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TECHNICAL REPORT

Health and Economic Outcomes in the Alumni of the Wounded Warrior Project

Heather Krull • Matthew Tyler Haugseth

Sponsored by the Wounded Warrior Project



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Preface

The Wounded Warrior Project (WWP) is a not-for-profit organization that has established programs to help care for injured service members and to raise public awareness of the issues injured service members face. To examine how its alumni are doing, the organization turned to the RAND Corporation to analyze existing data it had collected from program alumni at two time points. The overall objective of RAND's data analysis is to take a more in-depth look at survey responses to explore whether outcomes differ across various subsets of WWP's database of members and, where possible, compare the experiences and outcomes of alumni with those of other ill and injured populations.

This report describes specifically how program alumni who responded to the surveys are faring in domains related to mental health and resiliency, employment and finances, and physical health, and it identifies characteristics of respondents who continue to struggle in domains identified by WWP so that the organization may be able to target tailored services to this group. The intended audience is WWP—specifically, its executive staff, policymakers, and those who run the various programs that are created for alumni—and the alumni themselves. More generally, the report will be useful for policymakers and other individuals and organizations that serve military veterans and individuals with service-connected disabilities.

Related RAND publications include *Invisible Wounds of War: Psychological and Cognitive Injuries, Their Consequences, and Services to Assist Recovery* (Tanielian and Jaycox, 2008).

This research was sponsored by WWP and conducted jointly by RAND Health's Center for Military Health Policy Research and the Forces and Resources Policy Center of the RAND National Defense Research Institute (NDRI). The Center for Military Health Policy Research taps RAND expertise in both defense and health policy to conduct research for the Department of Defense, the Veterans Health Administration, and nonprofit organizations. NDRI is a federally funded research and development center sponsored by the Office of the Secretary of Defense, the Joint Staff, the Unified Combatant Commands, the Navy, the Marine Corps, the defense agencies, and the defense Intelligence Community.

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Summary

Since 2002, the not-for-profit Wounded Warrior Project (WWP) has sought to offer support for and raise public awareness of those injured during service on or after September 11, 2001. To this end, WWP gives members, or “alumni,” access to programs that nurture mind and body, as well as facilitate economic well-being.

Central to WWP’s success are its assessment efforts. In 2009, RAND researchers helped WWP design a web-based survey that would help the organization evaluate how well it is meeting its three primary strategic goals:

- Ensure that wounded warriors are well-adjusted in mind and spirit.
- Ensure that wounded warriors are well-adjusted in body.
- Ensure that wounded warriors are economically empowered.

The survey, designed by RAND researchers, was administered in 2010 and 2011 by the statistical research firm Westat. The firm also prepared initial interpretive reports for WWP.

In October 2011, WWP asked RAND to revisit the survey results to provide more-detailed analysis. Specifically, WWP was interested in the way individuals from different sub-groups, as defined by marital status, gender, pay grade, and employment status, were meeting the strategic goals. WWP also wished to gain a wider view of its organizational performance by understanding how alumni outcomes compared with the outcomes of other veteran and nonveteran U.S. populations.

Who Are the Wounded Warrior Project Alumni Represented by the Survey Data?

Both the 2010 and 2011 web-based surveys were offered to all alumni in the WWP database. Westat fielded the 2010 survey between February 5 and March 22, 2010, and the 2011 survey took place between March 29 and May 17, 2011. The alumni database contained 3,464 members at the time of the 2010 survey. Of those, 1,121 completed the survey (a 32.4-percent response rate). In 2011, the database had expanded to include 5,870 alumni, of whom 5,867 were eligible to participate in the survey. Westat collected 2,312 responses for that year (a 39.4-percent response rate).

Because not all alumni responded to the survey, it is unclear whether the respondents are ultimately representative of all WWP alumni. The data reveal some changes over time but are generally similar and offer information particular to those who participated in the survey, including the following:

- *Relationship status:* According to the 2010 and 2011 survey data, 60 to 65 percent of the respondents were married, 15 to 20 percent were never married, and roughly 14 percent were divorced. The few remaining were widowed, separated, or unknown. The vast majority (approximately 90 percent) of all respondents were male.
- *Education:* The data suggest that approximately 15 percent of the respondents had a high school diploma, slightly more than 40 percent had some college experience, and 20 percent had a bachelor's degree or advanced degree.
- *Employment status:* The data suggest that 40 percent of all WWP alumnus respondents were employed full time and that just over half were either unemployed or not in the labor force. Further calculations suggest that there was an unemployment rate of 21.6 percent among the 2011 respondents.
- *Health insurance coverage:* A small percentage of WWP alumni lacked health insurance coverage, whereas 50 percent or more had insurance through the U.S. Department of Veterans Affairs (VA) or some other government program, such as TRICARE. In addition, 15 to 20 percent of all respondents had private insurance or Medicare.
- *Military experience:* The majority of respondents were veterans at the time they were surveyed. Two-thirds of all respondents are or were in the Army, and another 20 percent served in the Marine Corps. Approximately 90 percent of all respondents were enlisted, and only roughly 10 percent were officers. Nearly all respondents deployed at least once, with a relatively even split between those who deployed once, twice, or three or more times.
- *Injury:* The vast majority of survey participants experienced their injuries between 2003 and 2007. Approximately 30 percent of all WWP respondents reported a VA disability rating of 10–70 percent, whereas 40 to 50 percent reported the highest ratings, of 80–90 percent disability.

How Are Various Subgroups of Alumni Reaching Wounded Warrior Project Goals?

In this summary, as in the full report, we present initial WWP goals and findings related to the 2010 and 2011 survey population. We then summarize how different groups in the population may or may not be meeting the goals.

Strategic Objective 1: Ensure That Wounded Warriors Are Well-Adjusted in Mind and Spirit Alumnus Respondents Needing Help Are Seeking It, but Access Can Be Limited

Goal: Increase the percentage of alumni who visit a health care professional to get help with such issues as stress, emotional, alcohol, drug, or family problems (increase access to care).

WWP's goal of 58 percent was met in 2011 among survey respondents. The results suggest that, in 2010, married and never-married respondents were less likely to visit a professional than were divorced or separated respondents. In both 2010 and 2011, women were more likely to have visited a professional than men were. Results did not differ by pay grade in 2010, but, in 2011, enlisted respondents were more likely to seek professional help than officers were. Other studies suggest that females and enlisted individuals are more likely than others to suffer from posttraumatic stress disorder (PTSD) and would thus be more likely to seek care (Schell and Marshall, 2008). The findings here fall in line with these studies.

In 2011, unemployed respondents or those not participating in the labor force were more likely than part- or full-time workers to have seen a professional in the past three months. This may suggest that those who are not working are suffering from emotional challenges and are in need of health care.

The survey revealed that approximately 40 percent of respondents had difficulty getting mental health care. Reasons for this difficulty vary. Institutional barriers, cultural beliefs, and treatment preferences were the most frequently cited reasons.

Alumnus Respondents Are Seeking Other Operation Enduring Freedom and Operation Iraqi Freedom Veterans as a Resource

Goal: Increase the percentage of alumni who report talking with another veteran of Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF) as a resource and tool to help cope with feelings of stress or emotional or mental health concerns.

WWP has a stated goal of 54.5 percent of alumni connecting with other OEF and OIF veterans as a resource. This was achieved in both survey years among those who participated in the survey: Respondents to the 2010 survey connected at a rate of 58.1 percent, and respondents to the 2011 survey connected at 55.4 percent.

In the 2010 survey, more divorced respondents (66.9 percent) reported having talked to another OEF or OIF veteran about emotional and health concerns than married (60.1 percent), separated (46.9 percent), and never-married (47.5 percent) alumnus respondents. However, these numbers leveled off in the 2011 survey. The number of divorced alumni connecting with other veterans fell to 56.1 percent in that year, followed by separated (56.0 percent), married (55.3 percent), and never-married (54.9 percent) alumnus respondents.

In both the 2010 and 2011 surveys, men were more likely than women to report having talked with another OEF or OIF veteran about mental health concerns. In 2010, this difference was large; men reported connecting at a rate of 59.0 percent, while women reported connecting at only 44.4 percent. There were no significant differences across pay grades in either year.

The data from the survey also suggested that wounded warriors who report *not* talking to other OEF or OIF veterans make use of other resources. The most commonly sought resource is the VA medical center.

Emotional Problems Still Force Many Respondents to Miss Work and Other Activities

Goal: Decrease the percentage of alumni who report the extent to which emotional problems have interfered in the past four weeks with work or regular activities.

WWP's goal of 56.0 percent in 2011 was almost met in both 2010 (58.2 percent) and 2011 (59.3 percent) among those who completed the surveys. Notably, in both survey groups, respondents who were employed, and especially those working full time, were less likely to report cutting back on work and other activities.

Married Alumnus Respondents Report Fewer Upsetting Memories

Goal: Decrease the percentage of alumni who report they had a military experience that was so frightening, horrible, or upsetting that, in the past month, they have not been able to escape from memories or effects of it.

The percentages pertaining to individual respondents thinking about an event when they did not want to were higher than WWP's 76.0-percent goal. In 2010, 76.6 percent of WWP alumnus respondents reported doing so, growing to 77.8 percent in 2011.

In the 2010 survey, respondents who were divorced were more likely than those who were married or had never been married to indicate that they think about the traumatic event more than they would like. In the 2011 survey, respondents who were never married were less likely than others to indicate being unable to escape the memory of a traumatic event. There were no gender differences in the percentage of respondents who think about a bad experience more often than they would like.

Alumnus Respondents' Reported Ability to Adapt Is Falling Short of the Wounded Warrior Project's Goal

Goal: Increase the percentage of alumni who report they are able to adapt when change occurs or to bounce back after illness, injury, or hardships (resilience).

WWP's reporting of this outcome measures only the percentage of respondents who reported adapting often or nearly all of the time when changes occur. Survey results suggest that alumnus respondents are not meeting WWP's goal of 57 percent: The results were 55.9 percent and 53.8 percent for 2010 and 2011, respectively.

The data suggest differences in adaptability between those respondents who were never married and those respondents who were married or divorced. In the 2011 survey, those who were never married proved more resilient (68.0 percent) according to our analysis, followed by those who were married (59.7 percent), divorced (53.2 percent), and separated (41.8 percent). Men reported being more likely to adapt than women did, at 60.5 percent and 49.1 percent, respectively. Survey results suggest that junior officers are the most likely to report some level of resiliency, and resiliency rates were generally higher among respondents who were employed full or part time than among those who were unemployed or not in the labor force.

Strategic Objective 2: Ensure That Wounded Warriors Are Well-Adjusted in Body Survey Respondents Are Achieving the Wounded Warrior Project's Goal of Not Missing Work and Other Activities Because of Physical Health Problems

Goal: Decrease the percentage of alumni who report that physical health problems have interfered with work or regular activities in the past four weeks.

WWP's target for this goal was to have only 64.0 percent of alumni suggest that they were facing disruptions due to health challenges. This target was met by survey respondents in both 2010 (65.8 percent) and 2011 (64.5 percent). Those respondents who had never been married at the time they were surveyed were less likely than other marital groups to have difficulty performing work or other daily activities as a result of their physical health. Senior enlisted respondents were more likely to experience problems due to their physical health than were junior officers or junior enlisted. Part- and full-time-employed respondents were less likely than respondents not in the labor force or who were unemployed to have experienced problems with work or other activities due to their physical health.

Obesity Among Alumnus Respondents Is Proportionate to That of the U.S. Population

Goal: Decrease the percentage of alumni who report they are overweight or obese based on body mass index (BMI).

Each WWP respondent reported his or her height and weight in the surveys. This information was used to calculate the BMI of each member. An individual with a BMI in the range of 25–30 is considered overweight, and one with a BMI in excess of 30 is considered obese. Survey results show that, in both years, approximately 40 percent of all respondents were

obese; the 2011 percentage of 40.5 and the 2011 percentage of 41.6 were both higher than WWP's goal of 39.0 percent. For context, it should be noted that 35.7 percent of all U.S. adults age 20 and over are considered obese (Ogden et al., 2012).

Respondents who were married at the time they were surveyed or who had been married before they were surveyed appeared to be more likely to be overweight or obese than those who had never been married. Men were significantly more likely to be overweight or obese than women, by 20 percentage points. Across rank groups, junior enlisted members were generally less likely than more-senior enlisted to be overweight or obese.

Strategic Objective 3: Ensure That Wounded Warriors Are Economically Empowered
The Wounded Warrior Project Goal for Increasing Attainment of Higher Education Was Met Among Survey Respondents

Goal: Increase the percentage of alumni who complete an associate's degree, bachelor's degree, or higher.

Survey respondents were asked to report the highest degree or level of school they had completed. WWP's goal of 34.0 percent of alumni completing a degree was met among 2011 survey respondents at 36.0 percent, up from 32.7 percent among 2010 respondents.

The survey results suggested that female respondents were significantly more likely than males to earn an associate's, bachelor's, master's, or doctoral degree. This is consistent with the general civilian population. Differences in education level across marital status groups were largely not significant. Because of entrance requirements, it is not surprising that the vast majority of officer respondents reported having completed an associate's degree or higher and at a significantly greater rate than enlisted respondents. Senior enlisted were more likely to have completed one of these degrees than their more junior counterparts, with the difference being 5 to 10 percentage points.

The Wounded Warrior Project Goal for Increasing Alumni's Attainment of Business, Technical, and Vocational Training Was Met Among Survey Respondents

Goal: Increase the percentage of alumni who complete business, technical, or vocational school.

WWP's goal of 3.7 percent of alumni achieving a certificate or diploma from a business, technical, or vocational school was not met by those who completed the surveys in 2010, at a rate of 3.4 percent, but it was met in 2011, with 4.3 percent. When we revised the statistical method to include only respondents who completed a business, technical, or vocational degree or a lower degree (less than 12th grade, regular high school diploma, or GED®), we found that 15 to 20 percent of all enlisted respondents had earned a business, technical, or vocational degree. Although there are noticeable differences in magnitude across some comparison groups, none of the results in this part of the analysis proved to be statistically significant or consistent across years.

Respondent Rates of Employment Are Reaching Wounded Warrior Project Goals

Goal: Increase the percentage of alumni employed full time or part time or self-employed.

Survey results suggest that approximately 42 percent of respondents were employed full time and that 5 to 6 percent, each, are employed part time or are self-employed (with the remainder unemployed or not in the labor force).

Further calculations suggest that married respondents were more likely than others to be employed full time but less likely than never-married individuals to be employed part time.

Differences between men and women in the level or type of employment were nonexistent. Enlisted respondents were significantly less likely to be employed full time than were officers. Senior enlisted and junior officers were more likely to be working full time than were their junior and senior counterparts, respectively. Differences across groups in the percentage of individuals who were self-employed are generally not significant.

Survey Respondents Are Achieving the Wounded Warrior Project's Home-Ownership Goals

Goal: Increase the percentage of alumni who own a home (with or without a mortgage).

In the 2011 survey, the 56.0-percent rate of home ownership among survey respondents met WWP's goal of 55 percent. Survey results suggested that married respondents were significantly more likely to own a home than were members of any other group. Those who had never been married were much less likely to own a home than married or divorced alumni. In the 2011 survey, men were more likely than women to own a home. Further, in the 2011 survey, officers and senior enlisted alumni were more likely to own homes than were junior enlisted and officers. Also in the 2011 survey, full-time workers were most likely to own a home, followed by unemployed alumni and those not in the labor market, and finally, part-time workers.

Recommendations

Overall, the majority of WWP's goals were met in 2010 and 2011 among individuals who completed the surveys. However, there are some ways in which WWP can improve its outcomes, which we offer here:

- *Use the different scales to generate a better measure of alumnus challenges.* Results in the report suggest that WWP alumni have experienced higher rates of screening positive for PTSD and depression than those in other studies (involving different populations, usually veterans more generally). These higher rates may be due in part to the fact that WWP alumni, by definition, have experienced a service-connected disability. We recommend that WWP consider adding to its strategic objectives the Eight-Item Patient Health Questionnaire (PHQ-8) depression scale. Further, some of the questions in WWP's survey were derived from other instruments for the purposes of comparison to other populations and studies (e.g., deployment combat exposure, alcohol use, smoking prevalence, sleep adequacy). Future revisions to the strategic objectives may include goals for the results of those questions.
- *Create programs that can benefit specific alumnus population subgroups.* Taken together, the data suggest that individuals who have never been married, who are male, who are employed, and who are in higher ranks enjoy better mental health outcomes. On the other hand, women and junior ranks (where rank is likely connected to age) report more favorably on their physical health. Finally, married respondents and officers are more likely to have higher levels of education, be employed, and own a home.

These patterns suggest that different subgroups of wounded warriors may be in need of more or different kinds of support from WWP. The organization's decisionmakers can use the information from this report to determine the degree to which strategic objectives are met

for each subgroup and to set new goals and the means by which the organization—and its alumni—may reach those goals.

Abbreviations

BLS	Bureau of Labor Statistics
BMI	body mass index
CD-RISC2	Connor-Davidson Resilience Scale, two-item version
CPS	Current Population Survey
DoD	U.S. Department of Defense
GAO	U.S. Government Accountability Office
NILF	not in the labor force
OEF	Operation Enduring Freedom
OIF	Operation Iraqi Freedom
PC-PTSD	Primary Care PTSD Screen
PDHRA	Post-Deployment Health Reassessment
PHQ-8	Eight-Item Patient Health Questionnaire
PTSD	posttraumatic stress disorder
SD	standard deviation
SSA	Social Security Administration
SSDI	Social Security Disability Insurance
SSI	Supplemental Security Income
TA	Tuition Assistance
TBI	traumatic brain injury
VA	U.S. Department of Veterans Affairs
VR-36	Veterans RAND 36-Item Health Survey
VR&E	Vocational Rehabilitation and Employment

WRIISC War Related Illness and Injury Study Center
WWP Wounded Warrior Project

Introduction and Background

This document describes analysis performed by the RAND Corporation for the Wounded Warrior Project (WWP). WWP is a not-for-profit organization whose mission is to honor and empower wounded warriors by raising awareness about the needs of injured service members, helping them assist one another, and providing programs that nurture the mind and body and encourage economic empowerment and engagement.

