic emotional support: WWP Talk is a nonclinical, telephonic, goal-setting program that helps warriors and/or family support members plan an individualized path toward personal growth.

Adventure-based healing: Project Odyssey® is an adventure-based program with a five-day mental health workshop. WWP warriors and/or family members are challenged to step outside the comfort of everyday routines. For up to 12 weeks, individuals will connect with fellow participants to enhance their coping skills, achieve personal goals, and make lifelong positive changes.

Clinical treatment: Warrior Care Network® treatment provides warriors with the tools to address a range of symptoms such as anxiety, depression, irritability, poor sleep, memory impairments, and lack of motivation during a two-to-three-week accelerated treatment program at one of our partner academic medical centers.

Helping warriors make long-term changes toward a healthier life.

Fitness and nutrition: WWP's Physical Health and Wellness coaches empower warriors and family members to make long-term changes toward a healthier life through movement, nutrition and wellness education, coaching, goal-setting, and skill-building.

Sports tailored for all abilities: Adaptive Sports empower warriors to unleash their highest potential by participating in adapted athletic opportunities designed for their abilities.

Cycling: Soldier Ride® is a multiday inclusive cycling event that promotes physical activity and camaraderie while riding alongside fellow warriors.

Helping warriors find new connections and a supportive community.

Warrior and family events: The WWP Alumni Connection program creates meaningful engagement opportunities through face-to-face and virtual programming for WWP warriors and families within and outside their local communities.

A tight-knit group that has your back: WWP Peer Support Groups offer a safe, judgment-free environment to regularly meet, share experiences, and build relationships with other veterans through nationwide veteran-led meetings and events.

Empowering warriors to reach their financial goals for themselves and their families.

Career coaching: Warriors to Work® is here to help warriors and families succeed in the civilian workforce by finding meaningful employment that matches their skill sets.

Benefits services: The Benefits Services program provides VA-accredited professional benefits advocates who can assist warriors and families navigate the VA claims process – ensuring that they receive the benefits they earned in a manner that honors their service.

Financial education and counseling: The Financial Readiness team is here to help warriors and families succeed in improving their financial well-being through education and support.

Providing long-term support to the most catastrophically wounded warriors.

Long-term support for the most severely injured warriors: The Independence Program provides long-term support to wounded warriors living with injuries that impact their independence, such as moderate to severe brain injury, spinal cord injuries, and neurological conditions.

Advocating for policies and initiatives that improve the lives of millions of veterans, their families, and caregivers.

Veteran advocacy opportunities: Government Affairs amplifies warriors' voices before Congress, VA, and other federal policymakers, and provides opportunities for warriors to advocate for change and improvements at the national level.

METHODOLOGY

SURVEY POPULATION

Over the 13 years it has been conducted, the Warrior Survey has undergone several revisions to ensure it still serves its purpose in accurately conveying warriors' evolving and emerging needs. In 2020, WWP recognized an opportunity to conduct an in-depth assessment of the survey to set it up to be successful for the coming years as the warrior population continues to grow and change. WWP partnered with NORC at the University of Chicago, a nonprofit, nonpartisan firm performing survey research for more than 80 years, to conduct this assessment, including a review of the survey methodology.

After a thorough review of warrior needs and how WWP programs, policymakers, and data users rely on informed decision-making through survey data, the decision was made to transition the Warrior Survey from a cross-sectional census (in which WWP attempted to collect data from all warriors) to a longitudinal sample survey. In a sample survey, WWP does not attempt to collect data from all warriors but instead randomly selects a representative subset of WWP's warrior population to complete the survey. This method is intended to provide a group of respondents who accurately reflect the characteristics of the entire WWP warrior population. Those selected will continue to be asked to complete the survey prospectively. The sample survey design will allow WWP to observe better, understand, and act upon changes in warriors' lives and to be more proactive in meeting their needs.

SURVEY ELIGIBILITY

To be eligible to participate in the survey, respondents must be registered warriors with WWP. All warriors registered with WWP served on or after September 11, 2001, and incurred a physical or mental illness, injury, or wound as a result of their service. Additionally, warriors must not have opted out of WWP communications or surveys.

SURVEY DEVELOPMENT

In 2021, this research initiative underwent significant revisions from prior years to account for emerging issues among the warrior population. NORC, with guidance from WWP, conducted a series of focus groups and expert panels with warriors, warrior family members and caregivers, and subject matter experts to better understand the emerging needs among the injured post-9/11 veteran population. These qualitative discussions helped identify sources for new questions on topics such as TBIs, toxic exposures, and women's health care.

