

**Wilderness Therapy Symposium Research Preconference 2017**  
**Research that Matters: Using OBH Data to Inform Practice**  
**Thursday 8/24/17**  
**9am - 3:00pm**

Ellen Behrens, PhD, Licensed Psychologist  
Michael Gass, PhD, LMFT  
Christine Lynn Norton, PhD, LCSW  
Anita R. Tucker, PhD, LICSW

Steven DeMille, LMHC, PhD  
Steve Javorski, MA, PhD Candidate  
Joanna Bettmann Schaefer, PhD, LCSW  
Tony Alvarez, LMSW

Student Presenters

Lindsay Rea Clements Myrick, Prescott College      Abigail Nash, Westminster College  
Hannah Wright, The University of Utah

**SCHEDULE**

<b>Time</b>	<b>Title</b>	<b>Presenter</b>
9:00-9:20 am	Overview of Outdoor Behavioral Healthcare	Dr. Michael Gass
9:20-9:40 am	Young Adults in RTC and OBH Programs: Preliminary Outcomes from the NATSAP PRN	Dr. Ellen Behrens
9:40-10:00 am	Predictors of Outcome in Young Adults in Treatment	Hannah Wright Abigail Nash
10:00-10:40am	Fishbowl & Break	Tony Alvarez
10:40-11:00am	Ego Strength Change in Youth in an OBH Program	Dr. Steven DeMille
11:00-11:20am	Voices of Women Field Guides in OBH	Dr. Anita Tucker
11:20-11:40am	Pre-Treatment Substance Use as a Predictor of Client Change: OBH vs Treatment as Usual	Steven Javorski
11:40-12:15pm	Fishbowl	Anita Tucker
12:15-1:15pm	Lunchbreak	Join us outdoors for a lovely lunch in the sunshine!
1:30-1:50 pm	Changes in Psychiatric Symptoms and Psychological Processes among Veterans Participating in a Therapeutic Adventure Program	Dr. Joanna Bettmann
1:50-2:10 pm	Adventure Therapy with Former Foster Youth: Trauma Recovery and Post-Traumatic Growth	Dr. Christine Norton
2:10-2:30	Understanding Distress in Wilderness Therapy Frontline Staff	Lindsay Rea Clements Myrick
2:30-3:00	Fishbowl & Closing	Christine Lynn Norton

**Young Adults in RTC and OBH Programs: Preliminary Outcomes from the NATSAP PRN**  
**Behrens, E., Curtis, A., & Briggs, J.**  
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While the literature on private RTC and OBH programs has grown substantially, it has primarily focused on adolescent characteristics and outcomes (Roberts, Stroud, Hoag, & Combs, 2016; Treadway, 2017). This preliminary study contributes to the literature by exploring outcomes of young adults in RTC and OBH treatment settings based on the self-report adult version of the Outcome Questionnaire (OQ 45.2; Lambert et al., 2004). The research questions for this study were:

1. Do young adults in OBH and RTC programs report change on the OQ 45.2 between admission, discharge and 6 months post discharge?
2. Do young adult self-reported changes vary among the OQ 45.2 subscales (Symptom Distress, Interpersonal Relationships, Social Role).

### **Measure**

The OQ-45.2 is well established as a valid and reliable measure (Beckstead, Hatch, Lambert, Eggett, Goates, & Vermeersch, 2003). The OQ-45.2 is a self-report inventory for adults that has three scales measuring general functioning in interpersonal relationships, social role, and symptom distress. A total OQ-45.2 score of 63 or higher marks a threshold above which scores are consistent with that of a clinical population and reflects increased distress related to experiencing a high number of symptoms, interpersonal difficulties, and lower satisfaction with quality of life. In addition, a change in the total score of 14 points or more upon repeated testing, is considered to be indicative of clinically reliable change (Reliable Change Index, RCI). Clinical cut-off and RCI scores are also available for the three subscales. The Symptom Distress scale measures affective disorders, stress, and anxiety. The Interpersonal Relationship measures loneliness, conflict and relationship difficulties, and the Social Role score measures difficulties in roles at work, school and home, has a clinical cut-off score of 12, and has a reliable change index of 7 points.

### **Sample**

The data for this study was collected through the NATSAP PRN and was gathered from clients at 12 OBH and 15 RTC young adult programs from January of 2009 through February of 2017. The participants in this study consisted of 450 young adults enrolled in NATSAP RTC programs and 760 young adults enrolled in NATSAP OBH programs. The RTC sample was made up of mostly Caucasian (84.4%) males (59.5%) with the average age of 21.2 ( $SD = 2.2$ ). In addition, most clients in RTC programs reported that they had not yet completed high school (68.9%). The most common reason for referral was alcohol/substance abuse (71.2%). Similarly, the OBH sample was made up of mostly Caucasian (87.8%) males (73.4%) with an average age of 20.3 ( $SD = 1.95$ ). The majority of clients (73.7%) had only completed some high school. The primary reason for referral to OBH programs was alcohol/substance abuse (37.3%), depression/mood disorders (23.9%), and anxiety issues (20.9%).

### **Results**

#### ***Young Adults in RTC programs self-reported change on the OQ 45.2***

**OQ 45.2 Total Score.** A one-way repeated measures ANOVA was conducted to compare the effect of residential treatment on client's OQ 45.2 scores at admit, discharge, and six months post-discharge. There was a significant effect found, Wilks' Lambda = .486,  $F(2, 68) = 36.0$ ,  $p < .0005$ ,  $d = .514$  (medium effect size). Three paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated that there was a significant difference between OQ scores at admit ( $M = 77.76$ ,  $SD = 24.33$ ,  $CI [71.96, 83.56]$ ) and discharge ( $M = 55.00$ ,  $SD = 22.45$ ,  $CI [49.64, 60.35]$ );  $t(69) = 8.2$ ,  $p < .0005$ ,  $CI [17.22, 28.29]$ . A second paired samples t-test indicated that there was a significant difference between OQ scores at admit ( $M = 77.76$ ,  $SD = 24.33$ ,  $CI [71.96, 83.56]$ ) and six months post discharge ( $M = 54.9$ ,  $SD = 28.0$ ,  $CI [48.22, 61.58]$ );  $t(69) = 6.3$ ,  $p < .0005$ ,  $CI [15.61, 30.1]$ . A third paired samples t-test indicated that there was no significant difference between OQ scores at discharge ( $M = 55.0$ ,  $SD = 22.45$ ) and six months post discharge ( $M = 54.9$ ,  $SD = 28.0$ );  $t(69) = .03$ ,  $p = .975$ . These results suggest that young adults in this RTC programs reported clinically reliable and statistically significant improvement from admit to discharge and that those improvements were maintained at six months post-discharge. At admission their self-reported functioning was in the clinical range, whereas at discharge and 6 months post-discharge their functioning was in the normal range, and well below the clinical cut-off score.