WWP is engaged in a longitudinal data-collection effort involving five waves of a survey aimed at understanding the deployment experiences, employment status, financial circumstances, physical and emotional health, and health care needs of its alumni.¹ The survey instrument was developed by RAND researchers in an earlier effort. Westat administered the 2010 and 2011 surveys to 3,464 and 5,870 alumni, respectively,² and prepared reports describing the results of each survey. WWP has asked RAND to do a more in-depth analysis of the survey data, focusing on identifiable subsets of the respondents across which outcomes may vary, including among individuals who have responded to both waves of the survey, and, where possible, on how WWP alumni outcomes compare with those of other injured and ill populations. This report documents those results.

WWP has identified three primary strategic objectives of its program, and, for each area, it has a corresponding subset of survey questions. WWP uses the responses to the questions to target goals for each objective and will measure progress toward the goals using future survey results.

WWP has requested that RAND focus on outcomes relating to mental health and resiliency (strategic objective 1), physical health (strategic objective 2), and employment and finances (strategic objective 3). Therefore, this report describes the results of an analysis of a subset of questions in each of the strategic objectives. For each strategic objective, WWP has multiple goals. We explore findings related to five goals under strategic objective 1 (1a, 1b, 1d, 1e, and 1g); two under strategic objective 2 (2b and 2d); and four under strategic objective 3 (3a, 3b, 3c, and 3e); all goals are presented in Table 1.1.

¹ Wounded warriors who join WWP are called *alumni*. WWP alumni are military personnel who incurred service-connected injuries on or after September 11, 2001. Alumni self-select into the project and, at the time of registration, are required to provide a copy of their DD 214 (Certificate of Release or Discharge from Active Duty), their VA award letter, line-of-duty (LOD) documentation, or current unit orders (if on active duty) to allow WWP to determine their eligibility for project and program membership. Participation in any of the programs or services offered by WWP is voluntary.

² The 2010 survey was fielded from February 5 to March 22, 2010 and resulted in a 32.4-percent response rate (1,121 responses from 3,461 alumni contacted). The 2011 survey was administered from March 29 to May 17, 2011. Of the 5,867 eligible warriors, 2,312 participated, for an overall response rate of 39.4 percent. Four hundred ninety-nine alumni responded to both the 2010 and 2011 surveys and make up the cohort of repeat respondents analyzed in this document. Westat did not construct weights for either wave of the survey.

Table 1.1
The Wounded Warrior Project’s Strategic Objectives

Strategic Objective	Goal	Description
1	Ensure that wounded warriors are well-adjusted in mind and spirit.	<p>1a Increase the percentage of alumni who visit a health care professional to get help with such issues as stress, emotional, alcohol, drug, or family problems (increase access to care).</p> <p>1b Increase the percentage of alumni who report talking with another Operation Enduring Freedom (OEF) or Operation Iraqi Freedom (OIF) veteran as a resource and tool to help cope with feelings of stress or emotional or mental health outcomes.</p> <p>1c Decrease the percentage of alumni who report that physical health and emotional problems have interfered extremely, quite a bit, or moderately with their normal social activities with family, friends, and other social support during the past four weeks.</p> <p>1d Decrease the percentage of alumni who report the extent to which emotional problems have interfered in the past four weeks with work or regular activities.</p> <p>1e Decrease the percentage of alumni who report that they had a military experience that was so frightening, horrible, or upsetting that, in the past month, they have not been able to escape from memories or effects of it.</p> <p>1f Decrease the percentage of alumni who report various types of sleep problems nearly every day.</p> <p>1g Increase the percentage of alumni who report that they are able to adapt when change occurs and to bounce back after illness, injury, or hardships (resilience).</p>
2	Ensure that wounded warriors are well-adjusted in body.	<p>2a Increase alumni self-reports on their health status as excellent, very good, or good.</p> <p>2b Decrease the percentage of alumni who report that physical problems have interfered with work or regular activities in the past four weeks.</p> <p>2c Increase the percentage of alumni who report that they exercise three days per week or more (moderate-intensity exercise).</p> <p>2d Decrease the percentage of alumni who report that their health currently limits them a lot with vigorous activities, such as running, lifting heavy objects, or participating in strenuous sports.</p> <p>2e Decrease the percentage of alumni who report that they are overweight or obese based on BMI.</p> <p>2f Decrease the percentage of alumni who report that they drink alcoholic beverages two to three times per week or more.</p>
3	Ensure that wounded warriors are economically empowered.	<p>3a Increase the percentage of alumni who complete associate’s or bachelor’s degrees or higher.</p> <p>3b Increase the percentage of alumni who complete business, technical, or vocational school (certificate or diploma).</p> <p>3c Increase the percentage of alumni employed full time or part time or self-employed.</p> <p>3d Increase the median income for full-time employment and for part-time employment [among alumni].</p> <p>3e Increase the percentage of alumni who own a home (with or without a mortgage).</p> <p>3f Reduce the total amount of outstanding debt, excluding a mortgage, that is greater than \$20,000 [per alumnus].</p> <p>3g Improve each alumnus’s overall assessment of his or her financial status as better now than a year ago.</p>

For strategic objective 1, we did not examine goal 1c. The question associated with goal 1c is similar to that of 1d, and it asks about both physical and emotional health, thereby not allowing us to separate the emotional effects from the physical. We also did not examine goal 1f because it deals with the ability to sleep and therefore appears less tied to mental health and resiliency than the others.

Although physical health is a named priority of WWP, it is of lesser concern than strategic objectives 1 and 3. However, WWP specifically requested that we conduct an analysis of goal 2b, the percentage of alumni whose physical health has interfered with work or other daily activities. In addition, we identified a discrepancy in the wording of goal 2e and the numbers that were compiled by WWP, so we present additional findings to allow WWP to refine its goals and objectives for individuals who have a body mass index (BMI) in the overweight or obese range.

Employment and financial outcomes are the third priority of WWP. We did not examine goal 3d, an increase in mean or median income, because it is a condition of being employed and at the same level from year to year (in other words, a respondent who is employed full time in 2010 and part time in 2011 will almost certainly earn less in 2011, but that is a condition of employment level, not earning potential). Instead, we focused our analysis on the employment status of WWP alumni. We were unable to reconcile the data and match Westat's reported results for objective 3f. Finally, strategic objective 3g is a subjective measure and may be influenced by multiple factors, so we opted to not analyze the individuals' assessments of their financial status.

The remainder of this report considers each of the three strategic objectives in turn. We restate the known results and examine the possibility that the outcomes differ across various subsets of the alumnus population. Where possible, we also draw comparisons to other data on veterans to allow WWP to gauge the success of its alumni in terms of health and economic outcomes. All of the results in this document should be viewed as relationships or associations between question responses, except in instances in which the survey question itself implies causality. For instance, in the analysis that follows, we consider the possibility that individuals who report *not* talking with another OEF or OIF veteran about their emotional problems may be utilizing other resources to cope. We do not intend to imply that some survey respondents do not talk with other OEF or OIF veterans *because* they are instead working with the U.S. Department of Veterans Affairs (VA) Medical Center but rather simply that there is a menu of resources available to veterans, and a less-than-desired use of one does not mean that the veteran is not otherwise finding resources to cope.

Survey Methodology

WWP maintains a database of alumni who self-register for participation in the project. At the time of registration, each individual provides information on his or her branch of service, current service status, rank, type of discharge, dates of service, and injuries incurred.

Both the 2010 and 2011 surveys were web-based and administered to all alumni in the WWP database. Westat fielded the 2010 survey between February 5 and March 22, 2010, a time span of six weeks, and the 2011 survey took place over seven weeks between March 29 and May 17, 2011. Most of the communication between Westat and alumni was done by email, with the exception of the final reminder which was sent by postal mail. Alumni were first prenotified that the survey was forthcoming, then were invited to participate in the survey, and finally received a series of reminders or thank-you notes. In 2010, five reminders were sent, and, in 2011, there were seven.

The alumni database contained 3,464 members at the time of the 2010 survey. Of those, 1,121 completed the survey, resulting in a 32.4-percent response rate. In 2011, the database had expanded to include 5,870 alumni, of whom 5,867 were eligible to participate in the survey. Westat collected 2,312 responses, which is a 39.4-percent response rate.

With little information known about the population of WWP alumni, it is not clear whether the sample of survey respondents is representative of the broader population.¹ For instance, if individuals who are unemployed have more time to complete the survey, they would be overrepresented in the sample of respondents. Alternatively, if individuals suffering from mental health problems perceive there to be a stigma associated with such health needs, they may be less likely than others to complete the survey, thereby underrepresenting individuals with mental health disorders. In the absence of information about the underlying population of wounded warriors, it is not possible to make a determination about the representativeness of the sample of respondents or to construct survey weights. Therefore, tests of statistical significance presented in this report allow us to draw conclusions about responses only among the sample of alumni who completed the surveys. No inference should be made to the population of WWP alumni or about wounded warriors in general.

¹ When an individual registers for WWP, he or she is required to provide the following information: name and contact information, date of birth, branch of service, service status (e.g., active duty, retired), rank, type of discharge, service start and end dates, injury date, and type of injury. He or she may also provide description of injury; VA rating; whether he or she has applied for VA benefits, Supplemental Security Income, or Social Security Disability Insurance; VA claim status (pending, appeal); and location of hospitalization. WWP maintains a database of all registrants and therefore has this information. However, we had access to only survey data, not the registrant database, and therefore were unable to use these data to determine whether survey respondents were representative of the WWP population of alumni.

Analysis and Results

Before detailing the results of the strategic objectives, we describe the demographic and service characteristics of the respondents. Table 3.1 shows the details for four files: the 2010 and 2011 full sets of responses and the 2010 and 2011 data for the cohort of 499 repeat respondents. Sixty to 65 percent of the respondents were married, 15 to 22 percent had never been mar-

Table 3.1
Descriptive Statistics on the Survey Respondents (%)

Characteristic	Full Sets of Responses		Cohort	
	Baseline (wave 1) (1,121 observations)	2011 (wave 2) (2,312 observations)	Baseline (wave 1) (499 observations)	2011 (wave 2) (499 observations)
Marital status				
Married	60.93	64.01	65.66	69.48
Widowed	0.45	0.17	0.00	0.40
Divorced	13.92	14.88	13.05	12.25
Separated	3.12	3.94	2.41	2.41
Never married	21.32	16.78	18.88	15.46
Missing data	0.27	0.22	0.20	0.20
Gender				
Male	92.86	89.53	92.18	91.78
Female	6.87	10.03	7.41	7.41
Missing data	0.27	0.43	0.40	0.80
Age (years)				
21–29	29.53	25.91	26.25	21.44
30–39	39.43	39.66	38.48	38.28
40–49	22.57	25.04	25.85	29.46
50–59	6.78	7.61	7.21	8.22
60+	1.07	0.99	1.40	1.80
Missing data	0.62	0.78	0.80	0.80

Table 3.1—Continued

Characteristic	Full Sets of Responses		Cohort	
	Baseline (wave 1) (1,121 observations)	2011 (wave 2) (2,312 observations)	Baseline (wave 1) (499 observations)	2011 (wave 2) (499 observations)
Educational attainment				
Less than 12th grade	0.36	0.35	0.40	0.40
High school diploma	15.52	14.66	16.63	13.83
GED	3.03	3.42	3.41	2.81
Business, technical, or vocational	3.39	4.28	3.81	3.61
Some college (<1 year)	15.17	14.27	13.83	14.63
Some college (1+ year)	29.71	26.86	28.06	26.25
Associate's degree	11.69	12.41	12.42	12.22
Bachelor's degree	15.25	16.83	14.23	17.64
Master's degree	4.91	5.62	6.01	6.61
Professional or doctorate degree	0.71	1.08	1.00	1.60
Missing data	0.27	0.22	0.20	0.40
Employment status				
Full time	40.77	41.96	41.48	38.28
Part time	5.00	6.19	3.81	6.61
Unemployed or NILF*	52.54	50.61	53.71	53.93
Unemployed	—	13.28	—	9.42
NILF	—	37.24	—	44.49
Missing data	—	0.09	—	0.00
Missing data [†]	1.69	1.25	1.00	1.20
Health insurance [‡]				
None	5.89	4.89	6.01	4.01
Private insurance	16.86	21.41	20.64	24.05
Medicare	18.38	15.79	18.84	25.25
Medicaid	2.59	2.94	2.40	4.21
VA	58.43	55.67	59.92	66.33
Other government (e.g., TRICARE, CHAMPUS)	54.50	49.57	61.90	49.30
Other	2.77	1.69	2.40	1.00

Table 3.1—Continued

Characteristic	Full Sets of Responses		Cohort	
	Baseline (wave 1) (1,121 observations)	2011 (wave 2) (2,312 observations)	Baseline (wave 1) (499 observations)	2011 (wave 2) (499 observations)
Current military status				
Active duty	—	13.41	—	5.21
National Guard or reserve, activated	—	9.04	—	4.81
National Guard or reserve, not activated	—	8.48	—	6.21
Retired, medical	—	36.55	—	53.71
Retired, nonmedical	—	5.62	—	6.61
Separated or discharged	—	26.25	—	23.05
Missing data	—	0.65	—	0.40
Branch of service ^S				
Army	65.48	67.52	64.93	66.53
Marine Corps	21.77	18.30	21.84	22.85
Air Force	7.58	6.79	7.62	7.62
Navy	7.23	8.82	7.82	7.82
Coast Guard	0.09	0.43	0.00	0.20
Highest pay grade				
E-1–E-4	28.10	29.11	24.65	25.05
E-5–E-9	59.68	60.21	63.93	63.73
O-1–O-3	5.89	4.67	5.21	5.01
O-4–O-6	4.64	4.28	4.81	4.81
O-7–O-10	0.27	0.17	0.20	0.00
Warrant officer	1.16	1.30	1.00	1.00
Missing data	0.27	0.26	0.20	0.40
Total number of deployments				
0	1.43	2.90	1.20	2.00
1	36.31	33.43	35.87	29.26
2	28.19	28.03	29.86	32.06
3+	34.08	35.64	33.07	36.67
Deployed to a combat zone (if ever deployed)	—	97.86	—	98.36

Table 3.1—Continued

Characteristic	Full Sets of Responses		Cohort	
	Baseline (wave 1) (1,121 observations)	2011 (wave 2) (2,312 observations)	Baseline (wave 1) (499 observations)	2011 (wave 2) (499 observations)
Year of injury or health problem				
2001	0.98	1.12	1.00	0.80
2002	2.14	2.25	1.80	2.00
2003	16.24	14.32	17.23	15.43
2004	19.98	15.74	20.84	22.44
2005	18.64	16.39	18.64	19.44
2006	15.79	13.45	15.43	15.83
2007	13.29	11.33	12.63	12.02
2008	8.21	9.69	8.42	8.22
2009	1.34	8.52	1.80	1.40
2010	0.27	4.41	0.20	0.40
2011	0.00	0.22	0.00	0.00
Missing data	3.12	2.55	2.00	2.00
VA disability rating (%)				
10–30	5.53	6.74	6.21	5.61
40–60	14.09	15.10	15.83	12.02
70–90	26.49	25.52	27.86	29.06
100	28.37	22.45	29.26	38.48
No VA disability rating	13.56	15.10	10.42	6.81
Claim pending	11.42	14.49	10.22	7.41
Missing data	0.54	0.61	0.20	0.60

* The 2010 survey instrument asked only whether the respondent was working. It did not ask whether the respondent, if he or she was not working, was actively searching for work. The 2011 survey added that question. Therefore, in the 2011 columns, we can differentiate between unemployed and NILF; however, in the 2010 columns, we cannot.

† This row indicates missing data for respondents who did not answer the question in either survey. In the 2011 survey, in which we can differentiate between unemployed and NILF respondents, there were also individuals who did not answer. So, for 2011 only, there are two possible missing values for the two questions.

‡ Health insurance data sum to more than 100 because each respondent can carry multiple types of insurance.

§ A respondent may indicate multiple answers for this question, so the columns in this section sum to more than 100.

NOTE: Some sections do not sum exactly to 100 because of rounding. NILF = not in the labor force.

ried, and roughly 14 percent were divorced, with the few remaining widowed, separated, or unknown. The vast majority (approximately 90 percent) of all respondents were male.

With regard to educational attainment, 20 percent of respondents had a high school diploma or GED; 40 percent had some college; 15 percent had a business, technical, voca-

tional, or associate's degree; and 20 percent had a bachelor's degree or more. These results are similar across the years and samples considered. By comparison, the Bureau of Labor Statistics (BLS) reported that, as of 2009, 2 percent of Gulf War II-era veterans had less than a high school diploma, 29 percent were high school graduates with no college, 46 percent had some college or an associate's degree, and the remaining 23 percent had a college degree or higher (see BLS, 2010). Therefore, smaller percentages of WWP alumnus respondents had less than a high school diploma, a high school diploma, or a college degree, but a larger percentage had some college.

Both the 2010 and 2011 surveys asked respondents whether they were working for pay (full time or part time), where anyone who is not working for pay was considered unemployed or NILF. The 2010 survey included a question that read, "Are you looking for work?" but was modified in the 2011 survey to "During the *last four weeks*, did you actively look for work?" The 2010 question cannot be used to differentiate between unemployment and NILF, but the 2011 question is consistent with the one used by BLS and the Census Bureau in the Current Population Survey (CPS), the instrument used to compute the headline unemployment rate.¹ Approximately 40 percent of all WWP alumnus respondents were employed full time, and just over half were either unemployed or not in the labor force. Using the 2011 question concerning whether or not the individual was actively searching for work in the previous four weeks, we compute that one-third of those respondents were unemployed (versus NILF). Using the standard definition of unemployment,

$$\frac{\text{number unemployed}}{\text{number employed} + \text{number unemployed}}$$

this translates to an unemployment rate of 21.62 percent among the full set of responses.²

A small percentage of WWP alumni lack health insurance coverage, whereas 50 percent or more have insurance through a VA or other government program, such as TRICARE or CHAMPUS.³ In addition, 15 to 20 percent of all respondents had private insurance or Medicare or both. Note that the health insurance numbers presented in Table 3.1 add up to more than 100 in a given column because of individuals carrying multiple forms of insurance.