QUESTIONNAIRE

The Wave 3 survey included 280 items, many of which were presented as multi-item grids (with individual items counted separately). However, many items had embedded skips, so only relevant questions were shown to respondents, resulting in variation across the sample for the number of presented items. Outside of an initial screening question, no questions were required to be answered to progress in the survey; respondents could skip anything they did not wish to answer.

METHOD

SURVEY METHOD

In response to the low utilization of paper instruments observed in Wave 1 and Wave 2, Wave 3 was offered via a web survey. The web survey was also programmed in Spanish for 2023 and made available via a simple toggle button visible to all on the survey welcome screen. In total, 99.73% of warriors (18,840) completed a survey in English, and 0.27% (51) completed the survey in Spanish.

FIELD PERIOD

Wave 3 was initially scheduled for a 10-week fielding period beginning May 25, 2023, and ending on July 21, 2023. However, the fielding period was extended an additional 10 days and closed on August 1, 2023 (for all sets) to reach completion targets. The sample was separated into three sets, each receiving the invitation to complete at a different time. The first set received the invitation on May 25, 2023. The second set received their initial invitation on June 8, 2023. The third and final set received their invitations on June 15, 2023.

SURVEY RECRUITMENT

A multimode survey recruitment approach was used for Wave 3. Warriors were contacted via postal mail for the initial survey invitation, final reminders to complete the survey, and email/digital newsletter mentions throughout the field period. Email reminders were sent each Thursday to those who had yet to complete the survey, and the survey was featured (for relevant individuals) in a weekly Tuesday WWP digital newsletter to registered warriors. All emails were sent from WWP so that warriors could be assured of the legitimacy of the email requests and limited risks of disclosure by NORC having access to identifying information. Using WWP letterhead, NORC facilitated mailing all letters and postcards.

Ultimately, replicate one received up to 18 communications, replicate two received up to 15 communications, and replicate three received up to 14 communications.

The pre-notification email sent by WWP highlighted the importance of the Warrior Survey and let warriors know they were chosen as part of a sample of the warrior population being asked to complete the survey. This email provided warriors with information about the upcoming survey, including:

- A statement indicating the responses are confidential
- A statement indicating participation is voluntary
- WWP's email address, NORC's helpline, and a link to the study website
- A picture of the gift to be received upon completing the survey: a WWP logo beanie

The following week, the initial email invitation was sent out and, along with the information listed above, also provided warriors with additional information about participating in the survey:

- A link to the survey and a unique PIN for logging in
- The purpose of the survey
- The estimated time to complete the survey
- A statement informing warriors they did not have to complete the survey in one sitting

Reminder emails were sent out weekly for the remainder of the field period. One tailored reminder email was sent to warriors who had started but still needed to complete the survey. The content of this email varied slightly compared to the reminder emails sent weekly to all warriors who still needed to complete the survey. Each email included a link to the web survey along with the warrior's unique PIN to log in. Warriors could use this PIN to reenter the survey at the last question answered. The reminder postcards mailed to warriors included the log-in information necessary to complete the survey online, including the survey web link and the warrior's unique PIN. Each postcard included NORC's helpline, WWP's email address, and the WWP survey information page.

SURVEY HELP CENTER

Emails requesting information about lost PINs or trouble accessing or completing the survey were directed to NORC to respond. NORC managed the phone helpline to respond to incoming calls from warriors (e.g., requests to confirm survey validity, seeking assistance with trouble completing the survey, or additional assistance to complete the survey). The WWP Resource Center directed any calls of this nature to the NORC helpline. The helpline was managed during regular business hours (9 am - 5 pm EST). Warriors could leave a voicemail when calling after business hours or on weekends, and messages were answered within one business day.

DISTRESS PROTOCOL

NORC and WWP implemented a protocol for responding to warriors who indicated, through their survey responses, that they were in distress or in need of services in a timely manner. NORC identified warriors who indicated they might be in distress or in need of WWP services each morning throughout data collection. These cases were shared daily with WWP through a secure file transfer protocol. WWP staff then reached out to warriors to offer support and connect them with any programs or services needed.

FINAL CASE DISPOSITION

NORC created a final cumulative SAS dataset as well as a dataset for completed cases. The cumulative dataset includes all sampled warriors regardless of their final dispositions. The final disposition variable was created to provide additional descriptive information for each case. The final dispositions are listed below, along with a brief description of each. Surveys that reached the end of the survey, even if there were unanswered items, were considered complete.

