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# The Impact of Outward Bound Programming on Psychosocial Functioning for Male Military Veterans

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This pilot study examined male U.S. military veterans' change in overall mental health symptoms after attending an Outward Bound for Veterans (OB4V) course. Two hundred and forty two male veterans, primarily serving in Operations Iraqi Freedom, Enduring Freedom, and New Dawn were assigned to either a treatment group or a waitlist control group. Data were collected before and within 1 week after OB4V course attendance. Overall mental health symptoms (outcome) and level of conformity to masculine norms (moderator) were measured using the Outcomes Questionnaire-45 (OQ-45) total score and the Conformity to Masculine Norms Inventory. Results indicated participation in OB4V had a significant effect on veterans' overall mental health symptoms. Conformity to traditional masculine norms did not moderate change in OQ-45 scores, suggesting veterans attain similar mental health improvement following OB4V regardless of conformity level (i.e., low, medium, or high) to masculine norms. Findings indicate that OB4V provides male veterans a therapeutic intervention to improve overall mental health symptoms. OB4V and similar therapeutic adventure approaches may provide a culture-centered approach to meet the unique needs of men and veterans.

*Keywords:* veterans, therapeutic adventure, masculinity, complementary and integrative health, complementary and alternative medicine

Nearly 57% of veterans enrolled in Veterans Affairs (VA) services who deployed after September 11, 2001 have been diagnosed with mental health disorders (Epidemiology Program, Post-Deployment Health Group, Office of Public Health, Veterans Health Administration, & Department of Veterans Affairs, 2015). Conformity to traditional masculine norms within military culture has been associated with increased mental health issues (Jakupcak, Blais, Grossbard, Garcia, & Okiishi, 2014; Jakupcak, Osborne, Michael, Cook, & McFall, 2006). Furthermore, veterans' under-

utilization of (Hundt et al., 2014) and stigma toward traditional mental health interventions (Burnam, Meredith, Tanielian, & Jaycox, 2009; Fox, Meyer, & Vogt, 2015; Vogt, Fox, & Di Leone, 2014) exacerbate veterans' mental health needs. Since 2008, a concerted effort was initiated to develop complementary (e.g., interventions in addition to traditional therapy) and alternative therapeutic approaches to address veterans' increasing rates of mental health issues (Seal, 2011; Tanielian & Jaycox, 2008).

Limited research has examined the use of a complementary and alternative treatment approach to address mental health symptoms of veterans who conform to a range of traditional masculine norms. This quasi-experimental pilot study sought to examine whether Outward Bound for Veterans (OB4V), a therapeutic adventure treatment implemented as a complementary and alternative therapeutic approach, could improve veterans' overall mental health symptoms. The research team examined whether veterans' level of conformity to traditional masculine norms impacted their ability to improve their overall mental health symptoms after attending OB4V. These findings help to establish whether OB4V, and more generally therapeutic adventure, could be a beneficial complementary and alternative approach to address veterans' overall mental health symptoms who conform to varying levels of traditional masculine norms.

## Masculinity, Mental Health, and Veterans

In general, the literature suggests that a hyper-masculine military culture often intensifies U.S. civilian traditional masculine

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norms within military populations. Once a soldier becomes a veteran, they often still have to confront the negative psychosocial impact of conforming to hyper-masculine norms learned during their military experience. Brooks (2005) posits that, similar to U.S. traditional masculine culture, the hyper-masculine military culture creates a socialization process that focuses on dominance, stoicism, self-reliance, and physical and emotional control. In particular, military personnel tend to have high levels of emotional restriction and fear of emotion (Jakupcak et al., 2014; Jakupcak et al., 2006) and are expected to work through mental health issues independently (Burns & Mahalik, 2011).

Previous research indicates an association between hyper-masculine military culture and increased mental health issues. For example, veterans who self-report higher levels of emotional restriction tend to experience greater adjustment issues related to recovery from a traumatic event (Price, Monson, Callahan, & Rodriguez, 2006), increased PTSD symptoms (Jakupcak et al., 2014; Lorber, Proescher, & Hendrickson, 2007; Morrison, 2012), and increased depressive symptoms (Jakupcak et al., 2014). Other studies have found that male military personnel who have higher levels of emotional restriction and fear of emotion tend to exhibit physical strength, dominance, and rejection of feminine-like behavior including help-seeking (Herrera, Owens, & Mallinckrodt, 2013). Others have argued that intense adherence to masculine norms leads to a complete denial that PTSD exists or is a real diagnosis (Whitworth, 2008). Fox and Pease (2012) suggest that symptoms related to PTSD make it harder to exhibit masculine qualities such as strength, stoicism, and control. The symptoms of PTSD are then considered antithetical to exhibiting traditional masculine traits, furthering the shame associated with symptoms of PTSD.