We now turn to characteristics of the respondents' military experience. The majority of individuals in the survey were veterans, though a larger percentage of respondents in the full sample (versus the cohort) remained on active duty or in the reserves. Two-thirds of all respondents were or had been in the Army, and another 20 percent served or had served in the Marine

¹ The unemployment rate is a measure of the prevalence of unemployment and is calculated as a percentage by dividing the number of unemployed individuals by the number of all individuals in the labor force, including those who are employed and those who are not employed but are actively searching for work.

² In the full set of 2011 responses, 970 individuals report working full time, 143 report working part time, and, among the 1,168 who were not working for pay, 861 had not actively looked for work in the previous four weeks (and were therefore NILF) and 307 had. Therefore, the unemployment rate is

$$\frac{307}{970 + 143 + 307} = 21.62 \text{ percent.}$$

³ CHAMPUS is now TRICARE.

Corps. Approximately 90 percent of all respondents were enlisted, and only a small percentage (roughly 10 percent) were officers.

Nearly all respondents deployed at least once, with a relatively even split between those who deployed once, twice, or three or more times. Among deployers, nearly everyone served in a combat zone at least once. Because WWP eligibility is based on proof of a service-connected disability since 9/11, respondents were asked when their injury occurred. The vast majority experienced their injuries between 2003 and 2007, and the rate of injury since 2007 has steadily decreased.

Finally, we present data on VA disability ratings based on respondents' self-report of their own ratings. Approximately 30 percent of all WWP respondents reported a VA disability rating of 10–70 percent, whereas 40 to 50 percent reported the highest ratings of 80–90 percent disability. A 2009 U.S. Government Accountability Office (GAO) report documented that more than 90 percent of wounded warriors surveyed were receiving disability benefits from the VA only (GAO, 2009). Among the 3.6 percent who were collecting benefits from the Social Security Administration (SSA) (through the Social Security Disability Insurance [SSDI] and Supplemental Security Income [SSI] benefit programs), more than 50 percent had a disability rating of 90 to 100 percent. Therefore, with such a large percentage of WWP alumnus respondents indicating a high rate of disability, an opportunity exists to help alumni by making sure they are aware of programs, such as SSDI and SSI and assisting them with applying for benefits.

For each strategic objective, we restate the individual goal and describe the way WWP has defined and measured the outcome. In some cases, when respondents were offered a list of options from which to select, WWP may focus on one particular choice. For those goals, we analyze that outcome and then broaden the definition to include other responses or define the question choices according to a metric in the literature. We examine outcomes for the full sets of 2010 and 2011 responses (1,121 and 2,312 individuals, respectively) and for the cohort of 499 repeat respondents. We then examine differences, within each wave, across subgroups of the population, such as marital status and pay-grade groups.

WWP has defined goals over time. For instance, the organization hopes to see an increase in the percentage of warriors who complete business, vocational, or technical degrees over the course of the five-wave survey effort. We consider overall changes between the two surveys, and we test for increases or decreases; however, year to year, these differences are generally small and would be difficult to detect in subgroups of the respondents. Therefore, our focus is within a particular wave, across different subgroups, as defined by demographic or service characteristics.

In order to test for statistically significant differences (in other words, whether the difference we detect is not due to chance) in outcomes across subgroups, we perform z-tests.⁴ Specifically, we measure whether a difference exists across two subgroups (such as married and divorced respondents) in the percentage (or proportion) of individuals who respond to a question in a certain way. We are able to determine the likelihood of the difference being due

⁴ The command used in Stata to perform these tests is `prtest`, in which the test is performed across two different subgroups. It is important to note that the use of z-tests, rather than the more conventional t-test of different means, is due to our restricting the conclusions and inferences to only the sample of respondents. Z-tests have a tighter confidence interval and are appropriate in instances in which the results are applicable only to the responses and not the broader population.

to chance at a variety of levels, and we use the conventional level of 95 percent in this report.⁵ Therefore, if 56 percent of married respondents and 68 percent of divorced respondents respond “yes” to a particular question and we indicate that the difference is statistically significant, we intend to convey that we are 95 percent confident that this difference ($68 - 56 = 12$) is not due to chance.

WWP’s survey is made up of ten sections—a comprehensive series of questions about demographic and service characteristics, employment, finances, health and daily activities, how the respondent has been feeling, health-related matters, health care, social support, attitudes, and Internet use. The questions corresponding to the goals for each strategic objective come from many parts of the survey. Although this report focuses almost exclusively on the goals outlined in the strategic objectives, we had access to the entire set of survey questions and responses. In some cases, in order to further explore one of WWP’s goals, we rely on other questions. In addition, as part of our analysis of WWP’s goals, we utilized metrics used in the literature, including a screening for posttraumatic stress disorder (PTSD), depression, emotional and physical health scales, and a measure of an individual’s ability to respond to changes or hardships. We describe each of these metrics in the context of the relevant WWP goal.

We now consider each of the strategic objectives, and the goals associated with each, in turn.

Ensure That Wounded Warriors Are Well-Adjusted in Mind and Spirit

Strategic objective 1a: Increase the percentage of alumni who visit a health care professional to get help with such issues as stress, emotional, alcohol, drug, or family problems (increase access to care).

The question associated with this objective reads, “In the past 3 months have you visited any professional like a doctor, a psychologist or a counselor to get help with issues such as stress, emotional, drug, or family problems?”

Results from Westat’s reports were summarized by WWP and are reproduced here. As shown in Table 3.2, among the full sets of responses, WWP’s goal of 58 percent is met in the 2011 respondents.

Our analysis of this objective is twofold: (1) We consider whether certain demographic characteristics, including marital status, gender, pay grade, and employment status, are correlated with the outcome, and (2) because this question is broad to include any health care professional, we also explore a series of follow-up questions more focused on mental health professionals.

Table 3.3 reports the percentage of survey respondents, by demographic characteristic, who reported having seen a professional for a behavioral health care or family issue within the previous three months.⁶

⁵ In other words, statistically significant differences are detected when $p < 0.05$.

⁶ Note that none of the findings presented in this analysis is the result of regression analysis. Rather, we compare responses to questions across subsets of the population (such as men versus women) and test whether those proportions differ by group or characteristic.

Some categories, such as a marital status of widowed, or pay grade of O-7–O-10 and warrant officer, contain too few responses to report.

Table 3.2
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Had Visited a Health Care Professional in the Past Three Months to Get Help with Such Issues as Stress, Emotional, Alcohol, Drug, or Family Problems

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	57.16	1.56	58.46	1.06
Cohort	56.13	2.30	53.50	2.30
Goal			58	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

NOTE: Standard error is a measure of the variation in survey responses.

Notes in this table and others throughout the document indicate differences in groups' responses that are statistically significant.⁷

In 2010, there were statistically significant differences in the rate at which members of marital-status groups had visited professionals, with married and never-married respondents less likely to visit a professional than were divorced or separated respondents. In the 2011 results, the differences are statistically significant across all marital-status groups.⁸ In both waves, women were more likely to have visited a health care professional than men. Results did not differ by pay grade in 2010, but, in 2011, enlisted respondents were more likely to seek professional help than were officers. These results are consistent with what is found in earlier work performed by Schell and Marshall (2008). Specifically, they examined the characteristics that correlate with probable PTSD and traumatic brain injury (TBI), and they find that females and enlisted individuals were more likely to suffer from PTSD or TBI and would thus be more likely to seek care, as this question addresses. In sum, these results suggest that the individuals who are more likely to have a need for mental health care are also the ones who are visiting health care professionals, which is the desired outcome.

Finally, respondents who were either unemployed or not in the labor force were more likely than part- (2011 only) or full-time workers to have seen a professional in the previous three months. In this case, employment status is likely proxying for an individual's level of disability (i.e., the ability to work), where those who are not working are more disabled and more in need of health care.⁹

⁷ Proportional tests of statistical significance are performed using z-tests across mutually exclusive groups of survey respondents. As mentioned previously, the results of these tests apply only to the sample of respondents, not the larger population of WWP alumni or wounded warriors more generally.

⁸ Studies in the psychology literature examine the link between marital status and health and find that individuals in discordant relationships are typically in poorer health and are more likely to face general distress. For example, see Whisman and Uebelacker, 2006.

⁹ The strategic objectives under consideration could be examined across any number of characteristics, including health insurance status or disability rating, but we focus here on measures that will carry throughout the report, which later focuses on employment outcomes. However, we note that health insurance status is likely not a constraint in terms of access to care because only 5–6 percent of all respondents in 2010 and 2011, respectively, lacked a form of insurance.

The data show a strong negative relationship between VA disability rating and employment status. Fewer than 20 percent of respondents with a disability rating of 100 percent were working as of the 2011 survey. On the other hand, 55 per-

Table 3.3
Percentage of Respondents, by Demographic Characteristic, Who Had Visited a Professional for a Behavioral Health Care or Family Issue in the Previous Three Months

Characteristic	Full Sets of Responses				Cohort			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	56.19 ^{a, b}	2.00	58.58 ^{b, c}	1.31	56.17	2.83	54.41	2.75
Divorced	67.81 ^e	3.87	64.38 ^{d, e}	2.68	67.21 ^e	6.01	55.17	6.53
Separated	73.53 ^f	7.57	81.40 ^f	4.20	72.73	13.43	75.00 ^f	12.50
Never married	49.76	3.49	47.90	2.64	45.24	5.43	44.29	5.94
Gender								
Male	56.30 ^g	1.62	56.97 ^g	1.12	55.01 ^g	2.40	51.16 ^g	2.40
Female	71.64	5.51	71.62	3.03	73.53	7.57	80.56	6.60
Pay grade								
E-1–E-4	56.79	2.96	58.24 ⁱ	1.97	54.31	4.63	54.24	4.59
E-5–E-9	58.74	2.01	60.36 ^k	1.35	58.31	2.87	55.30 ^k	2.86
O-1–O-3	48.44	6.25	45.10	4.93	38.46	9.54	33.33	9.62
O-4–O-6	55.56	7.41	50.00	5.21	66.67	10.29	47.62	10.90
Employment status								
Full time	46.33 ^o	2.51	49.84 ^o	1.66	46.28 ^o	3.64	38.25 ^o	3.59
Part time	57.45	7.21	49.28 ^p	4.26	29.41 ^p	11.05	56.25	8.77
Unemployed or NILF	64.80	2.03	66.88	1.41	65.37	2.97	64.17	3.01

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^c Statistically significant difference between married and never-married respondents.

^d Statistically significant difference between divorced and separated respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

Following the question on whether or not the respondent had visited a professional, such as a doctor, a psychologist, or a counselor, to get help with such issues as stress, emotional, alcohol, drug, or family problems, the survey asks a series of questions concerning which of these professionals the individual consulted. Specifically, the WWP survey asks participants the following:

- In the past 3 months, did you visit a mental health specialist like a psychiatrist, psychologist, social worker, or counselor for these [stress, emotional, alcohol, drug, or family] problems? (asked only of those who responded that they had visited a professional in the past three months)
- In the past 3 months, have you received counseling, either individual, family, or group counseling, for a mental health or emotional problem? (asked only of those who responded that they had visited a professional in the past three months)
- During the past 12 months, were there any times when you had difficulty getting mental health care or you put off getting care or you did not get the mental health care you thought you needed? (asked of all respondents, regardless of whether or not they reported having visited a professional in the past three months)
- Why was that? Did you have difficulty getting mental health care, or [did] you put off getting care, or [did] you did not get the mental health care you thought you needed because (asked only of individuals who reported having difficulty getting mental health care or putting off getting the mental health care they thought they needed)
 - you did not know about existing resources available within DoD [U.S. Department of Defense] or VA?
 - you did not feel comfortable with existing resources within DoD or VA?
 - you felt that you would be stigmatized by your peers or family for seeking mental health treatment?
 - you felt that you would be considered weak for seeking mental health treatment?
 - you were concerned that your future career plans would be jeopardized by seeking treatment?
 - you felt as if the treatment [was] not appropriate for your set of symptoms?
 - you felt as if the treatment was not appropriate to your OEF [or] OIF experience?
 - there is a lack of resources in your geographic area?
 - there is a lack of nongovernment mental health providers in your region?
 - you had inconsistent treatment or lapses in treatment (e.g., canceled appointments, had to switch providers)?
 - there was no peer support available?

Table 3.4 summarizes the responses from these mental health questions. The first two rows have as a population those who had seen a professional (including doctors, psychologists, or counselors) within the past three months to get help with such issues as stress, emotional, drug, or family problems. A large percentage (more than 90 percent) of individuals who

cent of individuals with a disability rating of 50 percent were working. Further, after controlling for disability status (i.e., considering only individuals with 10–30 percent disability rating, or 40–60 percent), the difference across employment status in the likelihood of visiting a professional disappears, further supporting the hypothesis that employment status is proxying for disability. The exception to this is at the highest disability ratings, at which those individuals who are not working are still more likely to seek health care than those who are not.

Table 3.4
Mental Health Care Utilization, Unmet Needs, and Barriers to Care

Response	Full Sets of Responses				Cohort			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Visited mental health specialist*	92.44	1.11	93.12	0.71	93.44	1.54	91.27	1.78
Received counseling*	79.44	1.70	81.71	1.09	82.56	2.37	83.33	2.35
Difficulty receiving mental health care [†]								
Did not see a professional	23.95	2.06	28.32	1.51	26.96	3.11	24.42	2.92
Did see a professional	42.05	2.08	42.35	1.39	39.92	3.05	39.52	3.11
Obstacle in receiving mental health care [‡]								
Logistical								
Lack of resources in geographic area	19.35	2.14	20.05	1.42	17.09	3.00	18.95	3.18
Lack of nongovernment mental health providers	11.44	1.73	9.96	1.06	10.13	2.41	5.88	1.91
Did not know about existing resources	9.09	1.56	9.46	1.04	13.29	2.71	9.15	2.34
Institutional and cultural								
Future career plans jeopardized	24.63	2.34	29.76	1.62	25.95	3.50	28.76	3.67
Considered weak	29.03	2.46	26.36	1.57	33.54	3.77	22.88	3.41
Stigmatized by peers or family	22.29	2.26	23.08	1.50	25.95	3.50	21.57	3.34
No peer support	12.32	1.78	12.86	1.19	12.03	2.60	11.76	2.61
Beliefs and preferences for treatment								
Inconsistent treatment	39.00	2.65	42.50	1.76	35.44	3.82	41.18	3.99
Not comfortable with existing resources	35.19	2.59	34.30	1.69	35.44	3.82	39.22	3.96
Treatment not appropriate to OEF/OIF experience	26.10	2.38	23.83	1.51	27.85	3.58	24.84	3.50
Treatment not appropriate for symptoms	20.23	2.18	16.14	1.31	19.62	3.17	14.38	2.85
Other	44.28	2.69	39.09	1.73	45.57	3.97	37.91	3.94

* These questions were asked only of the (roughly 55 percent of) respondents who reported that they had visited a professional (such as a doctor, psychologist, or counselor) in the previous three months to get help with such issues as stress, emotional, alcohol, drug, or family problems. See Table 3.2 for details.

[†] This question was asked of all respondents, whether or not they reported having visited a health care professional in the previous three months.

[‡] This question was asked only of those respondents who indicated that, in the previous 12 months, they had had difficulty getting mental health care, put off getting care, or did not get the care they thought they needed.

reported having seen a professional in each wave of the survey reported having seen a mental health professional. A smaller, but still significant, portion of the respondents received some type of counseling for mental health or emotional problems.

All survey respondents were asked whether they had difficulty accessing mental health care. Among those who saw a professional (regular or mental health provider), approximately 40 percent had difficulty getting mental health care.

The last panel in Table 3.4 describes the reasons cited for having difficulty receiving mental health care. Barriers to care are organized according to three broad categories described by Schell and Marshall (2008): (1) logistical (“e.g., lack of resources in geographic area”), (2) institutional and cultural (“e.g., stigmatized by peers or family”), and (3) beliefs and preference for treatment (“e.g., treatment not appropriate to OEF/OIF experience”) and, within each category, arranged by utilization rate.

Institutional and cultural barriers and beliefs and preferences for treatment were the most frequently cited reasons for not seeking behavior health treatment. Specifically, inconsistent or lapsed treatment, not being comfortable with existing resources, and fears of one’s career being jeopardized (and “other”) were the most commonly cited reasons for not obtaining mental health care. These results are similar to ones described by Schell and Marshall, who found that, among individuals with a possible need for mental health care services,

- 43.6 percent thought that it could hurt their career
- approximately 25 percent thought both that good mental health care is not very effective and that the mental health treatments available are not very good
- 11.5 percent cited concerns that their friends and family would respect them less.

Roughly one-quarter of all respondents who had not seen a health care provider in the previous three months reported having difficulty receiving mental health care.

Strategic objective 1b: Increase the percentage of alumni who report talking with another OEF or OIF veteran as a resource and tool to help cope with feelings of stress or emotional or mental health concerns.

Talking with another OEF or OIF veteran is one in a series of possible resources the individual may utilize. Specifically, the questionnaire asks, “Since you have been deployed, what types of resources and tools have you used to help you with feelings of stress or emotional or mental health concerns?” with the following options:¹⁰

- VA medical center
- vet center
- military chaplain
- DoD mental health provider
- talking with another OEF or OIF veteran
- talking with another veteran not from OEF or OIF
- non-VA counselor, psychologist, or psychiatrist
- non-mental health medical professional (e.g., doctor, nurse)

¹⁰ Respondents had the option of indicating that they had not had any feelings of stress or emotional or mental health concerns, but the wording changed between the two waves, and the pattern of responses suggests that there may have been some confusion about the use of this response combined with others. Therefore, we do not present the percentage of respondents who selected this choice.

- prescription medicine
- talking with a nonmilitary family or friend
- talking with a nonmilitary religious leader (e.g., minister, pastor)
- self-education through Internet, pamphlet, and books
- other.

Table 3.5 describes the percentage of WWP respondents who indicated that they had spoken with another OEF or OIF veteran about their feelings of stress or emotional or mental health concerns. WWP has a stated goal of 54.5 percent of alumni using other OEF or OIF veterans as a resource in 2011, and that was achieved in both the full set of responses and among the cohort of 499 repeat respondents.