EXHIBIT 1: Final Dispositions

Disposition	Description	Frequency
Complete	Completed survey	18,891
Partial Complete	Started survey but did not complete	4,090
Survey Not Started	Did not start survey	77,332
Survey Opt-Out	Asked WWP to be removed from the survey	2,426

RESPONSE RATE

The Wave 3 response rate was calculated using the standard Response Rate (RR) calculation developed by the American Association for Public Opinion Research, the governing body for scientific survey research organizations. The number of interviews includes both completed and partial questionnaires; the number of non-interviews includes refusal and break-off, non-contacts, and others; and the number of unknown eligibility includes emails or mailings that were undelivered or other unknown reasons that resulted in unknown reasons for not completing the survey.

The Wave 3 rate was calculated as follows:

WHERE:
C = Completed Interviews
I = Total Interviews (Complete + Partial Complete)
N = Non-Interviews
U = Unknown Eligibility

$$RR = \frac{C}{I + N + U}$$

$$RR = \frac{18{,}891(I)}{(18{,}891(I)+4{,}090(P)+77{,}332(NC)+2{,}426(R))}$$

$RR =$ 0.183874, or 18.38%

INCENTIVES

WWP warriors who participated in the Wave 3 survey were offered a limited-edition WWP logo beanie. WWP chose this incentive because it was appealing and useful and a way to show appreciation for their participation.

WEIGHTING

The Wave 1 Survey began the transition to a longitudinal survey design. In Wave 3, the survey attempted to collect data from, among others, a panel of warriors who also were sampled in 2021 and/or 2022. Some warriors in this group fell into the following categories:

1. Completed the 2021 survey
2. Completed the 2022 survey
3. Completed both surveys
4. Did not complete either survey

NORC divided the Wave 3 frame into the following four groups:

1. The 17,761 new entrants who were added to the frame in 2023 (these warriors will be part of the 2023 wave)
2. The 87,295 warriors who were sampled in 2021 and were in the 2022 frame (these warriors will be part of the 2021 wave)
3. The 7,376 warriors who were sampled in 2022 and were in the 2023 frame (these warriors will be part of the 2022 wave)
4. Warriors who were not sampled in 2021 or 2022

For the 2023 survey, the warriors in the 2021 or 2022 waves received the survey again in 2023. The 64,720 warriors were in the frame in 2021 but were not eligible for the sample in 2023. Similarly, the 5,664 warriors who were in the frame in 2022 but not sampled were not eligible for the sample in 2023. Warriors who were new to the frame (i.e., joined WWP after the 2022 frame was delivered) were sampled using the 2022 sample methodology. Warriors who died or were classified as a hard refusal to the survey in 2022 were excluded. Due to the survey design, two types of weights (cross-sectional weights and longitudinal weights) were calculated for the warriors who responded in 2023.

To calculate the weights, we used information about how warriors who responded and warriors who did not respond to the survey differed from each other. The same factors from the Wave 1 weighting were used to divide the sample into nonresponse adjustment cells, and the nonresponse adjustment was calculated by dividing the sum of the base weights (or the inverse of the sampling probabilities) by the sum of the cells for each combination of variables. Using the nonresponse adjustment, nonresponse weights could be calculated by multiplying the adjustment by the base weights. The nonresponse weights were then used as the initial weights for the iterative proportional fitting or raking algorithm to create final weights. Due to the sample being created for waves, males, and females separately, weights were similarly created for waves, males, and females separately.

From the 2021 survey, three variables were determined to be associated with the outcomes from the logistic regressions: race/ethnicity (seven levels), age group (seven levels), and injury status (three levels). Additionally, we included participation in WWP programs (two levels) in the adjustment, as this variable was unavailable during sampling. This initially created 294 adjustment cells; however, cells containing fewer than 20 respondents collapsed with cells of similar completion status.

Raking is a statistical weighting technique that is used to improve the accuracy of survey estimates by both reducing bias and increasing precision, which accurately matches sample distributions to known demographic characteristics of the population. The use of raking reduces nonresponse bias and has been shown to reduce error within estimates. Implementing raking procedures requires the specification of appropriate weighting classes. Data used to form classes for adjustments must be available for both the sample and the population. Raking variables for these data included age group, race/ethnicity, injury status, region, and rurality.

The raking was completed by adjusting for one dimension individually. For example, the weights were first adjusted for age groups, and then those estimates were adjusted by race/ethnicity and so on. This procedure was repeated iteratively until all group proportions in the sample differed from the population by less than a specified threshold. Once raked, weight trimming was used to reduce errors in the outcome estimates caused by unusually high or low weights in some categories, and then raking was performed again on the trimmed weights.