Male veterans' reluctance to be emotional, vulnerable, or seek help means they are rarely equipped with the intrapersonal coping strategies or interpersonal openness to address their mental health symptoms. These deficits often worsen because of their exposure to masculine culture within the military. Researchers have noted a hierarchical masculine hegemony exists where soldiers who exhibit higher levels of physical and emotional control are viewed as more respected or more powerful than their comrades (Green, Emslie, O'Neill, Hunt, & Walker, 2010; Hinojosa, 2010). Thus, the male soldier is left in a bind, where he struggles to make sense of his mental health symptoms while losing his sense of masculinity (Burns & Mahalik, 2011). Conforming to traditional masculine norms within the military setting may also be perceived as necessary to help soldiers become emotionally invulnerable fighters equipped to maintain composure, create a unified front, and complete missions while engaged in live combat. For example, when soldiers indicate a lack of physical or emotional control their character may be viewed as a threat to their units' safety or be ostracized, which further intensifies soldiers' perception of the need to adhere to a hyper-masculine identity (Brooks, 2005; Burns & Mahalik, 2011; Jakupcak et al., 2014).

### OB4V

Although the relationship between the positive and negative attributes of masculine ideology in military culture is complex, the importance of providing accessible and beneficial mental health treatment options for returning veterans is a clear need. To address

this, the Department of Defense and the VA have requested the development of innovative approaches to increase access to supportive services for veterans (Seal, 2011; Tanielian & Jaycox, 2008). Additionally, out-of-office and nontraditional therapeutic approaches have received increased attention in the men's help-seeking literature (Brooks, 1998, 2010; Kiselica, 2001; Robertson & Fitzgerald, 1990; Rochlen & Rabinowitz, 2014).

OB4V is a well-grounded therapeutic adventure (TA) program, that although promising, has received limited scholarly attention (Scheinfeld & Spangler, 2013). Therapeutic adventure programs combine outdoor group adventure activities (e.g., hiking, canoeing, etc.) with facilitated therapeutic group process sessions to engage participants cognitively, affectively, and behaviorally. The primary goal of the OB4V is to provide a supportive service to help veterans "readjust to life at home through powerful wilderness courses that draw on the healing benefit of teamwork and challenge through use of the natural world . . . to create positive emotional and mental outcomes" (Outward Bound, n.d.-a).

The OB4V program uses a manual-guided curriculum implemented by two trained instructors in an effort to provide continuity across programming. Instructor training includes outdoor adventure skills and therapeutic facilitation skills. When possible, OB4V staff each course with one veteran instructor and one senior Outward Bound instructor. All staff have received similar training to lead the OB4V courses. OB4V courses are typically 6 days long and take place across the United States. Adventure activities include backpacking, rock climbing, canoeing, white water rafting, mountaineering, sailing, sea kayaking, skiing, winter camping/snow shoeing, and dog sledding.

While on course, instructors create a therapeutic adventure framework through providing a milieu of challenging group adventure activities intermixed with therapeutic group facilitation. Instructors' goals focus on helping veterans foster greater understanding about intrapersonal and interpersonal insight. Instructors work closely together as a team to guide the daily facilitation process of the group. Students are encouraged to initiate group meetings at any given time to process insight(s) or challenge(s) that may have arisen for them. Additionally, instructors implement structured therapeutic theme groups. Examples of themes include making meaning from challenging experiences, effective interpersonal communication, working through the challenges of the transition process to civilian life, remembrance ceremony (remembering the fallen), making sense of anger, and understanding how intrapersonal and interpersonal insight gained through the Outward Bound experience can be applied in the civilian world.

The OB4V curriculum follows a three phase model: training, main, and final. During the training phase, veterans learn how to perform the outdoor adventure skills and how to work together as a team. During the main phase, veterans practice applying these skills with increased feedback and reflection. During the final phase veterans work autonomously from the instructors and implement their learned skills independently. Learning new skills and operating autonomously from the instructors often provides group members with a fulfilling sense of accomplishment and self-confidence.

Previous research suggests OB4V can promote psychosocial wellbeing among veterans. Self-reported accounts suggest that OEF/OIF veterans who participated in OB4V courses gained intra- and interpersonal insight, self-confidence, pride, trust, communi-

cation skills, and a sense of camaraderie (Outward Bound, n.d.-b). Research shows that Outward Bound also helped Vietnam veterans address PTSD symptoms (Hyer, Boyd, Scurfield, Smith, & Burke, 1996; Rheault, 1987) and increased OEF/OIF veterans' sense of coherence and resilience (Ewert, Van Puymbroeck, Frankel, & Overholt, 2011).