As in strategic objective 1a, we consider the possibility that subsets of the population use their OEF and OIF veteran peers as a resource to cope with stress or mental health concerns. Those results are presented in Table 3.6 and show that, in 2010, a higher proportion of divorced respondents than separated or never-married respondents reported having talked with another OEF or OIF veteran about feelings of stress or emotional or health concerns. In addition, a higher proportion of married respondents than never-married respondents reported talking with another OEF or OIF veteran. However, those differences have disappeared in wave 2 and are not present among the cohort of repeat respondents. Further, men in the 2010 survey were more likely than women to talk with another OEF or OIF veteran about mental health concerns. There are no differences across pay grades or across any subgroups within the cohort of repeat respondents.

Next, we explore the other resource options listed for this question to see what other resources alumni are using to cope with emotional and mental health concerns. We examine this separately among alumni who did and did not talk with another OIF or OEF vet. WWP provides programs aimed at helping wounded warriors. So we also examine the percentage of alumni who utilized the following WWP program resources that are designed to support the wounded warrior's mind and encourage engagement:

- Peer Mentoring
- Project Odyssey
- WWP Connect™.¹¹

Table 3.7 presents these results for the full sets of responses, and Table A.1 in the appendix reports on the cohort of 499 repeat respondents.

These results show that wounded warriors who report *not* having talked with other OEF or OIF veterans make use of other resources to cope with feelings of stress or emotional or mental health concerns. The most commonly used resource is the VA medical center, and a large fraction of alumni are also taking prescription medication. On average, respondents are making use of two resources other than talking with OEF and OIF veterans. Among WWP

¹¹ According to the WWP website (WWP, undated), the Peer Mentoring program motivates warriors by helping them develop one-on-one friendships with fellow warriors who are further along in the recovery process. Project Odyssey helps warriors overcome combat stress through outdoor, rehabilitative retreats that encourage a connection with nature, peers, Project Odyssey staff, and trained counselors. WWP Connect is a private online social network created for use by alumni, caregivers, and WWP staff.

Table 3.5
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Have Talked with Another Operation Enduring Freedom or Operation Iraqi Freedom Veteran Since Deployment

Response	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	58.10	1.55	55.36	1.03
Cohort	63.27	2.27	57.72	2.21
Goal			54.5	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

Table 3.6
Percentage of Respondents, by Demographic Characteristic, Who Had Talked with Another Operation Enduring Freedom or Operation Iraqi Freedom Veteran About Feelings of Stress or Emotional or Health Concerns

Respondent	Full Sets of Responses				Cohort			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	60.13 ^c	1.97	55.27	1.29	65.19	2.78	56.94	2.66
Divorced	66.90 ^{d, e}	3.91	56.10	2.68	66.67	5.94	57.38	6.33
Separated	46.88	8.82	56.04	5.20	63.64	14.50	58.33	14.23
Never married	47.47	3.39	54.90	2.53	54.76	5.43	62.34	5.52
Gender								
Male	59.00 ^g	1.60	55.89	1.09	64.42	2.35	58.30	2.30
Female	44.44	5.86	50.43	3.28	48.57	8.45	48.65	8.22
Pay grade								
E-1–E-4	55.90	2.93	53.49	1.92	60.36	4.64	55.20	4.45
E-5–E-9	59.93	1.98	56.82	1.33	63.85	2.79	61.32 ^k	2.73
O-1–O-3	54.72	6.84	51.85	4.81	68.42	10.66	40.00	9.80
O-4–O-6	56.82	7.47	54.55	5.00	65.00	10.67	45.83	10.17

^c Statistically significant difference between married and never-married respondents.

^d Statistically significant difference between divorced and separated respondents.

^e Statistically significant difference between divorced and never-married respondents.

^g Statistically significant difference between male and female respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

programs, 2011 showed nearly a doubling of the percentage of respondents who are enrolled in WWP Connect.

Table 3.7
Respondents Who Utilized Wounded Warrior Project Programs or Other Resources to Help with Feelings of Stress or Emotional or Mental Health Concerns

Response	Did Talk Not with Another OEF/OIF Vet				Talked with Another OEF/OIF Vet			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Non-WWP program (%)								
VA medical center	44.50	2.41	41.38	1.53	72.14	1.86	66.56	1.32
Prescription medicine	28.81	2.19	29.84	1.43	64.33	1.98	61.48	1.36
Talk with nonmilitary family or friend	12.41	1.60	14.83	1.11	43.86	2.05	40.23	1.37
Self-education	7.96	1.31	12.50	1.03	32.31	1.94	34.77	1.33
Vet center	16.16	1.78	11.82	1.01	27.74	1.85	27.89	1.25
Non-VA counselor, psychologist, or psychiatrist	8.90	1.38	11.53	0.99	28.72	1.87	26.88	1.24
DoD mental health provider	10.77	1.50	10.27	0.95	30.65	1.91	25.55	1.22
Talking with veteran not from OEF or OIF	7.26	1.26	8.04	0.85	49.57	2.07	44.69	1.39
Military chaplain	5.39	1.09	7.66	0.83	23.59	1.76	22.34	1.16
Talk with nonmilitary religious leader	3.04	0.83	5.81	0.73	16.44	1.53	15.16	1.00
Non-mental health professional	4.45	1.00	4.36	0.64	18.35	1.60	14.92	1.00
Other	6.79	1.22	9.79	0.93	7.12	1.06	7.97	0.76
No mental health concerns	19.59	1.72	16.28	1.15	1.19	0.45	0.70	0.23
Average number of resources used	2.29	0.08	1.69	0.05	5.13	0.09	4.88	0.63
WWP program (%)								
Peer Mentoring	6.79	1.22	3.97	0.61	8.81	1.17	7.66	0.74
Project Odyssey	2.81	0.80	2.03	0.44	4.58	0.86	4.61	0.59
WWP Connect	8.67	1.36	16.38	1.15	16.44	1.53	26.17	1.23

Among respondents who reported talking with other OEF or OIF veterans about their feelings of stress or emotional or mental health concerns, we observe similar patterns to those described above, in which the VA medical center and prescription medication are the two most commonly used resources. The one difference in the patterns, compared with respondents who

reported not talking with other OEF or OIF vets, is that those who *do* are also much more likely to talk with other non-OEF and OIF veterans. We note also that the rate of utilization of other resources is considerably higher among those respondents who reported talking with other OEF and OIF veterans. Therefore, there appears to be a group of individuals who make use of resources at a high rate, including talking to their OEF and OIF veteran peers, and another group that simply utilizes resources (at least those options presented in the survey) less.

Strategic objective 1d: Decrease the percentage of alumni who report the extent to which emotional problems had interfered in the previous four weeks with work or regular activities.

The associated survey question reads, “During the *past 4 weeks*, have you had any of the following problems with your work or other regular daily activities *as a result of any emotional problems* (such as feeling depressed or anxious)?” Respondents were able to respond “yes” to any of the following choices:

- cut down the amount of time you spent on work or other activities
- accomplished less than you would like
- did not do work or other activities as carefully as usual.

To track this strategic objective, WWP uses only the percentage for the first option, those respondents whose emotional problems forced them to cut down the amount of time that they spend on work or other activities. Results for the full set of survey responses are presented in Table 3.8.

Though WWP’s goal of 56 percent for 2011 is nearly being met, the rate is still a bit higher than desired. It is important to note that, although the first option to this survey question most directly relates to this objective, respondents who answered affirmatively to the second or third options were still providing an indication that their emotional problems were interfering with work or other activities, the concern addressed in the strategic objective. Specifically, the second option, dealing with accomplishing less than the individual would like, may be interpreted as a lower level of productivity or efficiency at work or in other activities. The third response option implies that the individual’s emotional problems are manifesting in the form of carelessness in work or daily activities.

This question derives from questions 17–19 in the Veterans RAND 36-Item Health Survey (VR-36) used to evaluate physical and mental health components, such as physical functioning, bodily pain, general health, and vitality. Each of the three options in the WWP

Table 3.8
Percentage of and Wounded Warrior Project Goal for Survey Respondents Whose Emotional Problems Interfered with Work or Regular Activities

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	58.17	1.52	59.28	1.04
Cohort	60.88	2.23	57.38	2.25
Goal			56	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

survey question corresponds to one item on the VR-36. Individuals who answer “yes” receive a score of 0, and those who answer “no” receive 100. In other words,

During the *past 4 weeks*, have you had any of the following problems with your work or other regular daily activities *as a result of any emotional problems* (such as feeling depressed or anxious)?

- Cut down the amount of time you spent on work or other activities? (yes = 0, no = 100)
- Accomplished less than you would like? (yes = 0, no = 100)
- Didn't do work or other activities as carefully as usual? (yes = 0, no = 100)

Higher scores indicate more-favorable health outcomes. The three question options are then averaged to form scales, and the aggregate score is considered a measure of the emotional role in the mental health component, called Role–Emotional.

The aggregated scores are then normed by giving each a mean of 50 and standard deviation (SD) of 10. To accomplish this, each component scale is divided by the population mean to find the norm-based score (see Ware, 1994). A norm-based score of 40 for a given component for a sample population indicates that the sample population scored one SD, or ten points, below the population as a whole, indicating greater emotional distress. The transformation of the raw sample scores allows for comparisons to the population at large.

The Role–Emotional component scale is among the most-valid scales for evaluating mental health in individuals by measuring the impact that emotional well-being has on daily functions, such as work and other activities (Ware, 2004). Individuals scoring lower on the Role–Emotional scales benefit from treatments based on improving mental health, such as drug treatment and interpersonal therapy for depression, showing responsiveness to treatment in before and after survey comparisons.

In addition to norm-based scores on the Role–Emotional component, Table 3.9 presents the percentage of survey respondents, by demographic characteristic, who reported that their emotional problems resulted in their cutting down on the amount of time they spend on work or other activities, as measured by WWP in strategic objective 1d. Cohort analysis results are presented in Table A.2 in the appendix.

In the 2010 survey, there were no statistically significant differences across marital-status groups in the percentage who reported spending less time on work and other regular activities, but, when Role–Emotional is considered, those who were separated or divorced were more likely than those who were married or never married to report some degree of disruption in their activities. In the 2011 survey, there were statistically significant differences across all groups (with the exception of divorced versus separated in the narrow definition of interference).

Similarly, in both years, and using both the “cut down on time spent” response and the Role–Emotional measure, there are statistically significant differences across gender, with women being more likely than men to report spending less time on work or other activities as a result of emotional problems.

In the 2010 survey, there were no statistically significant differences across pay-grade groups among those who reported spending less time on work or other activities, but a larger percentage of enlisted than senior officers responded affirmatively to the Role–Emotional metric of interference. In the 2011 survey, enlisted respondents were more likely than officers to report disruptions due to emotional problems using both metrics.

Table 3.9
Percentage of Respondents, by Demographic Characteristic, Whose Emotional Problems Interfered with Work or Other Daily Activities

Respondent	Cut Down on Time				Role-Emotional (normed)			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	56.96	1.96	58.58 ^{a, b, c}	1.30	37.63 ^{a, b}	0.54	37.28 ^{a, b, c}	0.36
Divorced	63.09	3.95	69.23 ^e	2.56	34.98 ^e	1.07	34.44 ^{d, e}	0.70
Separated	70.59	7.81	75.58 ^f	4.63	31.79 ^f	1.95	31.47 ^f	1.09
Never married	56.50	3.32	49.59	2.60	38.55	0.93	39.90	0.72
Gender								
Male	57.35 ^g	1.58	58.17 ^g	1.10	37.63 ^g	0.44	37.43 ^g	0.30
Female	71.01	5.46	68.75	30.97	32.39	1.38	34.03	0.80
Pay grade								
E-1-E-4	60.00	2.85	60.69 ⁱ	1.93	36.92	0.78	36.89 ⁱ	0.52
E-5-E-9	59.01	1.96	60.28 ^k	1.33	36.79	0.54	36.74 ^{k, l}	0.36
O-1-O-3	53.85	6.18	49.52	4.88	39.34	1.80	39.78	1.34
O-4-O-6	48.98	7.14	51.04	5.10	40.62	2.11	39.55	1.45
Employment status								
Full time	41.72 ^{n, o}	2.38	47.28 ^{n, o}	1.63	41.61 ^o	0.68	40.50 ^{n, o}	0.44
Part time	58.82	6.89	58.57 ^p	4.16	37.73 ^p	1.98	37.25 ^p	1.13
Unemployed or NILF	71.00	1.91	69.66	1.37	33.85	0.52	34.15	0.37

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^c Statistically significant difference between married and never-married respondents.

^d Statistically significant difference between divorced and separated respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

ⁱ Statistically significant difference between E-1-E-4 and O-1-O-3 respondents.

^k Statistically significant difference between E-5-E-9 and O-1-O-3 respondents.

^l Statistically significant difference between E-5-E-9 and O-1-O-3 respondents.

ⁿ Statistically significant difference between respondents who were employed full time and those who were employed part time.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

With regard to employment status, respondents who were employed, and especially those who were working full time, were less likely to report cutting back on work and other activities. These patterns hold when any indication of interference is considered, though the prevalence of interference is greater across all categories. All differences are statistically significant (except between part-time and full-time employment in the 2010 survey).

Role–Emotional is normed against the general population. In our analysis, we see that, in almost every case, the WWP population is at least one SD below the general population in mental health related to Role–Emotional. The groups with the lowest scores are those without jobs, women, and separated or divorced.

Strategic objective 1e: Decrease the percentage of alumni who report that they had a military experience that was so frightening, horrible, or upsetting that, in the previous month, they had not been able to escape from memories or effects of it.

The results for this objective are derived from a survey question that reads, “In your military experience, have you ever had an experience that was so frightening, horrible, or upsetting that in the past month,” with the following options:

- you have had nightmares about it?
- you have thought about it when you did not want to?
- you tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
- you were constantly on guard, watchful, or easily startled?
- you felt numb or detached from others, activities, or your surroundings?

The percentages used to track WWP’s strategic objectives focus on only the second response option, which deals with the individual thinking about an experience when they did not want to. Table 3.10 shows the results.

This survey question was developed in accordance with the Primary Care PTSD Screen (PC-PTSD) (see Prins et al., 2003), on which individuals who report experiencing three of the conditions are considered to have screened positive for PTSD and should be tested further for the presence of PTSD.¹² The original screener is a four-item question that combines the first two options in the WWP survey item:

In your life [military experience], have you ever had an experience that was so frightening, horrible, or upsetting that, in the past month, you

- have had nightmares about it or thought about it when you did not want to?
- tried hard not to think about it or went out of your way to avoid situations that reminded you of it?
- were constantly on guard, watchful, or easily startled?
- felt numb or detached from others, activities, or your surroundings?

¹² Military studies of PTSD screeners use a cutoff of either two or three “yes” responses. As described in Bliese et al. (2008), and Stoll et al. (1999), low cutoff points result in a high sensitivity but a low specificity (e.g., many false positive results), and a high cutoff point leads to many false negative results (e.g., missing many positive cases). It is recommended that, when base rates are high or treatment is expensive, the metric should favor specificity (Prins et al., 2003). With rates near 80 percent in one question alone (see Table 3.10), we make use of the three-response cutoff, thereby reducing the false positives but possibly underestimating the percentage of respondents who screen positive for PTSD.

Table 3.10
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Had Thought About Frightening, Horrible, or Upsetting Deployment Experiences

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	76.55	1.34	77.79	0.89
Cohort	78.74	1.91	79.04	1.86
Goal			76	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

For this strategic objective, we consider whether two metrics vary across demographic groups. First, we analyze the PC-PTSD, on which individuals who have three or four “yes” responses are considered to have screened positive for PTSD. Then, we consider WWP’s stated objective, which splits the first PC-PTSD option into two and focuses only on the experience of thinking about a deployment event when the respondent did not want to. Table 3.11 and Table A.3 in the appendix report results for the full sets of survey responses and the cohort of 499 repeat respondents, respectively.

In the 2010 survey, respondents who were divorced were more likely than married or never-married respondents to indicate that they thought about the traumatic deployment event more than they would like and to screen positive for PTSD. In the 2011 survey, never-married respondents were less likely than members of other groups to indicate being unable to escape the memory of a traumatic event and to indicate symptoms of probable PTSD.

In both waves of the survey, there were no gender differences in the percentage of respondents who reported thinking about a bad experience more often than they would like or to screen positive for probable PTSD.

In the 2011 survey, officers were significantly less likely than enlisted respondents to report being unable to escape the memories or effects of a deployment experience and to screen positive for PTSD.

By comparison, we note that one study that made use of the same criterion for PTSD screening is Milliken, Auchterlonie, and Hoge (2007), which used the Post-Deployment Health Reassessment (PDHRA) to estimate that 40 to 52 percent (depending on Army active component versus reserve component or National Guard membership) of military personnel returning from Iraq screen positive for PTSD (see Milliken, Auchterlonie, and Hoge, 2007).

Therefore, positive screenings for PTSD are higher among WWP alumnus respondents, regardless of demographic characteristic, than among the soldiers studied in Milliken, Auchterlonie, and Hoge (2007). Although this is an important outcome, we may expect the rates to be higher among members of this group because of WWP’s eligibility requirement that alumni have suffered a service-connected disability since 9/11.

Strategic objective 1g: Increase the percentage of alumni who report they are able to adapt when change occurs or to bounce back after illness, injury, or hardships (resilience).

Table 3.11
Percentage of Respondents, by Demographic Characteristic, Who Had a Positive Screen for Posttraumatic Stress Disorder and Who Indicated Having Difficulty Escaping the Memories or Effects of a Frightening, Horrible, or Upsetting Deployment Experience

Respondent	Positive PTSD Screen				Thought About the Experience (WWP)			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	61.20 ^a	1.86	68.45 ^{a, b, c}	1.21	76.14 ^a	1.72	77.90 ^c	1.10
Divorced	73.72 ^e	3.52	76.74 ^e	2.28	84.83 ^e	2.98	82.41 ^e	2.12
Separated	71.43	7.64	81.32 ^f	4.09	76.47	7.27	86.05 ^f	3.74
Never married	54.39	3.22	61.34	2.47	72.50	3.16	71.07	2.38
Gender								
Male	61.58	1.51	68.60	1.02	76.29	1.40	77.81	9.39
Female	64.94	5.44	71.98	2.95	80.60	4.83	77.23	2.80
Pay grade								
E-1–E-4	60.95	2.75	72.21 ^{i, j}	1.73	76.90	2.53	81.07 ^{i, j}	1.56
E-5–E-9	63.53	1.86	69.97 ^{k, l}	1.23	76.83	1.72	77.95 ^{k, l}	1.14
O-1–O-3	59.09	6.05	55.56	4.78	74.60	5.48	66.67	4.67
O-4–O-6	51.92	6.93	51.52	5.02	76.74	6.44	66.67	4.89

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^c Statistically significant difference between married and never-married respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents.