LOGISTIC REGRESSION ANALYSES

OBJECTIVE OF THE ANALYSIS

This report used logistic regression analyses to explore which characteristics affect the likelihood of the factor of interest (e.g., good sleep quality) one year later, controlling for sociodemographic characteristics.

ASSESSING FACTORS IMPACTING QUALITY OF LIFE

We assessed whether the factors with the strongest association with QoL scores in Wave 3 are the same as in Wave 2. The table below outlines the factors in both waves that had the strongest association with QoL scores.

Overall, we observed consistency in most factors across both Warrior Survey waves. As the discrepancies observed were minor, this report retains the Wave 2 factors for the in-depth analysis to identify risk and protective characteristics. Depression (negative association) and sleep quality (positive association) remained the key factors having the strongest associations with QoL scores across both waves.

TABLE 1A. Comparison Across Wave 2 and 3 Factors with the Strongest Associations with WWP Warriors' QoL Scores

Green = same factors across years, Orange = different factors across years

	Factors That Have the Strongest Association with QoL (mental health and physical health QoL scores)	
QoL Component	**Wave 2 Warrior Survey**	**Wave 3 Warrior Survey**
Mental Health and Wellness	PTSD and depression	PTSD and depression
Physical Health	BMI and sleep quality	BMI and sleep quality
Financial Wellness	Employment	Employment
Social Connection	Loneliness	No significant association between loneliness and physical health QoL scores*
Spirituality	Post-traumatic growth	Different for physical health QoL scores*
Overall factor(s) with the strongest association with QoL	Depression (negative association) and sleep quality (positive association)	PTSD for physical health QoL scores and depression for mental health QoL scores (both negative association), sleep quality (positive association)

*NOTE: As these are only minor differences, the factors from Wave 2 will remain the focus for the in-depth analysis identifying risk and protective characteristics for this report.

CONDUCTING LOGISTIC REGRESSION ANALYSIS

The fitted logistic regression model includes the factors identified in Wave 2 and additional health and behavior characteristics identified from the literature on the topic of interest. The objective is to determine the characteristics that increase the likelihood of the factor of interest (e.g., good sleep quality) occurring one year later.

MODEL SPECIFICATION

★ **Dependent Variable:** Factor of interest among those identified in Wave 2 (Table 2A).

★ **Independent Variables:** Sociodemographic characteristics, factors identified in Wave 2 (excluding the dependent variable), and other health/behavior characteristics drawn from the literature.

TABLE 2A: Main Factors Definitions for Dependent Variables

Main Factors Definitions	
*Further details about the questionnaire scales can be found earlier in the Appendix	
MENTAL HEALTH:	Presenting with symptoms for one or more mental health conditions refers to PTSD, depression, and anxiety and includes warriors who report scores indicative of PTSD symptoms or present with moderate to severe symptoms for depression or anxiety or a combination of the three.
	No mental health conditions refers to warriors presenting with mild or no symptoms of PTSD, depression, and anxiety.
SLEEP QUALITY:	Good sleep quality refers to warriors reporting sleep quality being "very good" or "fairly good." Poor sleep quality refers to warriors reporting sleep quality being "very bad" or "fairly bad."
BMI:	Non-obese status refers to warriors in the underweight, healthy weight, and overweight BMI categories. Obesity or obese status refers to warriors in the obese BMI category.
EMPLOYMENT:	Employment refers to warriors employed full-time, employed part-time, and retired from the military but working. Not employed refers to warriors retired from the workforce and not working, temporarily laid off, looking for work in past four weeks and not working; and not looking for work.
POST-TRAUMATIC GROWTH (PTG):	Higher post-traumatic growth (for this analysis) refers to warriors reporting PTG score >=30. Lower post-traumatic growth (for this analysis) refers to warriors reporting PTG score <30.
SOCIAL CONNECTION:	Lonely refers to warriors reporting Three-Item Loneliness Scale scores of 6 to 9. Not lonely refers to warriors reporting Three-Item Loneliness Scale scores of 3 to 5.

The five quality of life component report sections present and highlight risk and protective characteristics that exhibit explanatory benefit at the 0.10 significance level in our logistic regression analyses. The results are outlined in the tables below, with protective characteristics highlighted in green and risk characteristics highlighted in red.

MENTAL HEALTH ANALYSIS

TABLE 3A shows the logistic regression model's results regarding the likelihood of experiencing one or more mental health conditions.