Several reasons can be cited for why the OB4V approach may align well with veterans' interests and needs, in particular those subscribing to traditional masculine role ideology. First, OB4V's focus on working as a team aligns with men's affinity toward coming together through shared physical activity (Kiselica & Englar-Carlson, 2010; Kiselica, Englar-Carlson, Horne, & Fisher, 2008; Mortola, Hiton, & Grant, 2008). Second, men are often drawn to therapeutic experiences where camping and outdoor pursuits are a core aspect of the program (Scheinfeld & Buser, 2014; Scheinfeld, Rochlen, & Buser, 2011). Third, OB4V's use of high adventure activities seems well suited to meet veterans' need for adrenaline-inducing activities as a physical and psychological outlet (Hoge, 2010). Furthermore, veterans' desire to stay physically fit and be physically challenged (Buis et al., 2011) is supported by the OB4V program. Finally, OB4V's focus on group-based, goal-directed activities to accomplish tasks and develop a sense of camaraderie is appealing to veterans (Brooks, 2005; Hoge, 2010).

The current pilot study adds to this area of research by examining how the use of OB4V may improve mental health for male veterans who conform to varying levels of traditional masculine norms. This study established two primary goals and related hypotheses. First, we aimed to evaluate whether there would be a significant effect of the OB4V treatment on veterans' overall mental health symptoms (OQ-45 total score). We hypothesized that, compared with the control group, the OB4V treatment group would show a significant improvement in overall mental health symptoms. Second, we aimed to test whether veterans level of conformity to traditional masculine norms impacted (moderated) their change in overall mental health symptoms from pretreatment (Time 1) to posttreatment (Time 2). We hypothesized that an interaction effect would be found indicating that veterans' level of conformity to traditional masculine norms would moderate veterans' change in overall mental health symptoms that were due to OB4V treatment. Specifically, veterans with higher levels of conformity to traditional masculine norms, compared with veterans with a lower level of conformity, would show less improvement in overall mental health symptoms.

## Method

**Participants.** This study sampled 242 male U.S. military veterans who enrolled in OB4V courses from 2012 to 2014. Any veteran who enrolled in OB4V was provided the voluntary opportunity to take part in the study. Of the 219 treatment group participants, 17% of participants dropped out after Time 1, leaving a total evaluable sample of 181 treatment group participants at Time 2. Of the 23 waitlist control group participants, 22% of the participants dropped out after Time 2, leaving a total evaluable sample of 18 waitlist control participants at Time 2. Diagnostics were run using odds ratio, logistic regressions to determine if treatment participants with particular demographic background had greater odds of dropping out. Results indicate that participants'

odds of dropout from Time 1 to Time 2 increase by 45% for each one-unit increase on their Conformity to Masculine Norms Inventory (CMNI) Dominance subscale, and by 63% if the participant is fully employed. This odds ratio, logistic regressions were not used with the waitlist control because of inadequate (small) sample size.

Demographics for treatment and waitlist control groups are illustrated in Table 1. Treatment group participants were primarily Caucasian, employed, with age range from 22 to 66, and a mean age of 36.09 ( $SD = 9.97$ ) years. Ninety-one percent of the sample were deployed to Iraq or Afghanistan and 69% experienced combat (i.e., directly engaged with the enemy or received enemy fire). Forty-one percent of the sample self-reported having a mental health diagnosis, with the majority of diagnoses being PTSD (28%) and depression (22%). Group demographics were similar between the treatment and waitlist-control groups. Further, veterans in the present study had similar demographic characteristics to the national average of returning veterans (see Seal, 2011), with the exception of race and ethnicity. Non-Caucasian military personnel make up 30% of the military (Department of Defense, 2012), whereas 15% of the OB4V research participants were non-Caucasian. Veterans with severe mental illness (i.e., psychotic symptoms or actively suicidal) or health issues were referred to programs other than OB4V.

A power analysis indicated that the sample size was sufficient to establish a medium effect size of .15, and a power level of .80 ( $p < .05$ ) to employ multiple regression analyses (Hox, 2002). Furthermore, participants were recruited from 34 OB4V groups that enrolled veterans in all OB4V locations and types of outdoor activities across the United States (see Outward Bound, n.d.-b). Only male veterans who enrolled in an OB4V course were eligible. To reduce selection bias, participants were not recruited for the study if they had previously attended any type of Outward Bound course.

### Measures.

**Demographics.** The demographic survey, developed by the principal investigator, was used to collect basic information at preintervention about participants' age, race/ethnicity, level of education, marital status, and socioeconomic status. Information was collected about previous military involvement including length of active duty, whether they were or were not deployed, whether they experienced combat, the number of tours they went on, and their military occupational specialty. Additionally, information was collected about whether they had a mental health diagnosis, had previously received counseling services and the number of sessions they had attended since being in the military.