^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

^l Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

WWP's survey contains two questions pertaining to adaptability and the ability to bounce back:

- Adaptability: I am able to adapt when changes occur.
- Bounce back: I tend to bounce back after illness, injury, or other hardships.

In both questions, respondents are offered the following choices: not at all, rarely true, sometimes true, often true, or nearly all of the time. The goal measures those who answer that they are able to adapt or bounce back often or nearly all of the time.

As will be discussed in more detail below, WWP's reporting of this outcome is shown in Table 3.12 but measures only the adaptability question (in other words, the percentage of respondents who adapt often or nearly all of the time when changes occur). Our analysis for

Table 3.12
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Reported Being Able to Adapt to Change

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	55.89	1.60	53.80	1.07
Cohort	54.65	2.34	56.87	2.28
Goal			57	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

this goal will first introduce a metric from the literature that makes use of these two questions, and it will then expand the measure to include the bounce-back question the way WWP's goal reads.

The adaptability and bounce-back questions make up a resilience scale often used in the literature, called the Connor-Davidson Resilience Scale, two-item version (CD-RISC2). Scoring for the CD-RISC2 is as follows:

- not at all = 0
- rarely true = 1
- sometimes true = 2
- often true = 3
- nearly all of the time = 4.

The two questions are scored separately and then summed together, for a total ranging from zero to eight. CD-RISC2 scores are found to be 6.91 in the general population, 5.12 in the population of patients exhibiting symptoms of depression, and 4.7 among patients with PTSD (see Vaishnavi, Connor, and Davidson, 2007).

WWP's stated goal includes both the adaptability and bounce-back questions, but the numbers highlighted in Table 3.12 include only the former. Therefore, in addition to analyzing the CD-RISC2 measure, we recalculate WWP's stated goal to include both questions. We create a 0/1 indicator variable that takes on a value of 1 if the respondent indicates that he or she is able to adapt *or* bounce back often or nearly all of the time, or 0 otherwise.

We note that both metrics (CD-RISC2 and WWP's 0/1 indicator) take into account both questions, so we might expect the results to be similar. The difference between the two is that the CD-RISC2 more granularly measures the variation in each outcome, applying more weight to those responses that indicate that the individual more frequently adapts or bounces back.

Table 3.13 and Table A.4 in the appendix report differences across demographic groups in both the WWP metric and the CD-RISC2. The first row of Table 3.13 indicates that WWP's goal of 57 percent of respondents being able to adapt *or* bounce back is being met in 2011.

The 2010 respondents reveal differences only between those who are never married and married or divorced, with never-married respondents being more resilient, regardless of whether the metric considered is an indicator variable (first two columns) or the CD-RISC2. The differences across all marital-status groups were statistically significant in 2011, with the excep-

Table 3.13
Percentage of Respondents, by Demographic Characteristic, Who Reported Being Able to Adapt to Changes or Bounce Back from Illness, Injury, or Hardship

Response	Ability to Adapt or Bounce Back (0/1; WWP metric)				CD-RISC2 (0–8)			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Adaptability or ability to bounce back (resiliency)/CD-RISC2	56.74	1.48	59.47	1.02	5.31	0.06	5.17	0.04
Marital status								
Married	54.76 ^c	1.90	59.66 ^{a, b, c}	1.28	5.23 ^c	0.08	5.14 ^{a, b, c}	0.05
Divorced	53.85 ^e	3.99	53.20 ^e	2.69	4.99 ^e	0.17	4.89 ^e	0.11
Separated	60.00	8.28	41.76 ^f	5.17	4.81 ^f	0.36	4.49 ^f	0.23
Never married	64.85	3.09	68.04	2.37	5.88	0.12	5.68	0.10
Gender								
Male	57.54	1.53	60.53 ^g	1.07	5.34 ^g	0.07	5.24 ^g	0.04
Female	46.75	5.87	49.14	3.28	4.82	0.22	4.52	0.13
Pay grade								
E-1–E-4	57.14 ⁱ	2.79	58.69 ⁱ	1.90	5.28 ⁱ	0.11	5.06 ⁱ	0.07
E-5–E-9	54.56 ^k	1.93	58.84 ^k	1.32	5.17 ^k	0.08	5.14 ^k	0.05
O-1–O-3	77.27 ^m	5.16	73.15 ^m	4.26	6.21	0.23	5.92 ^m	0.19
O-4–O-6	55.77	6.89	57.58	4.97	5.75	0.34	5.28	0.22
Employment status								
Full time	61.93 ^o	2.27	67.22 ^o	1.51	5.79 ^o	0.09	5.60 ^o	0.06
Part time	62.50	6.47	65.73 ^p	3.97	5.79 ^p	0.22	5.34 ^p	0.16
Unemployed or NILF	52.97	2.06	52.99	1.46	4.91	0.09	4.79	0.06

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^c Statistically significant difference between married and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

^m Statistically significant difference between O-1–O-3 and O-1–O-3 respondents.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

tion of a difference between divorced and separated respondents. In both the 2010 and 2011 surveys, men were more likely than women to score higher on the CD-RISC2, but only in 2010 was the adapt or bounce-back indicator significantly different between men and women. Similarly, both waves of the survey reveal significant differences between O-1–O-3s and the other three groups of respondents, with junior officers being the most likely to report some level of resiliency. Finally, resiliency rates are higher among respondents who are employed full or part time than among those who are unemployed or NILF, though the difference is significant only between those who were unemployed or NILF and those who were part time in the 2010 CD-RISC2.

The results that follow generally show that WWP alumni score between patients in the general population and those suffering from PTSD or depression. Respondents who had never been married, who were officers, or who were employed tended to have the highest CD-RISC2 scores.

The Eight-Item Patient Health Questionnaire

WWP has identified key survey questions that it intends to follow and study over the course of the five-wave survey effort to characterize, describe, and monitor the mental health of its alumni. In addition to the five that we have analyzed in this report, we now turn to a question that is used in the health literature to identify individuals who are suffering from depression.

The WWP survey asks respondents the following question: “In the past two weeks, how often have you been bothered by any of the following problems?” with the following possible answers:

- little interest or pleasure in doing things
- feeling down, depressed, or hopeless
- trouble falling asleep or staying asleep, or sleeping too much
- feeling tired or having little energy
- poor appetite or overeating
- feeling bad about yourself, or that you are a failure or you have let yourself or your family down
- trouble concentrating on things, such as reading the newspaper or watching television
- moving or speaking so slowly that other people could have noticed, or the opposite—being so fidgety or restless that you have been moving around a lot more than usual.

Respondents are provided with four options:

- not at all
- several days
- more than half the days
- nearly every day.

Each of the eight questions is scored from 0 (not at all) to 3 (nearly every day), and the eight scores are summed to create an overall scale that ranges from 0 to 24. Scores are characterized as follows:

- 0–4: no significant depressive symptoms
- 5–9: mild depression
- 10–14: moderate depression
- 15–19: moderately severe depression
- 20–24: severe depression.

To frame the analysis for the Eight-Item Patient Health Questionnaire (PHQ-8), we first present the distribution of depression levels, as shown in Table 3.14.

Regardless of the year or sample of respondents, the range of depressive symptoms is quite evenly spread out. Most notably, however, is the large percentage of individuals with moderate, moderately severe, or severe depression. Past studies have used a cutoff score of 10 or more to indicate probable depression and have found that rates among veterans are on the order of 15 percent.¹³ The WWP surveys suggest that approximately 60 percent of alumni screen positive for probable depression (see Table 3.15), a rate far in excess of those found in other studies. This is perhaps due to the fact that other studies make use of surveys of veterans, in general, but the sole criterion for membership in WWP is proof of a service-connected disability that occurred after 9/11. Therefore, WWP alumni are, by definition, more likely than the general veteran population to be facing physical or emotional limitations, possibly including depression.¹⁴ That the rate is so high among alumni suggests that this ought to be an outcome WWP monitors in future survey waves, and, more importantly, it may be an area toward which WWP targets some of its funding and future programming.

Table 3.14
Percentage of Respondents with Different Levels of Depressive Symptoms

Response	Full Sets of Responses		Cohort	
	Baseline (wave 1)	2011 (wave 2)	Baseline (wave 1)	2011 (wave 2)
No significant depressive symptoms	28.19	22.15	24.65	21.84
Mild depression	17.22	18.56	15.83	19.64
Moderate depression	21.05	21.32	24.85	23.45
Moderately severe depression	16.95	19.33	17.84	18.84
Severe depression	16.59	18.64	16.83	16.23

¹³ See Kroenke, Spitzer, and Williams, 2001. Schell and Marshall (2008) also makes use of a ten-point cutoff.

¹⁴ We note that Schell and Marshall (2008), whose study population was not limited to those with a service-connected disability, did conclude that exposure to trauma remained the most important predictor of major depression. For instance, a respondent who experienced five traumas (such as having a friend who was seriously wounded or killed, or having a blow to the head from any accident or injury) is at more than four times the risk for depression that an observationally equivalent individual has. Therefore, it is not surprising that limiting the analysis to individuals whose service-connected disability may be correlated with trauma experienced while deployed produces rates of depression that are much higher than those seen in other studies.

Table 3.15
Percentage of Respondents Who Screened Positive for Probable Depression

Respondent	Full Sets of Responses				Cohort			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	60.06 ^{a, b}	1.97	61.29 ^{a, b, c}	1.30	64.50	2.73	61.38	2.66
Divorced	68.97 ^e	3.84	74.30 ^e	2.43	73.33 ^e	5.71	71.19 ^e	5.90
Separated	81.82 ^f	6.71	75.86 ^f	4.59	81.82	11.63	75.00	12.50
Never married	54.15	3.48	54.29	2.62	54.12	5.40	50.00	5.89
Gender								
Male	59.72 ^g	1.60	61.90	1.10	63.32	2.33	60.91	2.33
Female	77.61	5.09	68.44	3.10	73.53	7.57	63.89	8.01
Pay grade								
E-1–E-4	64.06 ^{i, j}	2.86	68.20 ^{h, i, j}	1.85	68.10	4.33	73.33 ^{h, i}	4.04
E-5–E-9	62.29 ^k	1.98	61.90 ^k	1.33	65.08	2.78	57.84	2.82
O-1–O-3	45.31	6.22	48.04	4.94	53.85	9.78	50.00	10.21
O-4–O-6	47.73	7.53	52.63	5.12	50.00	11.18	56.52	10.34
Employment status								
Full time	47.24 ^o	2.50	50.87 ^{n, o}	1.65	52.63 ^o	3.62	45.70 ^{n, o}	3.65
Part time	51.06 ^p	7.29	61.59 ^p	4.14	44.44 ^p	11.71	68.75	8.19
Unemployed or NILF	71.51	1.92	72.33	1.33	74.31	2.75	71.04	2.82

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^c Statistically significant difference between married and never-married respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

^h Statistically significant difference between E-1–E-4 and E-5–E-9 respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents.

^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

ⁿ Statistically significant difference between respondents who were employed full time and those who were employed part time.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

For this analysis, wherein we again consider whether differences exist across subgroups of the population, within a particular wave, we follow the convention of Kroenke, Spitzer, and Williams (2001) and use a cutoff score of 10 to indicate probable depression.

Statistically significant differences emerge among the full sets of respondents between marital-status groups. Specifically, never-married respondents are least likely to screen for depression, followed by married individuals, who are also significantly less likely to suffer from depression than are divorced and separated respondents. In the 2010 survey, females were more likely to experience depressive symptoms than were males. Enlisted respondents are more likely than officers to suffer from depression, and individuals who are unemployed or NILF are more likely than those who are employed.

Summary

We explored five of the seven strategic objectives pertaining to mental health and resiliency:

- the percentage of alumni who visit a health care professional for help with emotional issues
- the percentage of alumni who talk with other OEF or OIF vets as a way of coping with feelings of stress or emotional and mental health outcomes
- the percentage of alumni whose emotional problems have interfered with work or other regular activities
- the percentage of alumni who are unable to escape the memories or effects of an upsetting military experience
- the percentage of alumni who are able to adapt to change or bounce back after experiencing illness, injury, or hardship.

The first and third goals we consider produce nearly identical patterns in the results. Specifically, never-married respondents, men, and employed individuals are less likely than currently or ever-married individuals, women, and unemployed or NILF respondents, respectively, to have problems and seek care. With regard to those who do not seek help from a health care professional for their emotional issues, the reasons cited were, most commonly, inconsistent treatment, concern about future career plans being jeopardized, feeling weak or worried about being stigmatized by friends and family, and not being comfortable with existing resources.

Although the fifth objective, the percentage of alumni who are able to adapt to change or bounce back after an illness, injury, or hardship, is less similar to the previous two, the results mirror those described above.

There were no obvious consistent or significant differences across marital, gender, or pay-grade groups in which respondents talked with other OEF or OIF veterans as a way of coping with emotional or mental health concerns. However, when considering more broadly the full spectrum of resources that are being used, respondents indicated that they made use of two, on average, with VA medical centers and prescription medications being the most common. In addition, 15 to 20 percent of respondents reported using WWP Connect.

Finally, the survey results indicate that married and never-married respondents are less likely than divorced or separated individuals to have difficulty escaping the memories or effects of an upsetting, horrible, or frightening military experience. Similarly, within the category of enlisted or officer, junior respondents are more likely to indicate difficulties escaping the experience.

To compress the results further, the first two waves of the WWP surveys indicate that never having been married, being male, and being employed are the characteristics most highly correlated with positive or good mental health and resiliency. On the other hand, individuals who have experienced a divorce or separation, women, and those who are unemployed or NILF more frequently indicated mental health or emotional concerns and reduced access to care.

Ensure That Wounded Warriors Are Well-Adjusted in Body

Strategic objective 2b: Decrease the percentage of alumni who report that physical health problems have interfered with work or regular activities in the past four weeks.

This strategic objective is based on a question that more generally asks about problems with work or other regular daily activities as a result of the respondent's physical health and is very similar in nature to objective 1d, which considered the same effects as a result of emotional problems. Specifically, it asks, "During the *past 4 weeks*, have you had any of the following problems with your work or other regular daily activities *as a result of your physical health?*" Possible responses are

- cut down the amount of time you spent on work or other activities
- accomplished less than you would like
- were limited in the kind of work you do or other activities
- had difficulty performing the work you do or other activities (for example, it took extra effort).

The fourth option is the one on which WWP is focused for strategic objective 2b, and Table 3.16 summarizes the overall results.

The 2011 results meet WWP's goal of 64 percent in the full sets of responses (in the case of the cohort, the goal is nearly met).

Like strategic objective 1b, this question derives from the RAND VR-36, questions 13–16. In Table 3.17 and in Table A.5 in the appendix, we consider how WWP's measure of the effects of physical health problems, as well as the VR-36 metric, differ across marital status, gender, rank, and employment groups.

Table 3.16
Percentage of and Wounded Warrior Project Goal for Survey Respondents Whose Physical Health Problems Had Interfered with Work or Regular Activities in the Past Four Weeks

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	65.77	1.47	64.52	1.02
Cohort	67.92	2.13	63.75	2.19
Goal			64	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

Table 3.17
Percentage of Respondents, by Demographic Characteristic, Whose Physical Health Problems Interfered with Work or Regular Activities

Respondent	Difficulty Performing Work or Other Activities				Role-Physical (normed)			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	67.77 ^c	1.85	67.76 ^c	1.24	36.98 ^c	0.50	36.42 ^c	0.32
Divorced	68.24 ^e	3.83	63.78 ^e	2.67	35.88 ^e	0.96	37.27 ^{d, e}	0.68
Separated	76.47 ^f	7.27	70.93 ^f	4.90	33.78 ^f	1.93	34.08 ^f	1.22
Never married	57.01	3.33	51.23	2.62	39.39	0.84	41.11	0.67
Gender								
Male	65.68	1.52	63.92	1.08	37.39	0.40	37.44 ^g	0.28
Female	67.65	5.67	70.09	3.06	34.75	1.40	35.43	0.80
Pay grade								
E-1-E-4	63.23	2.83	59.72 ^h	1.94	38.29 ^h	0.74	38.82 ^{h, j}	0.50
E-5-E-9	67.73 ^k	1.87	66.72	1.29	36.56 ^k	0.49	36.47 ^k	0.33
O-1-O-3	55.38	6.17	62.50	4.75	40.34	1.64	39.14	1.28
O-4-O-6	66.67	6.80	64.58	4.88	36.22	1.82	36.01	1.30
Employment status								
Full time	53.99 ^o	2.41	56.25 ^o	1.63	40.79 ^o	0.61	40.01 ^o	0.41
Part time	56.86 ^p	6.94	57.86 ^p	4.17	39.18 ^p	1.81	38.81 ^p	1.11
Unemployed or NILF	75.13	1.83	72.28	1.33	34.47	0.49	34.74	0.34

^c Statistically significant difference between married and never-married respondents.

^d Statistically significant difference between divorced and separated respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

^h Statistically significant difference between E-1-E-4 and E-5-E-9 respondents.

ⁱ Statistically significant difference between E-1-E-4 and O-1-O-3 respondents.

^j Statistically significant difference between E-1-E-4 and O-4-O-6 respondents.

^k Statistically significant difference between E-5-E-9 and O-1-O-3 respondents.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

Almost universally, never-married respondents were less likely than members of other marital-status groups to have difficulty performing work or other daily activities, or to suffer

any of the other mentioned problems, as a result of their physical health. Senior enlisted respondents were more likely to experience problems due to their physical health than were junior officers or junior enlisted. Finally, those respondents who were employed part or full time were less likely than unemployed and NILF respondents to have experienced problems with work or other activities due to their physical health.