**OQ45.2 Symptom Distress Subscale.** A one-way repeated measures ANOVA was conducted to compare Symptom Distress subscale scores on the OQ 45.2 at admit, discharge, and six months post-discharge. There was a significant effect found, Wilks' Lambda = .534,  $F(2, 68) = 29.72$ ,  $p < .0005$ ,  $d = .466$  (medium effect size). Paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated there was a clinically and statistically significant difference between SD scores at admit ( $M = 45.76$ ,  $SD = 16.73$ ,  $CI [41.77, 49.75]$ ) and discharge ( $M = 32.23$ ,  $SD = 14.86$ ,  $CI [28.69, 35.77]$ );  $t(69) = 7.57$ ,  $p < .0005$ ,  $CI [9.96, 17.09]$ . The second paired samples t-test indicated clinically and statistically significant differences between SD scores at admit ( $M = 45.76$ ,  $SD = 16.73$ ,  $CI [41.77, 49.75]$ ) and six months post-discharge ( $M = 32.3$ ,  $SD = 17.33$ ,  $CI [28.17, 36.43]$ );  $t(69) = 5.9$ ,  $p < .0005$ ,  $CI [8.91, 18.01]$ . The third paired samples t-test indicated no significant differences between SD scores at discharge ( $M = 32.23$ ,  $SD = 14.86$ ,  $CI [28.69, 35.77]$ ) and six months post-discharge ( $M = 32.3$ ,  $SD = 17.33$ ,  $CI [28.17, 36.43]$ );  $t(69) = -3.03$ ,  $p = .970$ . These results suggest that young adults in this RTC sample reported clinically reliable and statistically significant improvement from admit to discharge in terms of symptom distress and that improvements were maintained at six months post-discharge. At admission, their self-reported symptom distress was in the clinical range, whereas at discharge and post-discharge their functioning was in the normal range, and below the clinical cut-off score.

**OQ45.2 Interpersonal Relations Subscale.** A one-way repeated measures ANOVA was conducted to compare Interpersonal Relations scores on the OQ 45.2 at admit, discharge, and six months post-discharge. There was a significant effect found, Wilks' Lambda = .687,  $F(2, 68) = 15.5$ ,  $p < .0005$ ,  $d = .313$  (small effect size). Paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated there was a significant difference between IR scores at admit ( $M = 17.03$ ,  $SD = 6.27$ ,  $CI [15.53, 18.52]$ ) and discharge ( $M = 12.84$ ,  $SD = 5.7$ ,  $CI [11.48, 14.2]$ );  $t(69) = 5.31$ ,  $p < .0005$ ,  $CI [2.61, 5.76]$ . The second paired samples t-test indicated there was a significant difference between IR scores at admit ( $M = 17.03$ ,  $SD = 6.27$ ,  $CI [15.53, 18.52]$ ) and six months post-discharge ( $M = 12.77$ ,  $SD = 7.02$ ,  $CI [11.1, 14.44]$ );  $t(69) = 4.19$ ,  $p < .0005$ ,  $CI [2.23, 6.28]$ . The third paired samples t-test

indicated there was no significant difference between IR scores at discharge and six months post-discharge;  $t(69) = .08, p = .939$ . These results suggest that young adults in this RTC sample reported statistically significant improvement from admit to discharge on their interpersonal relationships and that improvements were maintained at six months post-discharge. At admission, their self-reported functioning was in the clinical range, whereas at discharge and post-discharge their functioning was in the normal range, and below the clinical cut-off score. The reported changes from admission to discharge and admission to post-discharge, however did not meet the reliable change threshold and the overall model had a small effect size.

**OQ45.2 Social Role Subscale.** A one-way repeated measures ANOVA was conducted to compare Social Role scores on the OQ45.2 at admit, discharge, and six months post-discharge. There was a significant effect found, Wilks' Lambda = .429,  $F(2, 68) = 45.26, p < .0005, d = .571$  (medium effect size). Paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated there was a significant difference between IR scores at admit ( $M = 14.97, SD = 4.78, CI [13.83, 16.11]$ ) and discharge ( $M = 9.93, SD = 4.05, CI [8.96, 10.9]$ );  $t(69) = 8.93, p < .0005, CI [3.92, 8.93]$ . The second paired samples t-test indicated there was a significant difference between scores at admit and six months post-discharge ( $M = 9.83, SD = 5.8, CI [8.45, 11.21]$ );  $t(69) = 6.995, p < .0005, CI [3.68, 6.61]$ . The third paired samples t-test indicated there was no significant difference between SR scores at discharge and six months post-discharge;  $t(69) = .14, p = .888$ . These results suggest that young adults in this RTC sample reported statistically significant improvement from admit to discharge on their social role functioning and that improvements were maintained at six months post-discharge. At admission, their self-reported functioning was in the clinical range, but at discharge and post-discharge their functioning was in the normal range, and below the clinical cut-off score. The reported changes from admission to discharge and admission to post-discharge, however did not meet the reliable change threshold, even though the effect size in the overall model was medium.