**Masculine role conformity.** The CMNI (Mahalik et al., 2003) measures the degree to which an individual conforms to masculinity norms in the dominant (i.e., traditional) culture of the United States. The 94-item CMNI forms 11 subscales to represent categories of norms, which include (1) Winning, (2) Emotional Control, (3) Risk Taking, (4) Violence, (5) Dominance, (6) Playboy, (7) Self-Reliance, (8) Primacy of Work, (9) Power Over Women, (10) Disdain for Homosexuality, and (11) Pursuit of Status. Because of study restrictions, the Playboy, Power Over Women, and Disdain for Homosexuality subscales (31 items) were removed, leaving a total of 63 items in the scale, referred to as the *CMNI Adjusted Total*. The 63 items were answered on a 4-point Likert scale (0 = *strongly disagree* to 3 = *strongly agree*). Sample items include, "It is best to keep your emotions hidden" (Emotional

Table 1  
*Demographic, Military, and Psychological Variables as a Percentage for Treatment Group and Waitlist Control Group*

| Characteristic                          | Treatment group<br>( <i>n</i> = 159) | Waitlist control group<br>( <i>n</i> = 18) |
|---|--------------------------------------|--|
| <b>Demographic</b>                      |                                      |  |
| Race                                    |                                      |  |
| White                                   | 85                                   | 78   |
| Non-White                               | 15                                   | 22   |
| Marital status                          |                                      |  |
| Married                                 | 47                                   | 44   |
| Not married                             | 53                                   | 56   |
| Employment/student                      |                                      |  |
| Full employment                         | 56                                   | 66   |
| No full employment                      | 21                                   | 17   |
| Student                                 | 23                                   | 17   |
| <b>Military history</b>                 |                                      |  |
| Combat                                  |                                      |  |
| Experienced combat                      | 69                                   | 67   |
| No combat                               | 31                                   | 33   |
| Tours                                   |                                      |  |
| Not deployed                            | 9                                    | 11   |
| One tour                                | 33                                   | 50   |
| Two tours                               | 32                                   | 28   |
| Three or more tours                     | 26                                   | 11   |
| Military rank                           |                                      |  |
| E-3 through E-9                         | 79                                   | 79   |
| O-1 through O-6                         | 21                                   | 21   |
| Military branch                         |                                      |  |
| Army                                    | 42                                   | 44.4                                       |
| Marine Corps                            | 18                                   | 22.2                                       |
| Navy                                    | 15                                   | 5.6  |
| Air Force                               | 8                                    | 11.1                                       |
| U.S. Coast Guard                        | 1                                    | 0  |
| National Guard                          | 16                                   | 16.7                                       |
| Military status                         |                                      |  |
| Active duty                             | 25                                   | 11   |
| Veteran                                 | 75                                   | 89   |
| Active duty post 9/11/01                |                                      |  |
| Active duty since 9/11/01               | 92                                   | 100  |
| Left military before 9/11/01            | 8                                    | 0  |
| Total psychological diagnoses           |                                      |  |
| No diagnoses                            | 59                                   | 72   |
| One diagnosis                           | 21                                   | 17   |
| Two diagnoses                           | 7                                    | 0  |
| Three or more diagnoses                 | 13                                   | 11   |
| Posttraumatic stress disorder diagnosis |                                      |  |
| Reported diagnosis                      | 28                                   | 22   |
| No diagnosis                            | 72                                   | 78   |
| Depression diagnosis                    |                                      |  |
| Reported diagnosis                      | 22                                   | 11   |
| No diagnosis                            | 78                                   | 89   |
| Substance abuse disorder diagnosis      |                                      |  |
| Reported diagnosis                      | 11                                   | 6  |
| No diagnosis                            | 89                                   | 94   |
| Narcotic abuse disorder diagnosis       |                                      |  |
| Reported diagnosis                      | 11                                   | 6  |
| No diagnosis                            | 89                                   | 94   |
| Generalized anxiety diagnosis           |                                      |  |
| Reported diagnosis                      | 16                                   | 0  |
| No diagnosis                            | 84                                   | 100  |
| Adjustment disorder diagnosis           |                                      |  |
| Reported diagnosis                      | 2                                    | 0  |
| No diagnosis                            | 98                                   | 100  |
| Visits to counselors                    |                                      |  |
| Reported visiting counselor             | 40                                   | 44   |
| No visit to counselor                   | 60                                   | 66   |

Control), "I should be in charge" (Dominance), and "I hate asking for help" (Self-Reliance). The CMNI has shown good psychometric properties (Mahalik et al., 2003).