Risk and Protective Characteristics Analysis	Logistic Regression[a] Odds Ratio (Weighted)
Quality of life factors	
Obesity	1.25*
Good sleep quality	0.38***
Loneliness	3.04***
Employment	0.66***
Spirituality (post-traumatic growth)	0.74**
Mental health characteristics from the literature	
Substance abuse (substantial or severe level)	2.06
MST	2.15***
Financial strain	1.48***
Physical Activity (some intentional exercise)	0.92

P-values were two-tailed, ***p< 0.01, ** p< 0.05, *p< 0.10. Logistic analysis – controlled for sociodemographic variables such as age, sex, race, education, marital status, having a child in the household, VA disability rating, branch, food insecurity, homelessness, and transportation challenges. °White alone is the reference group. [a]Using Wave 2 variables for QoL factors and mental health literature.

PHYSICAL HEALTH ANALYSIS

SLEEP QUALITY

TABLE 4A shows the logistic regression model's results regarding the likelihood of having good sleep quality.

Risk and Protective Characteristics Analysis Table	Logistic Regression[a] Odds Ratio (Weighted)
Quality of life factors	
One or more mental health conditions	**0.50*** **
Being obese	**0.95**
Employment	**1.18**
Loneliness	**1.04**
Spirituality (post-traumatic growth)	**1.25***
Physical health characteristics from the literature	
Physical activity (some intentional exercise)	**1.38*** **
Effectively managing or no recent pain	**1.94*** **
Suicide thoughts in the last 12 months	**0.92**
TBI (self-reported)	**1.07**

P-values were two-tailed, ***p< 0.01, ** p< 0.05, *p< 0.10. Logistic analysis – controlled for sociodemographic variables such as age, sex, race, education, marital status, having a child in the household, VA disability rating, branch, food insecurity, homelessness, and transportation challenges. °White alone is the reference group. [a]Using Wave 2 variables for QoL factors and physical health literature.

BMI

TABLE 5A shows the logistic regression model's results regarding the likelihood of obesity.

Risk and Protective Characteristics Analysis Table	Logistic Regression[a] Odds Ratio (Weighted)
Quality of life factors	
One or more mental health conditions	**1.08**
Good sleep quality	**0.87**
Employment	**1.18**
Loneliness	**1.08**
Spirituality (post-traumatic growth)	**0.94**
Physical health characteristics from the literature	
Physical activity (some intentional exercise)	**0.61*** **
Alcohol (AUDIT)	**1.06**
Effectively managing or no recent pain	**1.11**

P-values were two-tailed, ***p< 0.01, **p< 0.05, *p< 0.10. Logistic analysis – controlled for sociodemographic variables such as age, sex, race, education, marital status, having a child in the household, VA disability rating, branch, food insecurity, homelessness, and transportation challenges. °White alone is the reference group. [a]Using Wave 2 variables for QoL factors and physical health literature.

FINANCIAL WELLNESS ANALYSIS

TABLE 6A shows the logistic regression model's results regarding the likelihood of employment.

Risk and Protective Characteristics Analysis Table	Logistic Regression[a] Odds Ratio (Weighted)
Quality of life factors	
One or more mental health conditions	**0.67*** **
Obesity	**1.12**
Good sleep quality	**1.00**
Loneliness	**0.93**
Spirituality (post-traumatic growth)	**1.07**
Financial wellness characteristics from the literature	
Substance abuse (substantial or severe level)	**0.98**
Effectively managing or no recent pain	**1.21**

P-values were two-tailed, ***p< 0.01, **p< 0.05, *p< 0.10. Logistic analysis – controlled for sociodemographic variables such as age, sex, race, education, marital status, having a child in the household, VA disability rating, branch, food insecurity, homelessness, and transportation challenges. °White alone is the reference group. [a]Using Wave 2 variables for QoL factors and financial wellness literature.

SOCIAL CONNECTION ANALYSIS

TABLE 7A shows the logistic regression model's results regarding the likelihood of being lonely.

Risk and Protective Characteristics Analysis Table	Logistic Regression[a] Odds Ratio (Weighted)
Quality of life factors	
One or more mental health conditions	**3.16*** **
Obesity	**1.07**
Good sleep quality	**0.69*** **
Employed	**0.83**
Spirituality (post-traumatic growth)	**0.72** **
Social Connection characteristics from the literature	
Substance abuse (substantial or severe level)	**0.88**
Suicide thoughts in the last 12 months	**1.3**
Effectively managing or no recent pain	**0.91**
TBI (self-reported)	**1.19**
Resilience (high)	**0.59*** **

P-values were two-tailed, ***p< 0.01, **p< 0.05, *p< 0.10. Logistic analysis – controlled for sociodemographic variables such as age, sex, race, education, marital status, having a child in the household, VA disability rating, branch, food insecurity, homelessness, and transportation challenges. °White alone is the reference group. [a]Using Wave 2 variables for QoL factors and social connection literature.