### ***Young Adults in OBH programs self-reported change on the OQ 45.2***

**OQ 45.2.** A one-way repeated measures ANOVA was conducted to compare the effect of outdoor behavioral treatment on client's OQ 45.2 scores at admit, discharge, and six months post discharge. There was a significant effect found, Wilks' Lambda = .345,  $F(2, 215) = 204, p < .0005, d = .655$  (medium to large effect size). Three paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated that there was a significant difference between OQ scores at admit ( $M = 79.89, SD = 23.95, CI [76.69, 83.09]$ ) and discharge ( $M = 45.52, SD = 23, CI [42.44, 48.6]$ );  $t(216) = 19.86, p < .0005, CI [30.96, 37.78]$ . The second paired samples t-test indicated that there was a significant difference between OQ scores at admit ( $M = 79.89, SD = 23.95, CI [76.69, 83.09]$ ) and six months post discharge ( $M = 50.13, SD = 26.47, CI [46.59, 53.68]$ );  $t(216) = 15.24, p < .0005, CI [25.91, 33.6]$ . The third paired samples t-test indicated that there was a significant difference between OQ scores at discharge ( $M = 45.52, SD = 23, CI [42.44, 48.6]$ ) and six months post-discharge ( $M = 50.13, SD = 26.47, CI [46.59, 53.68]$ );  $t(216) = -2.81, p = .005, CI [-7.85, -1.38]$ . . These results suggest that young adults in this OBH sample reported clinically reliable and statistically significant overall improvement from admit to discharge. While there was statistically significant increase in symptoms between discharge and post-discharge, the results were not clinically reliable, because they did not exceed the RCI value of 14. At admission, young adults' self-

reported functioning was in the clinical range, whereas at discharge and post-discharge their functioning was in the normal range, and well below the clinical cut-off score.

**OQ45.2 Symptom Distress Subscale.** A one-way repeated measures ANOVA was conducted to compare Symptom Distress (SD) subscale scores on the OQ 45.2 at admit, discharge, and six months post-discharge. There was a significant effect found, Wilks' Lambda = .335,  $F(2, 215) = 213.13$ ,  $p < .0005$ ,  $d = .665$  (approaching large effect size). Paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated there was a clinically and statistically significant difference between SD scores at admit ( $M = 46.19$ ,  $SD = 15.55$ ,  $CI [44.11, 48.27]$ ) and discharge ( $M = 25.18$ ,  $SD = 13.42$ ,  $CI [23.39, 26.98]$ );  $t(216) = 20.45$ ,  $p < .0005$ ,  $CI [18.98, 23.03]$ . The second paired samples t-test indicated clinically and statistically significant differences between SD scores at admit ( $M = 46.19$ ,  $SD = 15.55$ ,  $CI [44.11, 48.27]$ ) and six months post-discharge ( $M = 28.15$ ,  $SD = 16.1$ ,  $CI [25.99, 30.3]$ );  $t(216) = 15.17$ ,  $p < .0005$ . The third paired samples t-test indicated statistically significant increase between scores at discharge ( $M = 25.18$ ,  $SD = 13.42$ ,  $CI [23.39, 26.98]$ ) and six months post-discharge ( $M = 28.15$ ,  $SD = 16.1$ ,  $CI [25.99, 30.3]$ );  $t(216) = -3.03$ ,  $p = .003$ ,  $CI [-4.89, -1.04]$ , however, the difference in scores was not clinically reliable because it was below the Reliable Change index value. These results suggest that young adults in this OBH sample reported clinically reliable and statistically significant improvement from admit to discharge in terms of symptom distress. While there was a statistically significant increase in symptoms between discharge and post discharge, that increase was below the RCI threshold, suggesting that the reported increase in symptom distress was not clinically reliable. At admission, their self-reported symptom distress was in the clinical range, whereas at discharge and post-discharge their functioning was in the normal range, and well below the clinical cut-off score.

**OQ45.2 Interpersonal Relations Subscale.** A one-way repeated measures ANOVA was conducted to compare Interpersonal Relations scores on the OQ 45.2 at admit, discharge, and six months post-discharge. There was a significant effect found, Wilks' Lambda = .478,  $F(2, 215) = 117.45$ ,  $p < .0005$ ,  $d = .522$  (medium effect size). Paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated there was a significant difference between scores at admit ( $M = 18.22$ ,  $SD = 6.6$ ,  $CI [17.34, 19.1]$ ) and discharge ( $M = 11.18$ ,  $SD = 6.42$ ,  $CI [10.32, 12.03]$ );  $t(216) = 10.26$ ,  $p < .0005$ ,  $CI [6.13, 7.96]$ . The second paired samples t-test indicated there was a significant difference between SR scores at admit ( $M = 18.22$ ,  $SD = 6.6$ ,  $CI [17.34, 19.1]$ ) and six months post-discharge ( $M = 12.8$ ,  $SD = 7.25$ ,  $CI [11.83, 13.77]$ );  $t(216) = 10.26$ ,  $p < .0005$ ,  $CI [4.38, 6.46]$ . The third paired samples t-test indicated there was a significant difference between SR scores at discharge and six months post-discharge;  $t(216) = -3.48$ ,  $p < .0005$ ,  $CI [-2.55, -.71]$ . These results suggest that young adults in this OBH sample reported statistically significant improvement from admit to discharge on their interpersonal relationships. There was a statistically significant increase in symptoms between discharge and post discharge, however, that increase was well below the RCI threshold, suggesting that it was not a clinically reliable increase in interpersonal problems. At admission, their self-reported functioning was in the clinical range, whereas at discharge and post-discharge their functioning was in the normal range, and below the clinical cut-off score. Note also, that the reported decreases in interpersonal relationship problems from admission to discharge and from admission to post-discharge, did not meet the reliable change threshold, even though the overall effect size was medium.

**OQ45.2 Social Role Subscale.** A one-way repeated measures ANOVA was conducted to compare Social Role (SR) scores on the OQ 45.2 at admit, discharge, and six months post-

discharge. There was a significant effect found, Wilks' Lambda = .45,  $F(2, 215) = 131.17, p < .0005, d = .550$  (medium effect size). Paired samples t-tests were used to make post hoc comparisons between time periods. The first paired samples t-test indicated there was a significant difference between SR scores at admit ( $M = 15.57, SD = 5.01, CI [14.8, 16.15]$ ) and discharge ( $M = 9.16, SD = 5.02, CI [8.49, 9.83]$ );  $t(216) = 14.9, p < .0005, CI [5.48, 7.15]$ . The second paired samples t-test indicated clinically and statistically significant differences between SR scores at admit ( $M = 15.57, SD = 5.01, CI [14.8, 16.15]$ ) and six months post-discharge ( $M = 9.18, SD = 5.06, CI [8.51, 9.86]$ );  $t(216) = 14.2, p < .0005, CI [5.42, 7.16]$ . The third paired samples t-test indicated no significant differences between SR scores at admit and six months post-discharge;  $t(216) = -.06, p = .952$ . These results suggest that young adults in this OBH sample reported statistically significant improvement from admit to discharge on their social role functioning and that improvements were maintained at six months post-discharge. At admission, their self-reported functioning was in the clinical range, but at discharge and post-discharge their functioning was in the normal range, and below the clinical cut-off score. The reported decrease in social role problems from admission to discharge and from admission to post-discharge, however did not meet the reliable change threshold, even though the effect size was medium.