**Mental health symptoms.** The Outcome Questionnaire-45.2 (OQ-45; Wells, Burlingame, Lambert, Hoag, & Hope, 1996) measures patients' mental health status and progress over time. It was designed for three uses: (a) to measure clients' current levels of distress, (b) as an outcome measure to be administered prior to and following treatment interventions, and (c) to monitor ongoing treatment response. Overall mental health is measured by combining the three subscales: (1) Symptom Distress (SD), measuring subjective discomfort (i.e., intrapsychic functioning); (2) Interpersonal Relations (IR), measuring how a person is getting along in friendships, family life, and marriage; and (3) Social Role Performance (SR), measuring the level of dissatisfaction, conflict, or distress in employment, family roles, and leisure life. The questionnaire consists of 45 items answered on a 5-point Likert scale (0 = *almost always* to 4 = *never*). Sample questions include, "I feel no interest in things" (SD), "I feel lonely" (IR), and "I feel stressed at work/school" (SR). Appropriate items are reversed scored, and raw scores are added for the total score indicating overall mental health.

Higher scores indicate greater symptom distress. An OQ-45 total score of 64 or above demarcates individuals who are within the dysfunctional group, indicating higher symptom distress. An OQ-45 total score of 63 or below is considered lower symptom distress and demarcates individuals who are in the functional group. Change of 14 points or greater in OQ-45 total scores represents reliable improvement or decline in mental health. The OQ-45 has been shown to have good psychometric properties (Lambert et al., 2004; Wells et al., 1996). Further, the OQ-45 shows sensitivity to patient change, which is an important consideration when used in repeated measure designs.

**Procedures.** This study was approved by University of Texas Institutional Review Board. All veterans, once approved to enroll in the OB4V program by the OB4V medical screeners, were offered to voluntarily participate in this study. The OB4V program is open enrollment; any U.S. veterans can enroll in an Outward Bound course if they meet the medical requirements. Outward Bound medical staff screen veterans and will often restrict veterans who have severe mental illness, suicidal/homicidal intent, or physical challenges that would prevent them from safely engaging in the adventure activities. The OB4V screener takes into account all information and makes a decision on a case-by-case basis whether the veteran will be safe to attend the OB4V course.

The principal investigator randomly selected one enrollee per a course, out of the total 34 courses sampled, to be recruited for the waitlist-control group. The remainder of enrollees received recruitment emails for the treatment group portion of the study. Because of limited resources and to achieve adequate statistical power for the treatment group, the principal investigator chose to randomly select out fewer waitlist control participants resulting in the uneven ratio of treatment and waitlist control participants.

The principal investigator e-mailed treatment group participants survey links at two time points using the Qualtrics online survey program: (a) Time 1—Participants were e-mailed measures 2 weeks before the start of the OB4V course and asked to complete measures prior to attending the course, and (b) Time 2—Participants were emailed measures 3 days after the OB4V course ended

and asked to complete the measures within 4 days of receiving them. Participants in the waitlist-control group received Time 1 and Time 2 measures at the same temporal sequence as the treatment group prior to attending their course (24 days between Time 1 and Time 2 measures). Waitlist control participants then attended their OB4V course a few days after they completed their Time 2 measures. For study compensation, participants in both groups were emailed a \$20.00 Amazon gift card upon completion of measures at each time point. All participants took part in Outward Bound courses that were consistent with the OB4V model stated in the introductory section.

#### Data analyses.

*Hypothesis 1:* Compared with the control group, the OB4V treatment group would show a significant improvement in overall mental health symptoms. To address the first hypothesis, multiple regression analysis was used to determine whether OQ-45 change scores differed significantly between treatment and control groups. Change scores were calculated by subtracting OQ-45 Time 1 scores from its Time 2 scores. The variable noted as “Treat” represents the effect of treatment (i.e., participation in OB4V vs. waitlist control) on OQ-45 change scores.

*Hypothesis 2:* An interaction effect would be found indicating that veterans’ level of conformity to traditional masculine norms would moderate veterans’ change in overall mental health symptoms that were due to OB4V treatment. Specifically, veterans with higher masculine versus lower levels of masculine norms were expected to show less improvement in overall mental health symptoms. Multiple regression analyses, using an interaction term, examined whether the difference in participants’ OQ-45 change scores in the treatment group versus the waitlist control groups was influenced (moderated) by participants’ CMNI Adjusted Total and CMNI subscale scores.