SPIRITUAL ANALYSIS

TABLE 8A shows the logistic regression model's results regarding the likelihood of reporting higher post-traumatic growth.

Risk and Protective Characteristics Analysis Table	Logistic Regression[a] Odds Ratio (Weighted)
Quality of life factors	
One or more mental health conditions	**1.08**
Obesity	**0.95**
Good sleep quality	**1.97*** **
Employment	**1.11**
Loneliness	**0.63*** **
Post-traumatic growth characteristics from the literature	
Alcohol (AUDIT)	**1.17**
Deployed to a combat area	**1.74** **
Support groups to help you with feelings of stress or emotional or mental health concerns	**1.85*** **
Resilience (high)	**1.97*** **

P-values were two-tailed, ***p< 0.01, **p< 0.05, *p< 0.10. Logistic analysis – controlled for sociodemographic variables such as age, sex, race, education, marital status, having a child in the household, VA disability rating, branch, food insecurity, homelessness, and transportation challenges. °White alone is the reference group. [a]Using Wave 2 variables for QoL components and PTG literature.

360-DEGREE VIEW DEMOGRAPHICS TABLES

To provide further context, these tables compare WWP warrior demographic data with demographic data of the broader female U.S. veteran population, post-9/11 veteran population, and U.S. general population, as reported by the 2022 U.S. census.

AGE

Age (years)	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans	U.S. General Population (Adults 18 years and over)
Below 18	0.0%	0.0%	**0.0%**	0%	0%	0%
18-24	0.6%	1.1%	**0.9%**	11.8%	3.7%	12.0%
25-34	16.6%	19.5%	**19.6%**	29.5%	9.3%	17.3%
35-44	47.9%	49.5%	**48.6%**	32.1%	11.4%	16.9%
45-54	24.2%	21.1%	**21.0%**	14.2%	12.7%	15.5%
55-64	9.3%	8.1%	**8.9%**	10.2%	17.1%	16.1%
65+	1.4%	0.7%	**1.0%**	2.2%	45.7%	22.1%

SEX

Sex	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans	U.S. General Population (Adults 18 years and over)
Male	82.9%	82.7%	**81.8%**	83.3%	89.2%	49.1%
Female	17.1%	17.3%	**18.2%**	16.7%	12.1%	50.9%

RACE

Race	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans	U.S. General Population (Adults 18 years and over)
White alone	64.1%	66.8%	**66.4%**	63.9%	73.3%	63.3%
Black or African American alone	15.1%	14.7%	**15.7%**	14.8%	12.6%	11.9%
American Indian/ Alaska Native alone	1.3%	1.9%	**1.7%**	0.9%	0.8%	0.9%
Asian alone	2.2%	2.4%	**2.4%**	3.7%	2.2%	6.1%
Native Hawaiian/ Pacific Islander alone	1.1%	1.1%	**1.1%**	0.4%	0.2%	0.2%
Other	8.5%	3.7%	**3.9%**	4.5%	2.9%	6.8%
Two or more races	7.7%	9.4%	**8.8%**	11.8%	8.0%	10.8%

ETHNICITY

Ethnicity	Wave 1	Wave 2	Wave 3
Mexican, Mexican American, Chicano/a	9.0%	8.9%	**9.8%**
Puerto Rican	5.3%	4.8%	**6.1%**
Cuban	0.7%	0.5%	**0.7%**
Other Hispanic, Latino/a, or Spanish Origin	6.5%	5.8%	**6.1%**
Not of Hispanic, Latino/a, or Spanish Origin	78.5%	80.1%	**77.4%**

NOTE: Hispanic origin is considered an ethnicity, not a race. The population that is Hispanic may be of any race.

EDUCATION

Education	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans	U.S. General Population (Adults 18 years and over)
Less than high school diploma/ GED	0.3%	0.3%	**0.2%**	2.1%	4.3%	10.5%
High school diploma/ GED	8.7%	9.6%	**9.9%**	21.6%	27.1%	27.2%
Some college or associate degree	47.9%	47.9%	**48.0%**	40.2%	37.3%	29.3%
Bachelor's degree	26.6%	25.4%	**25.6%**	21.4%	18.2%	20.5%
Master's degree	14.9%	15.2%	**14.7%**	11.8%	9.5%	9.0%
Professional or doctorate degree	1.5%	1.7%	**1.7%**	2.9%	3.6%	3.5%