### Discussion

These preliminary data suggest, as with adolescent outcomes, young adults' self-reported outcomes in both RTC and OBH programs are positive. Specifically, in terms of psychosocial outcomes, young adults in both types of programs begin treatment with problems that exceed clinical cut-off scores and, by the point of discharge, those problems reportedly decrease significantly and in clinically reliable ways, to levels within the normal range. Gains made during treatment seem to be maintained for up to 6 months after treatment.

The relationship between psychosocial functioning and treatment was present across all three sub-types of measured psychosocial outcomes: symptom distress, interpersonal relationship, and social roles. However, the OBH and RTC treatment seemed to have the largest impact on symptomatic distress (depression, anxiety, stress). While there is a significant reduction in problems with impersonal relationships and social roles, the change in those areas, while placing young adults in the normal range, was nonetheless less robust.

### References

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## **Predictors of Outcome in Young Adults in Treatment**

Study A. **Wright, H.**, Behrens, E., & Raleigh, S.

Study B. **Nash, A.**, Behrens, B. & Raleigh, S.

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While there has been extensive research on treatment outcomes for adolescent populations, research on young adults has been lacking. This study explores young adult outcomes in RTC and OBH programs, in terms of predictors that have not been previously studied and is presented in two parts: a) a study of risk and protective factors and b) a study of treatment expectations and response to treatment. The data for this study was collected through the NATSAP PRN and was gathered from clients at 12 OBH and 15 RTC young adult programs from January of 2009 through February of 2017.

### **Study A. The Relationship of Risk and Protective Factors to Young Adult Outcomes in NATSAP Programs.**

This study sought to explore potential risk and protective factors in a young adult population in relation to their treatment outcomes. The study examined changes in young adults' self-reported symptom distress, interpersonal relations, and social relations as reported by the Outcome Questionnaire-45.2. The research questions were:

1. Are there significant outcomes differences on the OQ45.2 when separated by sexual orientation? Further, are there differences on the subscales of the OQ45.2 when separated by sexual orientation?
2. Are there significant outcomes differences on the OQ45.2 when separated by diagnosis? Additionally, are there differences on the subscales of the OQ45.2 when separated by diagnosis?
3. Are there significant outcomes differences on the OQ45.2 when separated by gender? Further, are there differences on the subscales of the OQ45.2 when separated by gender?

The outcome measures of interest in this study included the Outcome Questionnaire 45.2 (OQ45.2). Factors contributing to outcomes included: sexual orientation self reported by the client (Adult Questionnaire - Initial (AdultQ-I)), DSM diagnosis as reported by staff (NATSAP Staff Questionnaire - Initial (SQ-I)), and gender reported by client (Adult Questionnaire - Initial (AdultQ-I)).

This sample consisted of 2,953 young adults. Within this sample 1,381 were treated in wilderness programs (46.8%) while 1,572 received treatment in a residential setting (53.2%). In total 31.9% of participants identified as female, 67.8% as male, and 0.3% identified as something other than the two presented options of male and female. Due to low numbers of individuals who had a sexual orientation other than heterosexual, groups were combined for purpose of analysis. Two major groups were examined heterosexual identifying (81.9%) and non-heterosexual (18.1%). The non-heterosexual category consisted of individuals who identified as: lesbian, gay, bi-sexual, queer, and an Other category. Diagnosis was also collapsed into four categories for purpose of analysis based on the three most commonly occurring diagnoses. In this sample 56.7% of individuals were diagnosed with alcohol/substance abuse, 17.4% depression or a mood disorder, 12.8% anxiety, and 13.1% a diagnosis other than the three most commonly observed.

Comparisons were made across various groupings: gender, diagnosis, and sexual orientation. Data analysis utilized one-way analysis of variance with post hoc comparisons using

Tukey HSD. From admit to discharge, females showed greater improvement on overall OQ-45.2 scores ( $M=-30.01$ ,  $SD=26.08$ ) than males ( $M=-26.76$ ,  $SD=25.53$ ),  $F(2,1350)=4.959$   $p=.007$ . When broken down by subscale, females reported greater improvement in social roles ( $M=-5.65$ ,  $SD=5.97$ ) over males ( $M=-5.33$ ,  $SD=5.97$ ),  $F(2, 1350)=3.136$   $p=.037$ . Symptom distress saw a greater improvement in non-heterosexual identifying participants ( $M=-18.85$ ,  $SD=17.70$ ) compared with heterosexual identifying individuals ( $M=-16.33$ ,  $SD=15.34$ ),  $F(1,1308)=4.596$   $p=.032$ . Additionally, females ( $M=-18.12$ ,  $SD=15.96$ ) reported improved scores beyond males ( $M=-15.96$ ,  $SD=15.59$ ) in the symptom distress subscale  $F(2,1350)=5.794$   $p=.003$ . A significant difference was also observed in reported symptom distress across diagnosis  $F(3, 1250)=5.259$   $p=.001$ . Post hoc analysis with Tukey HSD indicated the difference between anxiety ( $M=-20.19$ ,  $SD=14.27$ ) and alcohol/substance abuse ( $M=-15.84$ ,  $SD=15.18$ ) was significantly different with a diagnosis of anxiety making greater improvement. Overall the results show that there are some observed differences in treatment outcomes as measured by the OQ45 for gender, sexual orientation, and diagnosis. This study will serve as a preliminary analysis for future research regarding risk and protective factors for outcomes among young adults in wilderness and residential settings.