The following demographic variables were included in the analyses all together to control for their potential confounding influence: age, race (White or non-White), and previous counseling experience (self-reported number of counseling sessions attended before the OB4V course). One-way analyses of variance (ANOVAs) were employed before running each analysis to investigate whether any significant mean differences existed within the OQ-45 change score variable based on the remainder of the participants’ demographic variables and CMNI scores. On the basis of the ANOVA results, demographic and CMNI variables with significant mean differences ( $p < .05$ ) were added into the multiple regression analyses as subject-level covariates to control for their potential influence within the overall model. Hosmer, Lemeshow, and Sturdivant (2013) suggested that any mean differences of demographic variables, where  $p < .25$  should be included in the model. However, the power analysis indicated no more than 11 independent variables were allowed in this model. Thus, only mean differences of demographics, where  $p < .05$  were included in each analysis to keep the number of independent variables at or below 11. Those demographic variables included the following: marital status (married or not married), employment (full-time employed or not full-time employed), psychological symptoms (number of reported psychological symptoms), psychological diagnoses (number of reported diagnoses).

The CMNI variables included CMNI (Total), CMNI (Emotional Control), CMNI (Self-Reliance), and CMNI (Dominance). Variables of interest and control variables were put into the model all together in the multiple regression to test both hypotheses.

Several analyses were used to check whether the assumptions were met for multiple regression. Residuals for OQ-45 total score (dependent variable) were examined and met the following assumptions of multiple regression analyses: normality of residuals, lack of outliers, and homogeneity of variance. Outliers were identified and removed through several analyses in STATA. Specifically, the predict function for Cook’s  $d$  and standardized residuals were run, and any data point for Cook’s  $d$  over one or standardized residual over two was removed as an outlier. Only participants with complete data were analyzed. The STATA cluster function was used during multiple regression analysis to help control for any within group effects (nesting effect), further increasing the likelihood for the independence of observations assumption to be met. Alpha levels were set at .01 for all analyses to reduce the likelihood of Type I errors occurring because of the retesting of the same participants. Finally, the absence of multicollinearity between the predictor variables was checked for all multiple regressions.

#### Results

Hypothesis 1 was supported (see Table 2). Multiple regression analyses indicated that the difference in the participants’ OQ-45 change scores for the treatment group compared with the waitlist control group was significant,  $R^2 = .26$ ,  $F(12, 34) = 19.50$ ,  $p < .001$ . On average, the treatment group’s OQ-45 score dropped by

Table 2  
*Predictors of Change in Mental Health Status Score (OQ-45)  
From Time 1 To Time 2 as a Result of Treatment*

| Variable                 | OQ-45 change score |                 |
|--------------------------|--------------------|-----------------|
|                          | $\beta$            | 95% CI          |
| Treat                    | -8.42**            | [-10.94, -5.90] |
| CMNI (Total)             | .17**              | [.10, .27]      |
| CMNI (Emotional Control) | .08                | [-.16, .33]     |
| CMNI (Self-Reliance)     | -.28               | [-.85, .28]     |
| CMNI (Dominance)         | -.69*              | [-1.20, -.18]   |
| Age                      | .03                | [-.12, .18]     |
| Race                     | -1.32              | [-5.1, 2.45]    |
| Counseling sessions      | 1.47               | [-1.63, 4.57]   |
| Marital status           | 1.51               | [-2.12, 5.14]   |
| Employment               | 1.56               | [-1.33, 4.45]   |
| Psychological symptoms   | .70                | [-1.98, 3.38]   |
| Psychological diagnoses  | -3.34*             | [-5.75, -.94]   |
| $R^2$                    | .26                |                 |
| $F$                      | 19.50**            |                 |

*Note.* Control variables included Conformity to Masculine Norms Inventory (CMNI) Adjusted Total score, CMNI Emotional Control score, CMNI Self-Reliance score, CMNI Dominance score, age, race (White or Non-White), counseling sessions (number of counseling sessions attended before Outbound for Veterans), marital status (married or not married), employment (full-time employed or not full-time employed), psychological symptoms (number of reported psychological symptoms), and psychological diagnoses (number of reported diagnoses). Interaction variable included “Treat,” indicating difference in change score of waitlist-control group versus treatment group. Treatment group,  $n = 145$ ; waitlist-control group,  $n = 18$ . OQ-45 = Outcome Questionnaire-45.2.

\* $p < .00$ . \*\* $p < .01$ .

8.42 points from Time 1 to Time 2 ( $p < .001$ ) as compared with the control group (see Table 2). This significant effect of treatment suggests that the OB4V treatment helped promote change in veterans' overall mental health when they attend OB4V versus not engaging in OB4V.

Hypothesis 2 was not supported (see Table 3). Results indicated this interaction to be nonsignificant ( $ps = .06$  to  $.92$ ) for CMNI Adjusted Total and the Emotional Restriction, Self-Reliance, and Dominance CMNI subscale scores that were examined. This suggests that participants' level of conformity to traditional masculine norms did not impact their change in overall mental health from Time 1 to Time 2. Considering a significant effect of treatment was found, this suggests that OB4V can provide improvement in veterans' mental health symptoms regardless of their level of conformity to traditional masculine norms.