Among a similar demographic group of 429 OEF and OIF veterans from the War Related Illness and Injury Study Center (WRIISC) in East Orange, New Jersey, the mean-normed average for the Role–Physical scale was 43.3 (Helmer et al., 2009). Of note in this population is that, although similar in characteristics to the WWP population in terms of age (mean = 33.5, SD = 10.0) and gender (male = 83.9 percent), the majority of participants were unmarried (65.3 percent). Among the WWP population, for participants whose marital status is not married (never married, separated, or divorced), the average Role–Physical mean-normed score is 37.62 for 2010 and 38.74 for 2011. Among the never-married population, the scores are the best within the WWP population.

The WRIISC population includes the first 429 OEF and OIF veterans to complete their survey from 2004 through 2008. The WRIISCs are postdeployment centers whose creation is mandated by Congress. Veterans are referred to the WRIISCs if they have “complex health conditions and no known cause; had many tests and/or treatment with little to no symptom improvement; or possible deployment-related environmental exposures problems or concerns” (see WRIISC, 2012). Although this is not necessarily a wounded-warrior population, it is a population with likely postdeployment health concerns. As a result, the SD within the population Role–Physical mean-normed score is much higher (11.9 versus 0.26) and the veterans in the WRIISC data are, on average, physically healthier according to the Role–Physical health component (43.3 versus 37.24).

Strategic objective 2e: Decrease the percentage of alumni who report they are overweight or obese based on BMI.

WWP survey respondents report both their height and weight, and, using those data, Westat constructed a measure of BMI. Individuals with a BMI in the range of 25–30 are considered overweight, and those with a BMI in excess of 30 are considered obese. WWP compiled the results shown in Table 3.18 based on Westat’s findings.

Table 3.18
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Reported Being Overweight or Obese Based on Body Mass Index

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	40.49	1.57	41.58	1.05
Cohort	43.36	2.31	44.00	2.28
Goal			39	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

NOTE: As explained in more detail later, these figures actually represent only those survey respondents who have a BMI of 30 or more, which is the obese range, not the normal range.

Table 3.19
Percentage of Survey Respondents Who Reported Being
Overweight or Obese Based on Body Mass Index

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	81.59	1.24	83.29	0.80
Cohort	82.14	1.79	83.37	1.71

Table 3.20
Percentage of Respondents, by Demographic Characteristic, Who Reported Being Overweight or
Obese Based on Body Mass Index

Respondent	Obese				Overweight or Obese			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	44.83 ^c	2.03	45.00 ^{a, c}	1.33	85.33 ^c	1.44	86.09 ^{a, c}	0.92
Divorced	41.96 ^e	4.13	36.84	2.68	82.52 ^e	3.18	79.26	2.26
Separated	37.50	8.56	40.70	5.30	81.25	6.90	88.37 ^f	3.46
Never married	26.87	3.13	32.68	2.48	70.15	3.23	74.86	2.29
Gender								
Male	41.95 ^g	1.63	42.39 ^g	1.12	83.13 ^g	1.24	85.14 ^g	0.81
Female	22.39	5.09	34.38	3.17	61.19	5.95	66.96	3.14
Pay grade								
E-1-E-4	38.15	2.96	42.74 ^{i, j}	1.98	76.67 ^h	2.57	80.06 ^h	1.60
E-5-E-9	43.46 ^k	2.04	42.76 ^{k, l}	1.36	83.70	1.52	84.92	0.98
O-1-O-3	26.56	5.52	28.71	4.50	84.38	4.54	82.18	3.81
O-4-O-6	40.91	7.41	29.47	4.68	79.55	6.08	81.05	4.02

^a Statistically significant difference between married and divorced respondents.

^c Statistically significant difference between married and never-married respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

^h Statistically significant difference between E-1-E-4 and E-5-E-9 respondents.

ⁱ Statistically significant difference between E-1-E-4 and O-1-O-3 respondents.

^j Statistically significant difference between E-1-E-4 and O-4-O-6 respondents.

^k Statistically significant difference between E-5-E-9 and O-1-O-3 respondents.

^l Statistically significant difference between E-5-E-9 and O-4-O-6 respondents.

Although WWP's strategic objective describes the percentage of respondents who are overweight or obese, the figures shown in Table 3.18 include only those individuals whose

BMI's are in the 30-or-more range. Therefore, approximately 40 percent of all respondents are obese, and the 2011 percentage remains higher than WWP's goal of 39 percent. By comparison, 35.7 percent of all U.S. adults age 20 years and over are considered obese (Ogden et al., 2012).

Table 3.19 reproduces the 2010 and 2011 overweight *or* obese results for the full sets of responses and the cohort of repeat respondents. When a BMI of 25 or greater is considered, the rate is approximately double the obese-only range. Therefore, in addition to the 40 percent of respondents who are considered obese, roughly the same number of respondents are overweight.

Table 3.20 shows, for the full sets of responses in 2010 and 2011, the percentage of respondents who are obese, by demographic characteristic. In addition, in the far right columns, we show the percentage of respondents who are overweight or obese, as described in the strategic objective. Table A.6 in the appendix presents these measures for the cohort of 499 repeat respondents.

Individuals who are or were married are consistently more likely to be overweight or obese than are never-married respondents. Men are significantly more likely to be overweight or obese than women are, and the difference is as large as 20 percentage points in the full sets of responses. Across rank groups, junior enlisted are generally less likely than more-senior enlisted to be overweight or obese. Where differences exist between enlisted and officers, enlisted respondents are more likely to be overweight or obese than are officers.

Two studies by medical researchers that examined the overweight and obesity rates among veterans who receive care at VA medical facilities provide points of comparison for the results found in the WWP surveys. Das et al. (2005) finds that, among VA patients in 2000, 68.4 percent of all women were at least overweight (overweight or obese), and 37.4 percent were considered obese. Among men, 73 percent were overweight or obese, and 32.9 percent were obese. Similarly, Nelson (2006) utilizes data from the 2003 Behavioral Risk Factor Surveillance System and estimated that, among veterans who used the VA for care, 44.5 percent were overweight and 27.7 percent were obese. Among veterans who received their health care outside of the VA, the overweight and obesity rates were 48.2 and 23.9, respectively. These results suggest that the WWP respondents are not more overweight than other samples of veterans but that the rate of obesity is higher.¹⁵

Summary

With regard to physical health, we examined the following:

- the frequency with which respondents indicated that they had experienced problems with work or other daily activities as a result of their physical health
- the rate of overweight and obesity among survey respondents.

Results indicate that never-married respondents are significantly less likely to have problems with work or other activities as a result of their physical health, and less likely to be over-

¹⁵ The percentage of WWP respondents who are overweight can be computed by subtracting the obesity rates from the columns reporting overweight or obese. Doing so reveals that 41.18 percent of men and 38.8 percent of women were overweight in 2010, and 42.75 percent of men and 32.58 percent of women were overweight in 2011. These rates are lower than those cited above, which means that WWP respondents are less likely to be overweight than the rates presented in other studies but that obesity percentages remain higher among WWP respondents.

weight or obese, than their married or previously married counterparts. Junior enlisted experience more-favorable outcomes in both areas than do more-senior ranks. Finally, women are much less likely to be overweight than men.

Ensure That Wounded Warriors Are Economically Empowered

The third set of strategic objectives defined by WWP involves economic outcomes. Specifically, the organization aims to see improvements across educational, employment, and financial domains. In this section, we focus on four of the seven strategic objectives.

Strategic objective 3a: Increase the percentage of alumni who complete an associate's degree, bachelor's degree, or higher.

Survey respondents were asked to report the highest degree or level of school they had completed, with the following choices:

- less than 12th grade
- regular high school diploma
- GED
- business, technical, or vocational school training leading to a certificate or diploma
- some college credit but less than one year of college credit
- one or more years of college credit but no degree
- associate's degree (e.g., associate of art [A.A.], associate of science [A.S.])
- bachelor's degree (e.g., bachelor of art [B.A.], bachelor of science [B.S.])
- master's degree (e.g., master of art [M.A.], master of science [M.S.], master of engineering [M.Eng.], master of education [M.Ed.], master of social work [M.S.W.], master of business administration [M.B.A.])
- professional or doctorate degree beyond a bachelor's degree (e.g., doctor of medicine [M.D.], doctor of philosophy [Ph.D.], doctor of education [Ed.D.], doctor of dental surgery [D.D.S.], doctor of veterinary medicine [D.V.M.], bachelor of law [LL.B.], doctor of law [J.D.]).

This objective focuses on the last four educational outcomes, and Table 3.21 describes the survey responses and WWP's goals. Among both the full set of responses and those for the cohort of 499 repeat respondents, the goal of 34 percent was met in the 2011 survey.

Table 3.21
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Had Completed an Associate's Degree, Bachelor's Degree, or Higher

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	32.65	1.40	36.02	1.00
Cohort	33.73	2.12	38.23	2.18
Goal			34	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

As with previous analyses, we now consider whether the subsets of the population perform differently with respect to this outcome. As illustrated in Table 3.22, women are significantly more likely to earn an associate's, bachelor's, or higher degree than are men. This is consistent with the general civilian population (see, for instance, Peter, Horn, and Carroll, 2005). Differences in education level across marital-status groups are largely not significant. Because of entrance requirements, it is not surprising that the vast majority of officer respondents reported having completed an associate's degree or higher and at a significantly greater rate than enlisted respondents. Senior enlisted are more likely to have completed one of these degrees than their more junior counterparts, with the difference being 5 to 10 percentage points.

Strategic objective 3b: Increase the percentage of alumni who complete business, technical, or vocational school (certificate or diploma).

Table 3.22
Percentage of Respondents, by Demographic Characteristic, Who Had Completed an Associate's Degree, Bachelor's Degree, or Higher

Respondent	Full Sets of Responses				Cohort			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	34.85	1.82	37.93 ^{a, b}	1.26	36.09 ^a	2.66	40.29	2.64
Divorced	26.92	3.55	32.07	2.52	23.08	5.23	32.79	6.01
Separated	32.35	8.02	23.08 ^f	4.42	27.28	13.43	16.67	10.76
Never married	30.80	3.00	35.05	2.42	34.04	4.89	35.06	5.44
Gender								
Male	31.09 ^g	1.44	34.41 ^g	1.04	32.17 ^g	2.18	37.55	2.26
Female	53.25	5.69	51.08	3.29	51.35	8.22	50.00	8.33
Pay grade								
E-1-E-4	21.34 ^{h, i, j}	2.31	23.03 ^{h, i, j}	1.62	24.39 ^{i, j}	3.87	28.80 ^{i, j}	4.05
E-5-E-9	27.99 ^{k, l}	1.74	33.67 ^{k, l}	1.27	28.30 ^{k, l}	2.53	32.49 ^{k, l}	2.63
O-1-O-3	93.94 ^m	2.94	96.30 ^m	1.82	92.31	5.23	96.00	3.92
O-4-O-6	80.77	5.47	86.87	3.39	83.33	7.61	91.67	5.64

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

^h Statistically significant difference between E-1-E-4 and E-5-E-9 respondents.

ⁱ Statistically significant difference between E-1-E-4 and O-1-O-3 respondents.

^j Statistically significant difference between E-1-E-4 and O-4-O-6 respondents.

^k Statistically significant difference between E-5-E-9 and O-1-O-3 respondents.

^l Statistically significant difference between E-5-E-9 and O-4-O-6 respondents.

^m Statistically significant difference between O-1-O-3 and O-4-O-6 respondents.

Strategic objective 3b focuses on those who have earned business, technical, or vocational school training leading to a certificate or diploma. As reported in Table 3.23, 3–4 percent of all survey respondents have achieved a certificate or diploma from a business, technical, or vocational school. The differences across the 2010 and 2011 surveys are not significant for either the full sets of responses or the cohort.

For the remainder of the analysis on this particular strategic objective, we modify the way the outcome is measured. Specifically, we reconstruct the denominator so as to include only those respondents who completed a business, technical, or vocational degree or a lower degree (less than 12th grade, regular high school diploma, or GED). The motivation for this is that an increase in the desired percentage might result from fewer alumni achieving higher degrees (some college and above). For instance, an increase in this measure might come at the cost of fewer alumni earning a bachelor's degree. Therefore, it seems that the goal would be for those individuals completing less than 12th grade, earning a regular high school diploma, or earning a GED to complete more schooling and earn a certificate or diploma from a business, technical, or vocational school. Further, we restrict the results to enlisted respondents. Though Table 3.22 shows that some officers who responded to the survey indicate having less than an associate's degree, educational requirements for being an officer in the U.S. military make this analysis relevant for only enlisted respondents. We reconstruct the results from Table 3.23, using only the first four educational outcomes and restricting the sample to enlisted respondents, and present the percentages in Table 3.24.

When only the lowest four levels of education are included in the denominator, the surveys indicate that 15 to 20 percent of all enlisted respondents have earned a business, technical, or vocational degree. The differences are not significant, but both the full sets of responses and the subset of repeat respondents show an increase in the percentage between 2010 and 2011.

Although there are noticeable differences in magnitude across some comparison groups, sometimes as much as 10 percentage points, none of the results in this analysis is statistically significant or consistent across years or sample files (full sets of results or the cohort results).

WWP has expressed an interest in the outcomes associated with participation in the VA's Vocational Rehabilitation and Employment (VR&E) program and the Post 9-11 GI Bill. Specifically, it is interested in whether individuals who enroll in these programs see improved levels of education. In order to estimate this result, we identify individuals in the cohort of 499 repeat respondents who were enrolled in 2010, but *not* 2011, and compare their education levels across

Table 3.23
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Had Completed Business, Technical, or Vocational School

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	3.40	0.54	4.29	0.42
Cohort	3.81	0.86	3.62	0.84
Goal			3.7	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

Table 3.24
Percentage of Respondents, by Demographic Characteristic, Who Had Completed Business, Technical, or Vocational School

Respondent	Full Sets of Results				Cohort			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Completed business, technical, or vocational school	15.64	2.33	18.80	1.72	16.10	3.38	17.65	3.77
Marital status								
Married	18.18	3.23	19.50	2.20	19.18	4.61	17.65	4.62
Divorced	12.20	5.11	21.62	4.79	9.52	6.41	16.67	10.76
Separated	—		22.22	8.00	—		—	
Never married	9.43	4.02	13.04	3.51	9.52	6.41	19.05	8.57
Gender								
Male	15.81	2.39	18.35	1.76	—		—	
Female	—		27.59	8.30	—		—	
Pay grade								
E-1–E-4	13.27	3.43	17.78	2.55	9.76	4.63	18.75	6.90
E-5–E-9	17.24	3.14	19.59	2.33	19.48	4.51	17.14	4.50

NOTE: There are no statistically significant differences between marital-status, gender, or pay-grade subgroups with regard to this outcome. — indicates that there were too few respondents to reliably report results.

the two survey waves. Respondents are asked, “Which of the following VA or government benefits are you using to pursue your education?” with the following options:

- military Tuition Assistance (TA) program
- VR&E
- Post 9-11 GI Bill (also known as the New GI Bill)
- Montgomery GI Bill (response added in 2011)
- Federal Pell Grant Program
- I am not currently using any VA or government educational benefits.
- I am unaware of government or VA benefits that are available to assist me with my education.

There are 57 individuals who were enrolled in VR&E in 2010, and the Post 9-11 GI Bill is the only benefit that is more frequently used (by 64 respondents in 2010).¹⁶ Results are in Table 3.25.

¹⁶ By comparison, 13 respondents were using the military TA program in 2010, and 19 were using the Federal Pell Grant Program.

Table 3.25
Number and Percentage of Respondents Who Achieved More
Education While Using the Vocational Rehabilitation and
Employment Program or Post-9/11 GI Bill

Respondent	VR&E	Post 9-11 GI Bill
Enrolled in 2010	57	64
Enrolled in 2010 and not in 2011	21	32
Enrolled in 2010, not in 2011, and improved educational outcome	11 (52.38%)	11 (34.38%)

Among the 57 VR&E program participants in 2010, 21 were disenrolled by 2011. Further, approximately one-half (11 respondents, or 52.38 percent) of those 21 individuals reported having completed more schooling in the 2011 survey than they did in 2010. Of the 64 respondents who were using the Post 9-11 GI Bill in 2010, 32 were no longer collecting benefits in 2011. By the second wave of the survey, 34.38 percent reported a higher level of education than they had one year earlier. Although these results may suggest that the existence of the VR&E program and Post 9-11 GI Bill cause respondents to obtain more education, we again caution that causal inferences should not be made. Perhaps those respondents whose education level increased were already enrolled in school, or were planning to enroll, regardless of the receipt of benefits. We simply note that there is a relationship between enrollment in these programs and attainment of additional education.

Strategic objective 3c: Increase the percentage of alumni employed full time or part time or self-employed.

This strategic objective relies on responses to two questions in the WWP surveys. First, respondents are asked, “Are you currently employed in paid work, either full time or part time?” to which they may respond using these options:

- yes, full time
- yes, part time
- no.

Those who answer “no” then proceed to a series of questions about whether they have been looking for work (and, if not, why not), for how long, and whether they would be able to work if offered a job. Those who that they are currently employed are taken directly to a question that asks, “Are you self-employed?” Therefore, self-employment and full- and part-time employment are not mutually exclusive. Rather, anyone who is self-employed will also appear in the full- and part-time employment numbers.

Tables 3.26–3.28 detail the overall full-time, part-time, and self-employment results compiled by WWP for both the full sets of responses from the 2010 and 2011 surveys, as well as the cohort of repeat respondents.

With the exception of only the percentage of repeat respondents who are employed full time, the percentage of respondents who are employed full time, part time, or self-employed increased between 2010 and 2011. The only significant difference is among the cohort of part-time workers. The full-time goals were not yet being met at the time of the 2011 survey, though part-time and self-employment goals were.