MARITAL STATUS

Marital Status	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans	U.S. General Population (Adults 18 years and over)
Married	66.0%	65.2%	**65.6%**	58.1%	62.6%	50.4%
Widowed	0.7%	0.7%	**0.7%**	0.7%	7.2%	5.8%
Divorced or separated	21.2%	21.4%	**20.9%**	14.1%	16.8%	12.7%
Never married, single	12.1%	12.7%	**12.8%**	27.0%	13.4%	31.1%

CHILDREN IN THE HOUSEHOLD

Children in the Household	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans	U.S. General Population (Adults 18 years and over)
At least one child living within the household	60.0%	60.6%	**61.0%**	43.6%	21.5%	32.2%
No children living within the household	40.0%	39.4%	**39.0%**	56.4%	78.5%	67.8%

MILITARY STATUS

Military Status	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans	U.S. General Population (Adults 18 years and over)
Active duty	3.6%	3.8%	**3.6%**	23.0%	7.3%	0.5%

BRANCH OF SERVICE

Branch of Service	Wave 1	Wave 2	Wave 3
Army	64.2%	64.5%	**55.4%**
National Guard or Reserve	34.7%	31.9%	**8.3%**
Marine Corps	17.1%	16.8%	**14.1%**
Navy	15.2%	13.3%	**11.4%**
Air Force	12.2%	12.5%	**9.9%**
Coast Guard	12.0%	1.0%	**0.8%**
Space Force	-	0.2%	**0.1%**

NOTE: In Waves 1 & 2, WWP warriors could select multiple military branches. In Wave 3, we asked WWP warriors to select their primary branch of service, if they served in more than one.

PAY GRADE/RANK

Pay Grade/Rank	Wave 1	Wave 2	Wave 3
E1-E4 (Junior Enlisted)	29.7%	32.8%	**34.2%**
E5-E6 (Midgrade Enlisted)	43.2%	42.7%	**42.7%**
E7-E9 (Senior Enlisted)	17.5%	15.9%	**15.1%**
W1-W5 (Warrant Officers)	1.5%	1.4%	**1.2%**
O1-O3 (Junior Officers)	3.4%	3.3%	**3.0%**
O4-O10 (Senior Officers)	4.7%	3.8%	**3.7%**

UNEMPLOYMENT RATE

Unemployment Rate	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans*	U.S. Veterans*	U.S. General Population (Adults 18 years and over)*
Unemployment rate	13.4%	6.8%	**12.4%**	4.3%	3.6%	3.8%

*Data from the U.S. Bureau of Labor Statistics at the time of Wave 3 (August 2023)[44]

VA DISABILITY RATING

VA Disability Rating	Wave 1	Wave 2	Wave 3	Post-9/11 Veterans	U.S. Veterans
0%	0.4%	0.6%	**0.6%**	0.9%	1.0%
10 or 20%	2.6%	2.5%	**2.2%**	5.0%	6.5%
30 or 40%	4.5%	3.9%	**3.7%**	4.3%	3.5%
50 or 60%	7.9%	6.9%	**6.3%**	5.2%	3.5%
70, 80, 90, or 100%	77.2%	78.1%	**78.8%**	18.3%	11.9%
None/pending or on appeal	7.5%	8.1%	**8.4%**	66.2%	73.8%

SELF-REPORTED CONDITIONS/INJURIES

Self-Reported Conditions	Wave 1	Wave 2	Wave 3
PTSD	75.0%	75.9%	**76.5%**
Anxiety	74.0%	75.7%	**80.3%**
Depression	72.0%	74.3%	**76.7%**
Sleep problems	78.0%	79.5%	**82.5%**
Migraines or chronic headaches	52.0%	55.4%	**55.5%**
Difficulty conceiving or infertility			**8.4%**
Cancer or a malignancy (tumor) of any kind			**4.3%**
Heart condition			**8.0%**
Problems of the immune system			**8.5%**
Liver condition			**5.2%**
Hypertension or high blood pressure			**28.9%**
Gastrointestinal condition			**30.4%**
Nerve damage or neurological problems (i.e., include numbness, tingling, or weakness in arms or legs, or difficulties with thinking or memory)	31.0%	32.3%	**47.0%**
Non-cancerous chronic skin condition			**7.8%**
Chronic respiratory condition			**15.9%**
Self-Reported Injuries	**Wave 1**	**Wave 2**	**Wave 3**
Head injury (i.e., bump, blow, jolt, or penetrating injury to the head)			**37.4%**
Traumatic brain injury (TBI)	35.0%	36.5%	**35.2%**
Puncture, penetration, or gunshot wound (below the neck)			**5.9%**
Internal organ damage from blunt force trauma (below the neck)			**2.4%**
Bone, joint, or muscle injury (i.e., fracture, break, or injury to extremities, back, shoulder, or neck)	66.0%	66.1%	**58.6%**
Hearing loss or tinnitus	65.0%	67.3%	**67.4%**
Spinal cord injury	15.0%	16.4%	**15.0%**
Blindness or other vision impairment		5.2%	**5.1%**
Military sexual assault			**9.9%**
Military sexual harassment			**8.8%**
Burns		7.9%	**3.0%**
Amputation or loss of body part	1.0%	1.4%	**2.0%**