## Discussion

Findings from the first hypothesis suggest that OB4V provides male veterans a therapeutic intervention to improve overall mental health symptoms. Moreover, null results from the second hypothesis suggest veterans can attain similar mental health improvement by attending OB4V whether they are low, medium, or high conformers to traditional masculine norms. Findings suggest that OB4V can improve veterans' mental health and act as an alternative therapeutic option for veterans. These primary findings have importance as it suggests that OB4V, and possibly similar TA approaches, can provide a therapeutic treatment approach that meets the unique needs of men and veterans.

Table 3  
Moderation by CMNI Adjusted Total of the Relationship  
Between Treatment and Mental Health Status Change Score  
(OQ-45)

| Variable                 | OQ-45 change score |               |
|--------------------------|--------------------|---------------|
|                          | $\beta$            | 95% CI        |
| Interaction              | .17                | [-.01, .35]   |
| CMNI (Emotional Control) | .10                | [-.15, .35]   |
| CMNI (Self-Reliance)     | -.32               | [-.88, .25]   |
| CMNI (Dominance)         | -.70*              | [-1.20, -.19] |
| Age                      | .03                | [-.11, .18]   |
| Race                     | -1.35              | [-5.07, 2.37] |
| Counseling sessions      | 1.40               | [-1.77, 4.57] |
| Marital status           | 1.50               | [-2.16, 5.16] |
| Employment               | 1.54               | [-1.32, 4.40] |
| Psychological symptoms   | .64                | [-2.05, 3.33] |
| Psychological diagnoses  | -3.29**            | [-5.70, -.90] |
| $R^2$                    | .26                |               |
| $F$                      | 21.42**            |               |

Note. Control variables included Conformity to Masculine Norms Inventory (CMNI) Adjusted Total score, CMNI Emotional Control score, CMNI Self-Reliance score, CMNI Dominance score, age, race (White or Non-White), counseling sessions (number of counseling sessions attended before Outbound for Veterans), marital status (married or not married), employment (full-time employed or not full-time employed), psychological symptoms (number of reported psychological symptoms), and psychological diagnoses (number of reported diagnoses). Interaction variable included "Treat," indicating difference in change score of waitlist-control group versus treatment group. Treatment group,  $n = 145$ ; waitlist-control group,  $n = 18$ . OQ-45 = Outcome Questionnaire-45.2.

\*  $p < .00$ . \*\*  $p < .01$ .

To expound these findings, it is important to consider what programmatic and therapeutic elements of OB4V may appeal to veterans with a range of conformity to masculine norms while concurrently improving their mental health. Team-based activities, problem solving for personal and group issues, and establishing goals correspond to men's typical strengths and values (Brooks, 1998; Campbell, 1996; Kiselica & Englar-Carlson, 2010). Camaraderie that develops through overcoming challenges bolsters a sense of efficacy and togetherness for men. The sense of brotherhood and meaningful team-based activity are highly regarded by both masculine and military cultures (Brooks, 2010; Hoge, 2010; Rochlen & Rabinowitz, 2014). The OB4V model is unique in that it supports men's drive for group-based and physical activities, while also promoting an emotionally supportive environment that encourages vulnerability. It is hypothesized that TA's use of the supportive group model intermixed with team challenges promotes camaraderie and trust, which in turn provide men a greater feeling of safety to be vulnerable and address personal issues (Scheinfeld & Buser, 2014; Scheinfeld et al., 2011).

Specific to veteran culture, OB4V aligns with many veterans' interests in adventure sports. Activities, such as outdoor adventure sports, provides veterans an adrenaline outlet and sense of accomplishment; these types of activities involve a mixture of challenge, safe risk taking, and physicality. Hoge (2010) posits that it is important for veterans, as part of their recovery, to engage in experiences that allow an adrenaline release and are action-oriented. Mahoney (2010) suggested high-adrenaline adventure activities benefit veterans because they allow for stress relief. Further, Scheinfeld and Buser (2014) note that men's preference for TA over traditional therapy may stem, in part, from their affinity toward recreation, wilderness exploration, and adventure. Inherent in these adventure activities are experiential components that align with masculine norms and military culture, such as safe risk-taking and physical challenge. Thus, the OB4V program is poised to create a balanced, gender-aware approach that engages male veterans' affinity toward adventure, while simultaneously promoting intrapersonal and interpersonal insight and growth.