### **Study B. The Relationship of Treatment Expectation and Response to Treatment to Young Adult Outcomes in NATSAP Programs.**

The study explored treatment expectations and response to treatment in relation to change in young adults' self-reported composite score on the Outcome Questionnaire-45.2 in wilderness and residential settings. Specifically, this study hypothesized that treatment expectations at intake and response to treatment at discharge would be associated with greater improvement in Adult Outcome Questionnaire scores measured at discharge for young adults in either residential treatment or wilderness therapy. The wilderness therapy (OBH) sample consisted of 762 young adults aged 17-30 years ( $M=20.79$ ,  $SD=2.60$ ). The participants were primarily white (88.2%), males (74.7%) that have never been married (97.9) and reported that they had not graduated high school (70.1%). The participants in the residential treatment (RTC) sample were 462 young adults aged 18-30 years ( $M=22.85$ ,  $SD=3.39$ ). Similarly, the majority of participants were white (84.6%) males (58.6) that are single, never married (94.4) and have endorsed some high school (62.9) as the highest level of education attained. Items from the NATSAP Adult Questionnaire - Initial (AdultQ-I) were used as a measure of treatment expectations. These items assessed how participants feel about being in the program and if it made sense for them to be in a program at intake. Treatment response was measured at discharge by client satisfaction with the program and perceived effort throughout the program using the Adult Questionnaire - Discharge (AdultQ-D). Data analysis was conducted using one-way analysis of variance with post-hoc comparisons using Tukey. For both wilderness therapy and residential treatment alike, participants who believed that it made sense for them to be in a therapeutic program displayed greater difference scores and improved outcome. However, contrary to the hypothesis, how young adults felt about being in the program was not associated with changes in outcome for either treatment setting. In addition, a more positive response to treatment for both wilderness therapy and residential treatment, which includes effort and satisfaction, was associated with greater improvement on overall outcome as measured by the OQ-45.2. This preliminary research aims to advance the literature on young adult populations by assessing client outcomes with regards to expectations, and response to treatment, as well as advance evidence-based practice for young adults in both residential treatment and wilderness therapy.

## **Ego Strength Change in Youth in an Outdoor Behavioral Healthcare Program**

Montgomery, M., DeMille, S. M., & Eichas, K.

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Mental and behavioral health problems that emerge during adolescence are a growing societal concern (Kieling et al., 2011). These problems interfere with the accomplishment of normal developmental tasks necessary for healthy interpersonal relationships, success in school, and successful transition into the workforce (O'Connell, Boat, & Warner, 2009). Outdoor Behavioral Healthcare (OBH), a specific adventure and wilderness therapy approach, has been accruing evidence as a viable treatment options for struggling adolescents and young adults. OBH programs for troubled youth often claim that they a) change teens' behavioral patterns (Russell, 2003) and b) restore teens to an appropriate developmental level (RedCliff Ascent, 2015). Evidence for the first claim has been accruing (Russell, 2003; 2005; Tucker, Norton, DeMille, & Hobson, 2015; Zelov, & Young, 2011). This study is intended to test the second claim that an adolescent's improvement in behavioral functioning is associated with healthy psychosocial development that occurs while participating in an OBH program. This study will also assess whether a reworking of earlier developmental steps is important in mental health treatment, as some have asserted (Vogel-Scibilia et al., 2009).

### **Methods**

To test the second claim, 109 youth in an Outdoor Behavioral Health program were assessed prior to admission and at discharge with the Psychosocial Inventory of Ego Strengths (PIES; Markstrom, Sabino, Turner, & Berman, 1997). In addition, the Youth Outcome Questionnaire 2.0 Self Report (Y-OQ 2.0 SR; Wells, Burlingame, & Rose, 2003) was used to measure behavioral functioning.

### **Analysis**

We assessed the links between psychosocial virtues and behavior problems with a series of two-wave growth models, one for each virtue (example shown in Figure 1). A total score for behavior problems is labeled "Distress" in the model. Two parts of each model are important: the slope mean for the virtue and the path from the slope for the virtue to the slope for distress (path B). The slope mean for the virtue is the change in the virtue from admission to discharge. The interval between admission and discharge was allowed to vary by the individual's length of stay, or time score ("ts" in Figure 1). Path B reflects the relation between change in the virtue and change in distress, holding constant the initial level of the virtue. Table 1 shows the parameter estimates.

### **Results**

Results indicated that participants in the OBH intervention showed a broad pattern of increases in ego strengths. Specifically, they exhibited increases from admission to discharge in sense of Hope, Will, Purpose, Competence, Fidelity, Care, and Wisdom. Additionally, increases in Hope, Will, Competence, Fidelity, and Wisdom were associated with decreases from admission to discharge in participants' distress scores. For example, participants' mean sense of hope increased .05 points. For every 1-point that hope increased, distress decreased by 2.78 points.

### **Discussion**

Ego strengths are positively correlated with many aspects of psychological wellbeing, including identity achievement, self-esteem, empathic concern, perspective-taking, and positive

forms of coping (Markstrom & Marshall, 2007). In this study, struggling youths' ego strengths increased after participation in an OBH program, supporting claims that wilderness therapy promotes positive development and supports psychological wellbeing. Ego strengths for which young people experienced gains were, with the exception of Wisdom, related to psychosocial stages Erikson postulated as necessary for optimal psychosocial development in adolescence. The fact that gains in ego strengths were also linked with reductions in problem behaviors and distress is consistent Erikson's (1950) notion that a psychic reworking of fundamental stages occurring in treatment settings allows for improved psychological wellbeing and mental health.

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## **Voices of Women Field Guides in Outdoor Behavioral Healthcare**

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In the 1980s, a surge in demand for outdoor education and adventure programming for women and girls only was followed in the late 1980s and 1990s by a substantial wave of theoretical work that addressed outdoor programming from a feminist perspective (Bell, 1996, 1997; Henderson, 1996; Mitten, 1994) as well as a number of studies that addressed the experiences of women working in outdoor leadership (Jordan, 1990; Loeffler, 1996, McClintock, 1996). Prior research and theory shed light on the ways in which the field of outdoor adventure education is conceptualized through program structure, language, and societal expectations of gender roles that follow program staff into the wilderness (Warren, Roberts, Breunig, & Alvarez, 2014). For example, Jordan (1990) noted the way in which the use of the terms "hard skills" and "soft skills" to refer to technical and interpersonal skills has disadvantaged women by devaluing women's strengths. The wealth of research at the end of the twentieth century illuminated some of the challenges experienced by women working in outdoor programming, and thus indicated the importance of ensuring that female voices are heard as the field continued to develop and shift. In the two decades since then, however, the research on women's experiences working in the outdoors has been quite limited.