METHODS REPORTED BY WWP WARRIORS TO TREAT OR MANAGE PHYSICAL PAIN IN THE LAST 12 MONTHS (WAVE 3)

Methods Reported by WWP Warriors to Treat or Manage Physical Pain in the Last 12 Months (Wave 3)	No	Yes	Don't Know
Prescription pain medication	48.7%	50.1%	1.2%
Over-the-counter pain medication	23.0%	76.4%	0.6%
Self-medication (for example, alcohol, non-prescription marijuana, or narcotics)	64.4%	34.1%	1.5%
Chiropractic therapy, acupuncture, or massage	61.0%	38.1%	1.0%
Psychotherapy (for example, CBT, guided imagery, or progressive relaxation)	80.5%	17.3%	2.2%
Meditation (for example, mindfulness, mantra, or spiritual meditation)	63.3%	35.5%	1.3%
Exercise for example	34.8%	64.1%	1.2%
Physical therapy (for example, physical, rehabilitative, or occupational therapy)	71.2%	27.7%	1.1%
Educational class/workshop	84.1%	14.7%	1.3%

PAIN MANAGEMENT EFFECTIVENESS AMONG WWP WARRIORS

Over the past three months, how effective do you think you were in managing your pain?	Wave 2	Wave 3
I haven't had pain in past three months	1.5%	**1.6%**
Very effective	7.9%	**7.3%**
Somewhat effective	39.5%	**40.5%**
Only a little effective	39.2%	**38.5%**
Not at all effective	10.9%	**10.8%**
Do not know	1.1%	**1.3%**

PREVALENCE OF QUALITY OF LIFE OUTCOMES OVER THREE WAVES AMONG WWP WARRIOR POPULATION

Mental Health & Wellness	Wave 1	Wave 2	Wave 3
Indication of PTSD symptoms	48.6%	48.6%	**52.3%**
Moderate to severe symptoms of depression*	33.1%	35.0%	**35.3%**
Moderate to severe symptoms of anxiety*	63.3%	46.7%	**50.4%**
Suicidal thoughts in the past 12 months	24.8%	28.3%	**28.4%**
TBI (self-reported)	35.0%	36.5%	**35.2%**
Drug abuse (DAST-10)	-	2.0%	**2.0%**
Alcohol use disorders (AUDIT-C)	-	43.5%	**46.9%**
Physical Health	**Wave 1**	**Wave 2**	**Wave 3**
Good sleep quality	38.9%	38.8%	**41.6%**
Obesity (BMI 30+)	51.6%	51.9%	**50.1%**
Physical activity (Met WHO recommendation of 10 MET hours per week)	-	35.9%	**35.7%**
Experienced some pain in the past three months	-	95.0%	**95.0%**
Moderate to severe interference with activities and enjoyment of life		75.8%	**75.5%**
Financial Wellness	**Wave 1**	**Wave 2**	**Wave 3**
Most frequently reported household income range	$50,000 to $74,999	50,000 to $74,999	**$60,000 - $79,999**
Financial strain	42.0%	64.2%	**67.3%**
Food insecure	33.1%	38.7%	**37.3%**
High financial well-being (low distress)	30.8%	38.3%	**39.9%**
Unemployment rate**	13.4%	6.8%	**12.4%**
Homelessness in the past 12 months	-	4.0%	**7.7%**
Social Connection	**Wave 1**	**Wave 2**	**Wave 3**
Loneliness	62.4%	66.3%	**68.0%**
Physical health or emotional problems interfered with social activities	38.8%	39.1%	**38.2%**
Spirituality	**Wave 1**	**Wave 2**	**Wave 3**
High post-traumatic growth	-	26.6%	**29.5%**
High resilience	-	38.5%	**40.1%**

NOTE: The results are a snapshot of the WWP warrior population in time. *WWP warriors who presented with moderate to severe symptoms. **The difference in unemployment rates between Wave 2 and Wave 3 could be attributed to several potential factors, including changes in how the questions were asked.

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