Outward Bound's integration of adventure activity with informal emotional sharing is an important combination to help reduce emotional restriction and improve mental health symptoms. Scheinfeld et al. (2011) found that during adventure experiences (e.g., on the trail) or while resting (e.g., sitting around the campfire), men become more emotionally vulnerable because the opportunity for intimate sharing is less structured or pressured compared with formal therapy approaches. To this end, nondirective ways for emotional expression and processing have been shown to be helpful for men to increase vulnerability and sharing, which in turn help psychotherapeutic progress (Brooks, 1998, 2010; Englar-Carlson, 2006; Rabinowitz, 2002; Rabinowitz & Cochran, 2002; Scheinfeld & Buser, 2014; Wong & Rochlen, 2005, 2009).

This literature also suggests that innovate, culture-centered approaches for men often do not solely rely on talk-based therapeutic facilitation. Rather, many of these approaches, including TA, integrate experiential activity as the precipitator for engaging in exploration of intrapersonal emotions or cognitions. This suggests that OB4V or other TA programs may better align with male veterans' interests through not integrating overt structured therapy approaches. To this end, it is important to consider training veteran peer support or other TA staff to implement therapeutic ap-

proaches, rather than licensed mental health professionals that may be inclined to implement overly structured traditional therapy approaches.

Overall, findings from this exploratory study suggest that OB4V is a promising therapeutic approach that improves mental health symptoms and supports the needs and preferences of male veterans. The alignment between the OB4V treatment model and male veterans' preferences likely helped promote therapeutic value and positive psychosocial outcomes for veterans in the present study. OB4V is an innovative approach that begins to address what many refer to as a growing public health issue (Seal, 2011; Tanielian & Jaycox, 2008), characterized by increasing mental health issues and inadequate therapeutic programming to meet veterans' unique needs. It is hoped that the results of this study will strengthen further research and program development in support of TA programming and related program initiatives that improve veterans' mental health.

### Limitations

Several limitations should be noted that warrant consideration for further research. For one, all measures were based on self-report, leading to increased likelihood of reporting bias. Podsakoff, MacKenzie, Lee, and Podsakoff (2003) note that reporting bias is a common and significant measurement challenge within the behavioral sciences.

Second, although the overall sample size for the treatment group was adequate, the waitlist-control group was too small for this study. In turn, this reduces the statistical power of the waitlist-control group's findings, which increases chance for error when examining the effect of treatment for control group versus treatment group.

Third, specific course components (e.g., weather, amount of therapeutic facilitation, background of the instructors, group size, etc.) were not measured. McKenzie (2000) provides an extensive literature review that exemplifies the dearth of rigorous research and examines specific outdoor adventure course components that are associated with participant outcomes. Future research should collect detailed information about course components to better understand the mechanisms by which course elements impact participant outcomes. Finally, as a result of 17% of the treatment group and 23% of the waitlist control group dropping out, generalization of findings are further limited. In future studies use of iPads or paper copies to collect data in-person before and after the OB4V course may improve participant retention.

Considering the limitations of this study, there are additional suggestions for future research. Researchers could place greater emphasis on the predictive relationship between demographic/psychological (i.e., background) variables and the therapeutic outcome variables to understand whether the efficacy of TA programs or OB4V is greater for veterans with particular characteristics. Moreover, research suggests that veterans under the age of 25 are at particular risk for not seeking help (Ouimette et al., 2011). This group is also at high risk for suicide completion (Braswell & Kushner, 2012; Brenner et al., 2008). Thus, the relationship between veterans under 25 years of age and OB4V outcomes could be investigated. Outcome differences by gender will also be important to measure. According to this study's demographic data, roughly 17% of Outward Bound participants are women, making

gender an important demographic characteristic to research in future studies.

Of particular importance is the need for researchers to examine whether OB4V is better used as a stand-alone program or as an adjunct to community or government mental health programming. Results from this study indicate that OB4V, although only 6 days in duration, provides psychosocial growth for veterans. Yet it is unclear how OB4V can best help veterans maintain and develop their psychosocial growth as they move forward in their reintegration process. To address this issue, it will be important for OB4V to explore partnering opportunities where their program could be used as an adjunct within the larger context of reintegration programs within veteran-centered organizations such as the VA or other veterans service organizations. Additionally, maintenance and development of psychosocial growth could be facilitated through online or in-person group meetings facilitated by Outward Bound instructors. Overall, more methods could be identified to harness veterans' gains from their OB4V experience to improve their psychosocial functioning within the civilian context.

In sum, OB4V is poised to provide substantial psychosocial benefits to veterans in their reintegration process. Although limitations to this study exist, this was the first quasi-experimental, longitudinal pilot study to research veterans' psychosocial outcomes after attending an Outward Bound course. Moreover, findings support the use of OB4V as a viable, alternative form of therapeutic intervention that takes into account the unique needs and interests associated with U.S. masculine and military culture.

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