Table 3.26
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Were Employed Full Time

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	41.47	1.48	42.49	1.03
Cohort	41.90	2.22	38.74	2.19
Goal			43	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

Table 3.27
Percentage of and Wounded Warrior Project Goals for Survey Respondents Who Were Employed Part Time

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	5.08	0.66	6.26	0.51
Cohort	3.85	0.87	6.69	1.13
Goal			5.5	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

Table 3.28
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Were Self-Employed

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	5.22	1.00	5.62	0.69
Cohort	3.14	1.17	5.83	1.57
Goal			5.2	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

Table 3.29 and Table A.7 in the appendix contain employment percentages for marital status, gender, and rank groups for the full sets of responses and the cohort, respectively. Married respondents are more likely than members of other groups to be employed full time but less likely than never-married individuals to be employed part time. Differences do not exist between men and women in the level or type of employment. Enlisted respondents are significantly less likely to be employed full time than are officers. Senior enlisted and junior officers are more likely to be working full time than are their junior and senior counterparts, respectively. Differences across groups in the percentage of individuals who are self-employed are generally not significant.

Table 3.29
Percentage of Respondents, by Demographic Characteristic, Who Were Employed Full Time or Part Time or Self-Employed

Respondent	Full Time				Part Time				Self-Employed			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error
Marital status												
Married	45.60 ^{b, c}	1.92	47.14 ^{a, b, c}	1.30	3.87 ^c	0.75	4.71 ^{a, c}	0.55	4.36	1.14	5.58	0.84
Divorced	38.06	3.90	32.15	2.54	3.23 ^e	1.42	7.37	1.42	3.17	2.21	3.76	1.65
Separated	26.47	7.57	25.29 ^f	4.66	2.94	2.90	8.05	2.92	—		6.90	4.71
Never married	34.19	3.10	37.14	2.46	9.83	1.95	10.91	1.59	9.00	2.86	6.56	1.83
Gender												
Male	41.23	1.54	43.01	1.09	5.26	0.70	6.01	0.53	5.38	1.05	5.74	0.74
Female	45.21	5.83	38.70	3.39	2.74	1.91	8.26	1.82	3.13	3.08	4.63	2.02
Pay grade												
E-1–E-4	31.31 ^{h, i, j}	2.62	31.93 ^{h, i, j}	1.81	5.11	1.24	8.43 ^{h, j}	1.08	7.20	2.45	7.89	1.65
E-5–E-9	42.27 ^k	1.93	44.02 ^{k, l}	1.34	5.36	0.88	5.58	0.62	4.97	1.25	4.87	0.83
O-1–O-3	66.67	5.80	72.22 ^m	4.31	1.52	1.50	5.56	2.20	2.22	2.20	3.61	2.05
O-4–O-6	53.85	6.91	55.67	5.04	3.85	2.67	2.06	1.44	6.90	4.71	8.93	3.81

^a Statistically significant difference between married and divorced respondents. ^b Statistically significant difference between married and separated respondents. ^c Statistically significant difference between married and never-married respondents. ^e Statistically significant difference between divorced and never-married respondents. ^f Statistically significant difference between separated and never-married respondents. ^h Statistically significant difference between E-1–E-4 and E-5–E-9 respondents. ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents. ^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents. ^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents. ^m Statistically significant difference between O-1–O-3 and O-4–O-6 respondents.

NOTE: — indicates that there were too few observations to present reliable results.

The data in Tables 3.26–3.29 allow WWP to gauge the labor-market success of its alumni, but what may be more relevant from a policy perspective is targeting employment assistance programs toward those who are unemployed or perhaps out of the labor force but interested in working.¹⁷ Table 3.1 showed that approximately half of all WWP survey respondents were either unemployed or NILF and that the unemployment rate was roughly 20 percent. Using the 2011 full set of responses, which included a question on whether the individual had actively searched for work in the previous four weeks, we compute the unemployment rate for the same subsets of the population we have considered up to this point. The results are presented in Table 3.30.

Table 3.30
Percentage of Respondents, by Demographic Characteristic,
Who Were Unemployed in 2011

Respondent	Percentage		Number
	Value	Standard Error	
Marital status			
Married	16.94 ^{a, b, c}	1.24	915
Divorced	33.33	3.33	201
Separated	39.58	7.06	48
Never married	26.29	2.78	251
Gender			
Male	21.88	1.15	1,284
Female	18.18	3.36	132
Pay grade			
E-1–E-4	31.63 ^{h, i, j}	2.35	392
E-5–E-9	19.43	1.36	849
O-1–O-3	11.58	3.28	95
O-4–O-6	9.68	3.75	62

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^c Statistically significant difference between married and never-married respondents.

^h Statistically significant difference between E-1–E-4 and E-5–E-9 respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents.

^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

¹⁷ Using the survey questions, we are unable to identify individuals who are not in the labor force (i.e., not actively searching for work in the past four weeks) but would like to be working (and are not because, for example, they are discouraged from searching).

These results are consistent with those in Tables 3.26–3.29, in which married respondents have the most-favorable employment outcomes, gender differences do not exist, and officers are much less likely to be unemployed than are enlisted (with junior enlisted experiencing a significantly higher rate of unemployment than senior enlisted).

In July 2010, the CPS, a monthly survey of 60,000 households in the United States that is conducted by BLS, contained a set of supplemental questions aimed at understanding the employment situation of veterans. These survey results provide a rich source of comparison data for those obtained in this section of analysis.¹⁸

The veterans' supplement found that, among Gulf War II-era veterans, the overall unemployment rate was 11.5 percent (11.4 percent for men and 12.0 percent for women) at the time of the survey. Rates were considerably higher among young veterans, especially in the 18- to 24-year-old range, in which unemployment figures are similar to those found in the WWP surveys, but a tabulation of age among WWP respondents reveals that only 3.23 percent are 24 years of age or younger. Therefore, the unemployment rate among WWP survey respondents is considerably higher than that of the sample of veterans in the CPS.¹⁹

Strategic objective 3e: Increase the percentage of alumni who own a home (with or without a mortgage).

The final strategic objective we consider pertaining to employment and financial outcomes is home ownership. Respondents are asked to describe their living situation in the following question: “Which one of the following best describes your current living arrangement?” Available responses are as follows:

- live in military housing
- rent my home
- own my home, with an outstanding mortgage
- own my home, with no mortgage balance
- occupy dwelling with no payment of cash rent
- I live in transitional housing (i.e., temporary housing to help with the transition from homelessness to permanent housing)
- I live in Section 8 or other subsidized housing
- I live in a supported housing program (i.e., housing for individuals with disabilities, mental health problems, or other special needs)
- I live in an assisted-living facility or nursing home
- I am homeless or living in a shelter.

In order to measure strategic objective 3e, the third and fourth selections are combined to represent those respondents who own a home, regardless of the existence of a mortgage. Table 3.31 summarizes the overall results for the full sets of responses and the cohort of repeat respondents. In both cases, the rate of home ownership is meeting WWP's goal.

¹⁸ The full news release can be found at BLS (2012).

¹⁹ We caution again that, without information on the database of WWP alumni, we cannot be sure that the respondents are representative of the population of alumni. For instance, it might be the case that unemployed alumni have extra time (relative to those alumni who are working) to do all activities, including completing surveys. Therefore, if unemployed alumni are overrepresented in the subset of respondents, the unemployment rate will necessarily be biased upward.

Table 3.31
Percentage of and Wounded Warrior Project Goal for Survey Respondents Who Owned a Home

Respondent	Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error
Overall	54.75	1.52	55.98	1.05
Cohort	59.59	2.23	65.23	2.16
Goal			55	

SOURCE: Overall and cohort percentages were computed by Westat and compiled by WWP as it determined objectives and goals for its alumni.

Table 3.32 contains home-ownership outcomes across marital status, gender, pay grade, and employment groups. Married respondents were significantly more likely to own a home than are members of any other group, and those who had never been married were much less likely to own a home than those who were married or divorced. Gender differences exist only in 2011 among the full set of responses, with men more likely to own a home than women.

Across pay-grade groups, officers and senior enlisted are more likely to own homes than are junior enlisted, and officers in 2011, among the full set of respondents, are more likely to own than are senior enlisted.

The only differences that exist across employment-status outcomes are in 2011 among the full sets of responses. Full-time workers were most likely to own a home, followed by unemployed or NILF and, finally, part-time workers.

Summary

We considered four of the seven strategic objectives associated with economic empowerment:

- the percentage of alumni who complete an associate's degree, bachelor's degree, or higher
- the percentage of alumni who complete business, technical, or vocational school
- the percentage of alumni who are employed full time or part time or are self-employed
- the percentage of alumni who own a home.

Married individuals are more likely than members of other groups to have earned an associate's, bachelor's, or higher degree. As is a well-established result in the civilian literature, women are more likely than men to have a college education. Finally, and not surprisingly, rank is highly correlated with this outcome: Nearly all officers report having one of these higher degrees. With the exception of the gender outcome, these results also hold for the third objective, the percentage of individuals who are employed (specifically, employed full time). Similar to what we found for the education outcomes, enlisted respondents face the highest rates of unemployment, and married individuals, who are most likely to have full-time employment, face unemployment rates that are approximately half those faced by members of other marital-status groups.

At the opposite end of the educational spectrum, we observed no significant differences across marital, gender, or pay-grade groups, perhaps due in part to the small sample sizes. However, we do recommend that, with regard to this strategic objective, WWP modify its cal-

Table 3.32
Percentage of Respondents, by Demographic Characteristic, Who Owned a Home

Respondent	Full Sets of Responses				Cohort			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	69.56 ^{a, c}	1.80	68.30 ^{a, b, c}	1.22	74.53 ^{a, b, c}	2.44	76.76 ^{a, b, c}	2.29
Divorced	42.76 ^{d, e}	4.01	38.84 ^e	2.70	48.44 ^e	6.25	51.72 ^e	6.56
Separated	26.47	7.57	34.48	5.10	27.27	13.43	33.33	13.61
Never married	23.66	2.84	27.37	2.32	19.78	4.18	27.03	5.16
Gender								
Male	55.04	1.57	56.91 ^g	1.11	59.82	2.32	66.37	2.24
Female	48.57	5.97	47.83	3.29	54.29	8.42	51.35	8.22
Pay grade								
E-1–E-4	39.53 ^{h, i, j}	2.82	37.04 ^{h, i, j}	1.90	43.33 ^{h, i, j}	4.52	47.97 ^{h, i, j}	4.50
E-5–E-9	59.22	1.94	61.35 ^{k, l}	1.32	63.43	2.74	68.61	2.64
O-1–O-3	63.08	5.99	73.58	4.28	69.23	9.05	80.00	8.00
O-4–O-6	68.63	6.50	79.38	4.11	69.57	9.59	86.96	7.02
Employment status								
Full time	56.16	2.37	62.63 ^{n, o}	1.58	60.40	3.44	70.16	3.31
Part time	44.23	6.89	41.84 ^p	4.15	38.89	11.49	56.25	8.77
Unemployed or NILF	54.62	2.08	52.14	1.48	60.31	3.02	62.45	3.00

^a Statistically significant difference between married and divorced respondents.

^b Statistically significant difference between married and separated respondents.

^c Statistically significant difference between married and never-married respondents.

^d Statistically significant difference between divorced and separated respondents.

^e Statistically significant difference between divorced and never-married respondents.

^g Statistically significant difference between male and female respondents.

^h Statistically significant difference between E-1–E-4 and E-5–E-9 respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents.

^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

^l Statistically significant difference between E-5–E-9 and O-4–O-6 respondents.

ⁿ Statistically significant difference between respondents who were employed full time and those who were employed part time.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

culations to include as a base only those individuals with less than a high school diploma, those with a high school diploma or GED, and those with a business, technical, or vocational degree.

Home ownership is most frequently enjoyed by married respondents, with never-married individuals least likely to own a home. In the 2011 survey, a gender difference existed, with more men owning their residences than women. A greater percentage of officers than enlisted owned homes, and, within the category of enlisted, more-senior ranks were more likely to own. Finally, individuals who worked part time were significantly less likely than full-time or unemployed respondents to own a home.

For future work with WWP, we intend to examine strategic objective 3f, which pertains to debt, but unresolved data issues prevented us from analyzing that outcome in this report.

Conclusion

This report takes an in-depth approach to the issues of mental health and resiliency, employment and financial outcomes, and physical health among WWP alumni. Specifically, we focus on a subset of survey questions highlighted by WWP as important goals that the organization has set for future waves of the data-collection effort. For each question, we consider the possibility that certain subsets of the alumnus population, as defined by marital status, gender, pay grade, and employment status, may experience different outcomes. In addition, where WWP has focused on a very specific response option, we broaden the definition to consider whether individuals are making use of different mechanisms to help them cope or whether they are indicating in some other way that they are experiencing difficulties.

We find consistencies in some subgroups of respondents across WWP's strategic domains. Specifically, individuals who have never been married, who are male, who are employed, and who are in higher ranks enjoy better mental health outcomes. On the other hand, women and junior ranks (where rank is likely proxying for age) report more favorably on their physical health. Finally, married respondents and officers are more likely to have higher levels of education, be employed, and own homes. Therefore, to the extent that WWP targets its programs toward certain subsets of the alumnus population, it is important to treat mental health, physical health, and employment outcomes separately and focus on wounded warriors who are most at risk within a specific domain.

Overall, the majority of WWP's goals between the first two waves of the survey are being met. However, strategic objective 1g, the ability of respondents to adapt or bounce back when faced with changes, injury, illness, or hardship, is falling short of WWP's goal, especially among the full set of respondents. Similarly, the percentage of individuals who are overweight or obese is higher than the goal WWP has established. We find higher rates of screening positive for PTSD and especially depression among WWP than do other studies. These results may be due in part to the fact that WWP alumni, by definition, have experienced a service-connected disability. We recommend that WWP consider adding to its strategic objectives the PHQ-8 metric focusing on symptoms of depression. Further, some of WWP's survey questions were derived from other instruments for the purposes of comparison (e.g., deployment combat exposure, alcohol use, smoking prevalence, sleep adequacy), so future revisions to the strategic objectives may include those questions.

Tables 4.1–4.4 summarize the results of the analyses in this report. For the full sets of responses and the cohort of 499 repeat respondents, for 2010 and 2011, we provide an indicator of whether or not the difference between two groups is statistically significant. Cells with a > indicate that the difference in the outcome between the two groups is statistically significant, with the outcome being greater for the first group. In other words, a > in the married/divorced

Table 4.1
2010 Statistically Significant Differences Across Subgroups: Full Sets of Responses

	Objective 1: Mind and Spirit					Objective 2: Body		Objective 3: Economically Empowered												
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e									
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	VR-36 Role–Emotional	Thought About Upsetting Experience	Probable PTSD	Adapt or Bounce Back	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role–Physical	Obese	Overweight or Obese	Associate’s Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home	
Respondent																				
Marital status																				
Married/divorced	>			>	>				>											>
Married/separated	>			>					>							>				
Married/single		>					>	>		>	>	>	>			>	>			>
Divorced/separated		>																		>
Divorced/single	>	>		>	>	>	>	>	>	>	>	>	>				>			>
Separated/single	>			>				>	>	>	>									
Male/female	>	>	>	>				>	>			>	>	>						
Pay grade																				
E-1–E-4/E-5–E-9											>		>			>				>
E-1–E-4/O-1–O-3							>	>	>							>				>

Table 4.1—Continued

	Objective 1: Mind and Spirit					Objective 2: Body			Objective 3: Economically Empowered											
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e									
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	VR-36 Role-Emotional	Thought About Upsetting Experience	Probable PTSD	Adapt or Bounce Back	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role-Physical	Obese	Overweight or Obese	Associate's Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home	
Respondent																				
E-1-E-4/O-4-O-6									>					>						>
E-5-E-9/O-1-O-3							>	>	>	>	>	>		>						
E-5-E-9/O-4-O-6														>						
O-1-O-3/O-4-O-6							>							>						
Employment status																				
Full time/part time		—	>		—	—						—	—	—		—	—	—	—	—
Full time/unemployed or NILF	>	—	>	>	—	—	>	>	>	>	>	—	—	—	—	—	—	—	—	—
Part time/unemployed or NILF		—		>	—	—		>	>	>	>	—	—	—		—	—	—	—	—

> = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the first group.
 < = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the second group.
 — = We did not compare the outcome between these groups (i.e., not applicable).

Table 4.2
2011 Statistically Significant Differences Across Subgroups: Full Sets of Responses

	Objective 1: Mind and Spirit					Objective 2: Body		Objective 3: Economically Empowered												
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e									
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	VR-36 Role–Emotional	Thought About Upsetting Experience	Probable PTSD	Adapt or Bounce Back	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role–Physical	Overweight or Obese	Obese	Associate’s Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home	
Respondent																				
Marital status																				
Married/divorced			√	√	√	√	√	√	√			√	√	√		√	√	√	√	√
Married/separated	√		√	√	√	√	√	√	√			√	√	√		√	√	√	√	√
Married/single	√		√	√	√	√	√	√	√	√	√	√	√			√	√	√	√	√
Divorced/separated	√			√							√									
Divorced/single	√		√	√	√	√	√	√	√	√	√	√	√							√
Separated/single	√		√	√	√	√	√	√	√	√	√	√	√	√		√				
Male/female	√		√	√			√	√			√	√	√	√						√
Pay grade																				
E-1–E-4/E-5–E-9									√	√	√	√		√		√	√	√	√	√
E-1–E-4/O-1–O-3	√		√	√	√	√	√	√	√				√	√		√				√

Table 4.2—Continued

	Objective 1: Mind and Spirit					Objective 2: Body			Objective 3: Economically Empowered											
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e									
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	VR-36 Role–Emotional	Thought About Upsetting Experience	Probable PTSD	Adapt or Bounce Back	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role–Physical	Obese	Overweight or Obese	Associate’s Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home	
Respondent																				
E-1-E-4/O-4-O-6					>	>			>		>	>		>		>	>		>	>
E-5-E-9/O-1-O-3	>		>	>	>	>	>	>	>	>	>	>		>		>	>		>	>
E-5-E-9/O-4-O-6				>	>	>						>		>		>				>
O-1-O-3/O-4-O-6							>	>						>		>				>
Employment status																				
Full time/part time		—	>	>	—	—			>			—	—	—		—	—	—	—	>
Full time/unemployed or NILF	>	—	>	>	—	—	>	>	>	>	>	—	—	—		—	—	—	—	>
Part time/unemployed or NILF	>	—	>	>	—	—	>	>	>	>	>	—	—	—		—	—	—	—	>

> = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the first group.

< = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the second group.

— = We did not compare the outcome between these groups (i.e., not applicable).

Table 4.3
2010 Statistically Significant Differences Across Subgroups: Cohort

	Objective 1: Mind and Spirit					Objective 2: Body		Objective 3: Economically Empowered												
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e									
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	Thought About Upsetting Experience	VR-36 Role–Emotional	Adapt or Bounce Back	Probable PTSD	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role–Physical	Obese	Overweight or Obese	Associate’s Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home	
Respondent																				
Marital status																				
Married/divorced				∨							∧		∧	∧					∧	∧
Married/separated																				∧
Married/single					∨	∨		∨		∧	∨	∧	∧				∨			∧
Divorced/separated				∧																∧
Divorced/single	∨			∧	∧	∧		∧	∧	∧	∨									∧
Separated/single					∨						∨									∧
Male/female	∨											∧	∧	∨						
Pay grade																				
E-1–E-4/E-5–E-9																				∨
E-1–E-4/O-1–O-3								∨						∨		∨				∨

Table 4.3—Continued

	Objective 1: Mind and Spirit					Objective 2: Body		Objective 3: Economically Empowered												
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e									
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	VR-36 Role–Emotional	Thought About Upsetting Experience	Probable PTSD	Adapt or Bounce Back	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role–Physical	Obese	Overweight or Obese	Associate’s Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home	
Respondent																				
	E-1–E-4/O-4–O-6																			
	E-5–E-9/O-1–O-3																			
	E-5–E-9/O-4–O-6																			
	O-1–O-3/O-4–O-6																			
Employment status																				
	Full time/part time																			
	Full time/unemployed or NILF																			
	Part time/unemployed or NILF																			

> = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the first group.
 < = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the second group.
 — = We did not compare the outcome between these groups (i.e., not applicable).

Table 4.4
2011 Statistically Significant Differences Across Subgroups: Cohort

	Objective 1: Mind and Spirit					Objective 2: Body		Objective 3: Economically Empowered												
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e									
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	VR-36 Role–Emotional	Thought About Upsetting Experience	Probable PTSD	Adapt or Bounce Back	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role–Physical	Obese	Overweight or Obese	Associate’s Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home	
Respondent																				
Marital status																				
Married/divorced							∧	∧				∧	∧			∧				∧
Married/separated																				∧
Married/single								∨		∧	∨	∧	∧							∧
Divorced/separated																				∧
Divorced/single							∨	∨	∧		∨	∨	∨							∧
Separated/single	∨							∨			∨	∨	∨							∧
Male/female	∨						∧	∧												∧
Pay grade																				
E-1–E-4/E-5–E-9									∧											∨
E-1–E-4/O-1–O-3								∨	∧					∨		∨				∨

Table 4.4—Continued

	Objective 1: Mind and Spirit					Objective 2: Body		Objective 3: Economically Empowered														
	1a	1b	1d	1e	1g	2b	2d	3a	3b	3c	3e											
	Visit Health Professional	Talk with OIF/OEF Vet	Cut Down on Time	VR-36 Role–Emotional	Thought About Upsetting Experience	Probable PTSD	Adapt or Bounce Back	CD-RISC2	PHQ-8	Difficulty Performing Work or Other Activities	VR-36 Role–Physical	Overweight or Obese	Obese	Overweight or Obese	Associate’s Degree or Higher	Business, Vocational, or Technical School	Full Time	Part Time	Self-Employed	Own Home		
Respondent																						
E-1–E-4/O-4–O-6																						>
E-5–E-9/O-1–O-3	>	>						>						>				>				
E-5–E-9/O-4–O-6													>					>				
O-1–O-3/O-4–O-6																		>				
Employment status																						
Full time/part time		—			—	—			>			—	—	—	—	—	—	—	—	—	—	—
Full time/unemployed or NILF	>	—	>	>	—	—	>	>	>	>	>	—	—	—	—	—	—	—	—	—	—	—
Part time/unemployed or NILF		—			—	—						—	—	—	—	—	—	—	—	—	—	—

> = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the first group.
 < = The outcome is statistically significantly different between these two groups, with the reported rate being higher among respondents in the second group.
 — = We did not compare the outcome between these groups (i.e., not applicable).

cell indicates that married respondents reported the outcome at a higher rate than divorced respondents. Cells with a < indicate that the difference in the outcome between the two groups is statistically significant, with the second group listed having a higher outcome. Where comparisons were not made in the analysis, the cell contains a dash.

Cohort Analysis

Tables A.1–A.7 are companion results to those presented in the main body of the paper, containing analysis using the full sets of responses. These make use of the cohort file.

Table A.1
Respondents Who Utilized Wounded Warrior Project Programs or Other Resources to Help with Feelings of Stress or Emotional or Mental Health Concerns: Cohort

Resource	Did Not Talk with Another OEF/OIF Vet				Talked with Another OEF/OIF Vet				
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)		
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error	
Non-WWP program									
VA medical center (%)	53.61	3.88	44.55	3.43	73.24	2.63	74.31	2.58	
Prescription medicine (%)	32.53	3.65	27.01	3.06	66.20	2.81	61.81	2.87	
Talk with nonmilitary family or friend (%)	12.05	2.53	14.69	2.44	40.35	2.91	38.54	2.87	
Self-education (%)	9.64	2.30	14.22	2.41	30.28	2.73	29.51	2.69	
Vet center (%)	19.28	3.07	14.22	2.41	25.09	2.58	28.47	2.66	
Non-VA counselor, psychologist, or psychiatrist (%)	10.24	2.36	9.48	2.02	25.70	2.60	21.53	2.43	
DoD mental health care provider (%)	9.64	2.30	7.58	1.83	28.52	2.68	21.53	2.43	
Talking with veteran not from OEF/OIF (%)	9.04	2.23	10.43	2.11	49.82	2.97	44.79	2.94	
Military chaplain (%)	6.02	1.85	5.21	1.53	19.72	2.37	15.97	2.16	
Talk with nonmilitary religious leader (%)	6.02	1.85	7.11	1.77	17.31	2.25	14.24	2.06	
Non-mental health professional (%)	6.02	1.85	3.79	1.32	18.02	2.29	10.76	1.83	
Other (%)	7.83	2.09	10.43	2.11	4.54	1.23	5.90	1.39	
No mental health concerns (%)	22.07	2.85	21.80	2.85	1.05	0.60	1.04	0.60	
Average number of resources used	2.42	0.14	1.69	0.12	4.97	0.12	4.67	0.13	
WWP program (%)									
Peer Mentoring	6.63	1.94	5.21	1.53	8.39	1.64	11.81	1.90	
Project Odyssey	3.01	1.33	2.37	1.05	4.54	1.23	5.90	1.39	
WWP Connect	13.86	2.69	18.96	2.70	20.63	2.40	30.56	2.72	

NOTE: These results are analogous to those presented in Table 3.7 in Chapter Three.

Table A.2
Percentage of Respondents, by Demographic Characteristic, Who Reported That Emotional Problems Had Interfered with Work or Other Daily Activities: Cohort

Respondent	Cut Down on Time				Role-Emotional (normed)			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	60.95	2.75	58.33	2.69	36.21 ^c	0.75	37.42	0.75
Divorced	69.35 ^e	5.85	60.34	6.42	33.15 ^e	1.56	36.16	1.75
Separated	72.73	13.43	63.64	14.50	30.87 ^f	3.15	32.71	2.75
Never married	52.81	5.29	51.35	5.81	39.55	1.47	39.53	1.62
Gender								
Male	60.41	2.33	56.98	2.35	36.55	0.64	37.82	0.65
Female	70.59	7.81	61.76	8.33	32.49	2.07	33.98	1.87
Pay grade								
E-1-E-4	62.71	4.45	65.29	4.33	35.89	1.20	35.55	1.18
E-5-E-9	61.31	2.79	55.52	2.83	35.93	0.76	37.91	0.78
O-1-O-3	57.69	9.69	54.17	10.17	37.80	2.76	39.67	3.03
O-4-O-6	59.09	10.48	54.55	10.62	38.22	3.06	38.35	2.97
Employment status								
Full time	46.27 ^o	3.52	44.92 ^o	3.64	40.26 ^o	0.98	41.09 ^o	1.01
Part time	52.63	11.45	54.55	8.67	38.65 ^p	3.37	37.99	2.44
Unemployed or NILF	73.33	2.77	66.80	2.93	32.92	0.75	34.95	0.80

^c Statistically significant difference between married and never-married respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

NOTE: These results are analogous to those presented in Table 3.9 in Chapter Three.

Table A.3
Percentage of Respondents, by Demographic Characteristic, Who Indicated Having Difficulty Escaping the Memories or Effects of a Frightening, Horrible, or Upsetting Deployment Experience: Cohort

Respondent	Positive PTSD Screen				Thought About the Experience			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	66.36	2.61	68.79	2.49	76.80 ^a	2.41	78.68	2.24
Divorced	78.46 ^e	5.10	78.69	5.24	93.33 ^{d, e}	3.22	81.36	5.07
Separated	58.33	14.23	83.33	10.76	72.73	13.43	100.00	0.00
Never married	57.45	5.10	63.64	5.48	77.11	4.61	75.00	5.10
Gender								
Male	64.43	2.21	69.65	2.15	78.12	2.01	79.27	1.93
Female	75.68	7.05	70.27	7.51	88.24	5.53	74.29	7.39
Pay grade								
E-1–E-4	69.11	4.17	78.40 ^j	3.68	80.17	3.70	82.64	3.44
E-5–E-9	66.14	2.65	68.55	2.60	78.16	2.41	78.03	2.37
O-1–O-3	57.69	9.69	60.00	9.80	76.92	8.26	75.00	8.84
O-4–O-6	58.33	10.06	58.33	10.06	85.00	7.98	85.71	7.64

^a Statistically significant difference between married and divorced respondents.

^d Statistically significant difference between divorced and separated respondents.

^e Statistically significant difference between divorced and never-married respondents.

^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

NOTE: These results are analogous to those presented in Table 3.11 in Chapter Three.

Table A.4
Percentage of Respondents, by Demographic Characteristic, Who Reported Being Able to Adapt to Changes or Bounce Back from Illness, Injury, or Hardship: Cohort

Respondent	Ability to Adapt or Bounce Back (resiliency)				CD-RISC2			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Adaptability or ability to bounce back (resiliency)/CD-RISC2	58.12	2.21	62.73	2.16	5.18	0.09	5.28	0.09
Marital status								
Married	56.27 ^c	2.74	65.03 ^a	2.56	5.08 ^c	0.12	5.30 ^{a, c}	0.10
Divorced	50.77 ^e	6.20	47.54 ^e	6.39	4.83 ^e	0.22	4.66 ^e	0.28
Separated	66.67	13.61	41.67	14.23	5.30	0.52	4.25 ^f	0.69
Never married	69.15	4.76	67.53	5.34	5.76	0.18	5.90	0.20
Gender								
Male	59.13	2.29	64.41 ^g	2.24	5.21	0.10	5.36 ^g	0.09
Female	45.95	8.19	43.24	8.14	4.71	0.30	4.31	0.30
Pay grade								
E-1–E-4	60.98	4.40	63.20	4.31	5.14 ⁱ	0.16	5.28 ⁱ	0.17
E-5–E-9	55.80	2.78	61.64	2.73	5.07 ^k	0.12	5.19 ^k	0.11
O-1–O-3	69.23	9.05	80.00	8.00	6.00	0.39	6.13	0.36
O-4–O-6	58.33	10.06	58.33	10.06	5.50	0.48	5.50	0.43
Employment status								
Full time	61.35	3.38	73.30 ^o	3.20	5.52 ^o	0.14	5.85 ^o	0.12
Part time	73.68	10.10	69.70	8.00	5.71	0.33	5.48	0.28
Unemployed or NILF	54.85	3.04	55.39	3.03	4.88	0.13	4.87	0.12

^a Statistically significant difference between married and divorced respondents.

^c Statistically significant difference between married and never-married respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^g Statistically significant difference between male and female respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

NOTE: These results are analogous to those presented in Table 3.13 in Chapter Three.

Table A.5
Percentage of Respondents, by Demographic Characteristic, Who Reported That Physical Health Problems Had Interfered with Work or Regular Activities: Cohort

Respondent	Difficulty Performing Work or Other Activities				Role-Physical (normed)			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	69.40 ^c	2.59	68.66 ^c	2.53	36.17 ^{a, c}	0.70	37.01 ^c	0.66
Divorced	75.81 ^e	5.44	61.02	6.35	32.73 ^e	1.27	38.12 ^e	1.65
Separated	81.82	11.63	66.67	13.61	31.55 ^f	2.64	32.33 ^f	2.53
Never married	56.18	5.26	44.44	5.86	40.17	1.31	42.65	1.47
Gender								
Male	68.24	2.21	63.80	2.29	36.49	0.58	38.01	0.59
Female	64.71	8.20	62.86	8.17	34.86	1.87	37.55	2.12
Pay grade								
E-1-E-4	63.56	4.43	61.98	4.41	37.77	1.15	38.77	1.14
E-5-E-9	69.06	2.64	64.17	2.74	35.72	0.69	37.55	0.69
O-1-O-3	65.38	9.33	70.83	9.28	40.35	2.48	38.46	2.64
O-4-O-6	77.27	8.93	63.64	10.26	33.22 ^m	2.44	37.60	2.74
Employment status								
Full time	56.00 ^o	3.51	57.53 ^o	3.62	39.69 ^o	0.88	40.83 ^o	0.89
Part time	47.37 ^p	11.45	60.61	8.51	41.30 ^p	3.40	39.57	2.34
Unemployed or NILF	78.68	2.55	68.73	2.88	33.50	0.69	35.65	0.73

^a Statistically significant difference between married and divorced respondents.

^c Statistically significant difference between married and never-married respondents.

^e Statistically significant difference between divorced and never-married respondents.

^f Statistically significant difference between separated and never-married respondents.

^m Statistically significant difference between O-1-O-3 and O-4-O-6 respondents.

^o Statistically significant difference between respondents who were employed full time and those who were unemployed or NILF.

^p Statistically significant difference between respondents who were employed part time and those who were unemployed or NILF.

NOTE: These results are analogous to those presented in Table 3.17 in Chapter Three.

Table A.6
Percentage of Respondents, by Demographic Characteristic, Who Reported Being Overweight or Obese Based on Body Mass Index: Cohort

Respondent	Obese				Overweight or Obese			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	%	Standard Error	%	Standard Error	%	Standard Error	%	Standard Error
Marital status								
Married	47.85 ^c	2.87	49.24 ^{a, c}	2.75	86.80 ^{a, c}	1.94	87.92 ^{a, c}	1.79
Divorced	42.62	6.33	32.20	6.08	75.41	5.51	72.88	5.79
Separated	33.33	1.36	50.00	14.43	75.00	12.50	83.33	10.76
Never married	28.05	4.96	28.17	5.34	70.73	5.02	71.83	5.34
Gender								
Male	44.92 ^g	2.42	44.50	2.38	83.22 ^g	1.82	84.17	1.75
Female	26.47	7.57	36.11	8.01	67.65	8.02	72.22	7.47
Pay grade								
E-1–E-4	42.98	4.64	48.74 ^j	4.58	77.19	3.93	81.51	3.56
E-5–E-9	46.39 ^k	2.92	45.39 ^l	2.86	84.54	2.12	84.87 ^k	2.06
O-1–O-3	23.08	4.64	29.17	9.28	76.92	8.26	66.67	9.62
O-4–O-6	33.33	10.29	18.18	8.22	76.19	9.29	86.36	7.32

^a Statistically significant difference between married and divorced respondents.

^c Statistically significant difference between married and never-married respondents.

^g Statistically significant difference between male and female respondents.

^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

^l Statistically significant difference between E-5–E-9 and O-4–O-6 respondents.

NOTE: These results are analogous to those presented in Table 3.20.

Table A.7
Percentage of Respondents, by Demographic Characteristic, Who Were Employed Full Time or Part Time or Self-Employed: Cohort

Respondent	Full Time				Part Time				Self-Employed			
	Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)		Baseline (wave 1)		2011 (wave 2)	
	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error	Percentage	Standard Error
Marital status												
Married	43.34	2.76	42.69 ^a	2.67	2.79 ^c	0.92	7.01	1.38	3.42	1.51	5.92	1.81
Divorced	35.38	5.93	26.67	5.71	3.08	2.14	5.00	2.81	0.00	0.00	0.00	0.00
Separated	33.33	13.61	16.67	10.59	0.00	0.00	0.00	0.00	—	—	—	—
Never married	41.94	5.12	32.47	5.34	8.60	2.91	7.79	3.05	4.26	2.94	9.68	5.31
Gender												
Male	41.45	2.31	38.41	2.29	4.17	0.94	2.70	2.67	3.41	1.27	6.34	1.70
Female	47.22	8.32	43.24	8.14	0.00	0.00	7.06	1.20	0.00	0.00	0.00	0.00
Pay grade												
E-1–E-4	36.07 ⁱ	4.35	30.65 ^{i, j}	4.14	3.28	1.61	6.45	2.21	4.26	2.94	6.52	3.64
E-5–E-9	40.32 ^k	2.76	35.87 ^{k, l}	2.70	4.13	1.12	7.62	1.49	2.90	1.43	5.15	1.89
O-1–O-3	76.92 ^m	8.26	88.00 ^m	6.50	0.00	0.00	4.00	3.92	0.00	0.00	4.35	4.25
O-4–O-6	45.83	10.17	56.51	10.34	4.17	4.08	0.00	0.00	8.33	7.98	15.38	10.01

^a Statistically significant difference between married and divorced respondents.

^c Statistically significant difference between married and never-married respondents.

ⁱ Statistically significant difference between E-1–E-4 and O-1–O-3 respondents.

^j Statistically significant difference between E-1–E-4 and O-4–O-6 respondents.

^k Statistically significant difference between E-5–E-9 and O-1–O-3 respondents.

^m Statistically significant difference between O-1–O-3 and O-4–O-6 respondents.

NOTE: These results are analogous to those presented in Table 3.29 in Chapter Three. — indicates that there were too few observations to present reliable results.

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WRIISC—See War Related Illness and Injury Study Center.

WWP—See Wounded Warrior Project.