Wilderness therapy, also referred to as outdoor behavioral healthcare (OBH), emerged out of models of experiential education and outdoor education such as Outward Bound, and shares with such programs many common structural and theoretical elements (Russell & Phillips-Miller, 2002). Wilderness therapy field guides are the direct care staff who work in the backcountry with youth admitted to wilderness therapy programs. To date, a few studies have addressed the unique experience of wilderness therapy field guides (Bunce, 1998; Marchand, Russell, & Cross, 2009) and none have addressed gender. To address this gap in the literature, this study qualitatively explored the ways in which gender influences the experiences of women working as field guides in wilderness therapy programs.

### **Methods**

Individuals who at the time of the research currently worked as a field guide in a wilderness therapy program and identified as a woman were eligible to participate. They were recruited via emails sent out to them by field directors of member programs of the OBH Council ([obhcouncil.org](http://obhcouncil.org)). Institutional Review Board approval was gained at the authors' university.

Between April and November of 2016 four focus groups were conducted with a total of 21 participants representing 14 OBH programs across the United States. Participants had a mean of 16 months experience working as a field guide, ranging from three months to five years. Each focus group lasted approximately one hour. During the focus groups, a series of open-ended questions were asked on the following topics: gender and gender dynamics in relation to perceptions from clients, co-staff, and program leadership; professional development potential for women in the field; and program values and culture in relation to gender.

Each focus group was video and audio-recorded and transcribed verbatim. Data were analyzed using a technique based on the constant comparison method (Maykut & Morehouse, 1994). The focus group transcripts were independently analyzed by the three authors and two social work graduate students. After individual analysis, the five coders came together to review

the consistency of themes. Transcript texts were divided into "units" that were grouped into thematic categories. Categories were developed through a process of constant comparison between emerging themes until the themes represented by the data were identified. Member checking was utilized to ensure that the themes were representative of participants' experiences; none of the participants responded asking for changes or offering different conclusions.

## Results

The themes that emerged fell into three categories: intrapersonal, interpersonal, and programmatic. At the intrapersonal level, participants described experiencing both internalized sexism as well as the intentional transcendence of gender norms. Six of the 21 participants described experiencing internalized gender bias, particularly in the form of a lack of confidence in relation to progressing into leadership roles. Five participants described intentionally taking on non-traditional gender roles as a field guide and finding power in doing so; one participant noted, "I was very conscious sometimes of taking roles that were sort of stereotypically male."

At the interpersonal level, participants described confronting clients' sexism or internalized sexism as well as male co-staff's lack of awareness of gender dynamics. More than half of participants ( $n = 11$ ) reported experiencing less initial respect than their male co-staff from male clients, greater resistance from male clients when holding boundaries, and looked to the male staff as the authority figure, regardless of experience or skill. Over half of the participants ( $n = 11$ ) described the experience of being put in the mother role, generally by clients but occasionally by co-staff. Several women identified this dynamic as quite difficult and "pretty taxing" and limiting their role in ways that left them feeling "stuck" in that role, regardless of whether they wanted the role or even acted like a mother figure. Thirteen of the participants described being a role model for clients as a way to confront clients' more traditional gender role expectations. In addition, as a role model female staff became a medium through which they overcame limiting gender role expectations and stereotypes through demonstrating "what a powerful strong female looks like". Finally, on an interpersonal level, seven participants discussed the perceived lack of awareness of gender dynamics among male field guides in general.

At the programmatic level, 18 participants noted one and for some, multiple ways that gender impacted their experience as a field guide. These included a lack of external recognition and promotion for women in guide roles ( $n = 5$ ); particularly masculine, authoritative leadership styles valued more highly by the organization ( $n = 7$ ); gender as a rigid binary in staffing and staff development ( $n = 13$ ); and the importance of women in leadership roles, which were often lacking ( $n = 15$ ).

## Discussion

The findings from this study highlight the importance of training for all staff on gender, gender socialization, and gender dynamics. This training can support staff in developing the capacity to both identify and process gender dynamics with each other and with clients while increasing men's capacity to act as effective and empowering allies. Programs need to provide field staff with female role models by recruiting and promoting women to leadership roles and should take a critical look at field guide development and promotion practices as well as retention rates to detect for discrepancies by gender. It seems critical for anyone in a position of training or supervising field staff, men and women alike, to obtain education and training in

relation to gender. It is important to understand how to get beyond limiting gender roles either for oneself or with staff and clients to avoid burnout and encourage longevity and leadership for women. Finally, the authors believe that men must play a central role in the dialogue, education, and training of staff and in the critical assessment of program practices that disadvantage women.

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**Pre-Treatment Substance Use as a Predictor of Client Change:  
OBH vs Treatment as Usual  
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There has been considerable growth in the Outdoor Behavioural Healthcare (OBH) client outcomes literature over the past 10 years, with multiple studies finding participation in OBH programming to be supportive of statistically and clinically significant positive change in emotional, behavioral, and physical functioning for youth and young adults with a wide variety of presenting problems (Bettmann, Tucker, Tracy, & Kimber, 2014; Demille, Comart, & Tucker, 2014; Hoag, Massey, Roberts, & Logan, 2013). While this research has shown OBH to be a promising treatment modality, the effect of client presenting problems on outcomes has been ambiguous (Tucker, Smith, & Gass, 2014) and the literature has very few studies that involve a control group (Reamer & Siegel, 2008). This pilot study aims to expand on the initial work of DeMille, Javorski, and Tucker (2016) and evaluate the relationship between pre-treatment alcohol use, client characteristics, and client outcomes in OBH programs compared to treatment as usual from intake to 1 year post-discharge. Specifically, this pilot study aimed to contrast treatment and control group Youth Outcome Questionnaire (YOQ) 2.01 scores for participants at (1) intake and (2) one year follow up; (3) change in YOQ 2.01 from intake to 1 year follow up; and (4) the effect of pre-treatment substance use on YOQ 2.01 scores at 1 year follow up.

### **Methodology**

The treatment group (TG) (n=325) was drawn from clients who had completed treatment at 12 OBH programs across the US between 2012 and 2017 whose aftercare following program completion included only outpatient counseling. Participants in the comparison group (CG) (n=60) were individuals who inquired into OBH treatment for an adolescent; however, decided to provide clinical services in a community setting (i.e. outpatient therapy, medication management, short-term psychiatric hospitalization). A parent or legal guardian for each participating client completed a demographic survey and the YOQ 2.01 (Burlingame et al, 2005).

Research questions 1, 2, and 3 were evaluated with t-tests. Bonferonni corrections were used to account for multiple test, and alpha was set to .01. OLS regression was used to model the effect of pre-treatment alcohol (frequency/week, dose) and marijuana (frequency/week) use on 1 year follow-up YOQ 2.01 scores controlling for treatment, age, gender, ethnicity, adoption status, and intake YOQ 2.01 score.

### **Results**

Participants were predominately Caucasian (82.1%) and varied in age from 13 to 17 at intake/first contact (M=16.0, SD=1.35). On average, the control group (n=60) reported more severe symptoms at intake (M YOQ 2.01<sub>Intake</sub>=106.87, SD=31.59) than the treatment group (M YOQ 2.01<sub>Intake</sub>=91.04, SD=30.34, t=3.64, p<.001), however, this difference (MD=15.83, SE=4.36) was clinically insignificant as it did not meet the YOQ 2.01's Reliable Change Index (RCI) (Burlingame et al, 2005). At one year follow up, the control group's mean YOQ score was

significantly greater ( $M_{YOQ\ 2.01_{One\ year}}=86.92$ ,  $SD=45.13$ ) than the treatment group ( $M_{YOQ\ 2.01_{One\ year}}=52.53$ ,  $SD=38.77$ ,  $t=6.12$ ,  $p<.001$ ). This difference ( $MD=34.91$ ,  $SE=5.62$ ) was clinically significant, as it exceeded the YOQ 2.01's RCI (Burlingame et al, 2005). On average, the treatment group's improvements from intake to one year follow up ( $M_{\Delta YOQ}=39.32$ ,  $SD=39.86$ ) were greater than those of the control group ( $M_{\Delta YOQ}=19.95$ ,  $SD=37.36$ ). This difference ( $MD=-19.37$ ) was statistically and clinically significant ( $t=-3.44$ ,  $p=.001$ ).

Not all participants completed the substance use questionnaires; the OLS regression model included 23 participants from the control group and 96 participants from the treatment group, however, model assumptions were met. Overall, the regression model was significant ( $F_{(9,109)}=5.067$ ,  $p<.001$ ,  $R^2=.295$ ). Treatment condition and symptom severity at intake (initial YOQ 2.01 score) were significant predictors of YOQ 2.01 score a one year follow up, controlling for age at intake/inquiry, gender, pre-treatment alcohol use frequency and dose, pre-treatment marijuana use frequency, ethnicity, and adoption status. None of the other independent variables in the model were significant predictors of follow up YOQ 2.01. On average, participants in the treatment group were predicted to have significantly lower YOQ 2.01 scores at follow up ( $B=-28.43$ ,  $p=.006$ ) than those in the control group. A one-point difference in initial YOQ 2.01 score was associated with a .48 point ( $p<.001$ ) difference in follow up YOQ 2.01 score.

### **Summary**

While the results of this pilot study are preliminary, they do contribute additional evidence that OBH clients who continue with community-based aftercare show significantly greater improvements in functioning at one-year follow up than clinically similar peers who attend community-based treatment only. Due to limitations including small sample size, single-respondent YOQ 2.01 data, and slight demographic differences between the control and treatment groups (age, gender, adoption status), caution should be used when interpreting the initial regression model. Future work should expand the sample size and include participants with more varied aftercare experiences.

## **Changes in Psychiatric Symptoms and Psychological Processes among Veterans Participating in a Therapeutic Adventure Program**

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In recent decades, the rise of nature-based interventions has provided an avenue of psychosocial support for veterans (Harper, Norris, & D'astous, 2014; Poulsen, Stigsdotter, & Refshage, 2015; Scheinfeld, Rochlen, & Russell, 2016). Receiving treatment in outdoor contexts may lessen the stigma associated with mental illness and promote open communication among veteran participants (Harper et al., 2014). Veterans may link the natural landscapes to those that they have encountered while deployed, eliciting emotions and facilitating extinction of traumatic memories associated with deployment experiences by allowing veterans to share and process those experiences safely (Duvall & Kaplan, 2014; Harper et al., 2014).

Outdoor-based therapies have been used to treat veterans suffering from trauma and stress disorders since World War I (Poulsen et al., 2015). The term nature-assisted therapy refers to therapeutic interventions that targets the needs of a special population where the natural environment is specially chosen for the therapeutic activity (Corazon et al., 2010; Poulsen et al., 2015). Participation in short-term nature-assisted therapy programs such as fly fishing has been associated with reduced depression and anxiety among veterans (Lundberg, Bennett, & Smith, 2011; Vella, Milligan, & Bennet, 2013). While nature-assisted therapy programs have become increasingly available to veterans, insufficient research has validated the efficacy of nature-assisted therapy programs in treating veteran populations (Poulsen et al., 2015).

When veterans need effective mental health treatment, many are reluctant to engage in traditional treatment modalities because of stigma. Many veterans who could benefit from services are not accessing them (Brown & Bruce, 2016). One study of OEF/OIF veterans found that, of the 17 to 33% who met criteria for depression, anxiety, or PTSD, only 20% sought treatment for their condition (Brown & Bruce, 2016). One of the most commonly identified reasons among veterans for not receiving treatment is perceived stigma about mental health issues (Brown & Bruce, 2016; Crawford et al., 2013; Hoge et al., 2004; Kim, Britt, Klocko, Riviere, & Adler, 2011). Fear of stigma is disproportionately higher among veterans who most need mental health treatment (Hoge et al., 2004). A group of anonymously surveyed pre- and post-deployment veterans found that respondents with a mental health disorder were twice as likely to cite fear of stigmatization as those without mental illness (Hoge et al., 2004). Veterans report more concern about disclosing mental health concerns than physical health concerns due to stigma and concern about negatively impacting career opportunities (Campbell et al., 2016). Given veterans' reluctance to engage in traditional modalities of treatment, the mental health and psychosocial benefits of nature-based interventions become of particular interest as a way to address this dilemma. Therapeutic adventure shows promise as a way to engage veterans and enact positive changes in functioning, but little is known about how therapeutic adventure impacts mental health symptoms among veterans.

### **Method**

The authors hypothesized that participants would report significant reductions in mental health symptoms over the course of the program and following its completion, as well as significant improvements in psychological processes which included initiative for psychological

growth, psychological attitudes, attitudes towards help-seeking, psychological mindedness, and emotional suppression.

This study examined changes in mental health symptoms and related psychological processes over the course of a six-day Outward Bound for Veterans program and at a one-month follow-up. This study examined data from 77 U.S. military Veterans with psychiatric diagnoses. Of the 77 participants in the present study, the average age was 34.4 years (range = 22-62, SD=8.5). The majority of the 77 participants were male (77.9%, n=60); 17 (22.1%) were female. The vast majority were White/European American (84.4%, n=65), followed in prevalence by Hispanic/Latino (7.8%, n=6), Native American (2.6%, n=2), other (2.6%, n=2), Asian/Asian-American/Pacific-Islander (1.3%, n=1), and Black/African American (1.3%, n=1).

The study utilized the following measures: the Outcome Questionnaire-45 (Wells, Burlingame, Lambert, Hoag, & Hope, 1996) which measures patients' mental health status and progress in therapy; the Personal Growth Initiative Scale-II (Robitschek et al., 2012) which measures intentional engagement to promote personal growth; the Attitudes Toward Seeking Professional Psychological Help Scale (Fischer & Farina, 1995) which measures one's openness to seeking psychological help when one's personal-emotional state warrants it; the Balanced Index of Psychological Mindedness (Nyklíček & Denollet, 2009) which measures one's interest and ability to relate to and reflect upon his or her psychological states and processes; the Emotion Regulation Questionnaire Gross & John, 2003) which measures emotional suppression in one subscale; and the Inventory of Positive Psychological Attitudes (Kass, Friedman, Leserman, Caudill, Zuttermeister, & Benson, 1991) which measures life purpose and satisfaction, as well as self-confidence during potentially stressful situations.

## **Findings**

A repeated measures analysis of variance was performed on each of the dependent variables. Results showed that, from pre to post program, participants reported significant improvement in life purpose satisfaction and self-confidence during stressful situations. Further, from pre-program to one-month post-program, veterans reported increased psychological mindedness, increased engagement to promote personal growth, decreased mental health symptomology, decreased emotional suppression, and increase in positive attitude towards seeking professional psychological help. These improvements were significant during the OB4V program and even continued to improve after the program ended, showing the strong promise of therapeutic adventure as a modality to address veterans' mental health issues.

## **Discussion**

Given the correlation between growth in sense of life purpose and self-confidence under stress with reduced levels of depression (Blazek et al., 2015; Curtis et al., 2007), veterans' gains in these psychological processes during OB4V implicate a means to promote mental health among individuals with psychiatric disorders outside of an explicit therapeutic context. While OB4V is a type of therapeutic adventure, the program neither advertised nor utilized any traditional therapies. Further, the improvement in attitudes towards seeking professional psychological help could help to address the significant barrier presented by veterans' stigma in seeking mental health treatment (Brown & Bruce, 2016; Crawford et al., 2013). Veterans in the

present study were not only more open to seeking professional psychological help during the program, but became even more willing to seek out treatment after the program ended.

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**Adventure Therapy with Former Foster Youth: Trauma Recovery and  
Post-Traumatic growth  
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According to a comprehensive study by the National Child Traumatic Stress Network, 82.1% of youth in foster care report complex trauma (Greeson, et al, 2011). Addressing trauma is particularly important given the negative impact it can have on future functioning (Greeson, et al). However, when youth age out of foster care, they often face new life stressors that can exacerbate these conditions, and few mental health interventions are available for transition age youth (Baugh, 2008). Interventions are needed for this population that focus on strengths, resilience and coping to promote trauma recovery, instead of pathology and diagnosis (Leve, et al, 2012).

Prior research has documented the need for experiential interventions for trauma survivors (Gleiser, Ford, & Fosha, 2008), and adventure therapy fits within these parameters. Adventure therapy interventions physically engage participants through the intentional use of cooperative games, problem solving initiatives, challenge and adventure activities, often in an outdoor setting (Newes & Bandoroff, 2004; Gass, Gillis & Russell, 2012). Adventure therapy has been used to promote social skills (Tucker, 2009), enhance self-concept and perception of competence in major life skills, as well as foster group cohesion (Norton & Tucker, 2010). Trauma-informed adventure-based group work has been shown to also reduce trauma symptomology among youth with a history of abuse (Norton, et al, 2017).

### **Methods**

This qualitative, phenomenological study examined the impact of adventure therapy (AT) on trauma recovery among former foster youth who participated in a university campus support program that offers therapeutic outdoor adventure activities. Young adults in this sample either aged out or were adopted out of foster care, and all had a common history of complex trauma. In-depth, semi-structured interviews were conducted with 17 former foster youth (N=17). The sample was predominately female (70%), Hispanic (47% Hispanic, 35% White, 17% African American, 1% Other), and low SES (100% as measured by Pell Grant status). Interviews were recorded and transcribed. Data were coded for textual and thematic analysis. These data were used to give voice to participants' subjective experiences, as well as promote a strengths-based approach to research (Maton, et al, 2004).

### **Findings**

Data analysis revealed that participants had positive affective experiences during the AT activities, and felt a sense of personal strength and renewal. They also reported feeling more connected to other former foster youth, which helped strengthen their community of support. When asked about how AT impacted their ability to cope with prior trauma, responses revealed that AT contributed to post-traumatic growth (PTG), as defined by Tedeschi, Park & Calhoun (1998). Increases in PTG were evidenced by 1) new possibilities; 2) connection to others; 3) personal strength; 4) spiritual change; and 5) appreciation of life. Reasons given for this fell into three categories: metaphor, transfer of learning, and a shift to a 'survivor' identity.

### **Implications for Outdoor Behavioral Healthcare**

Though most OBH programs do not serve youth in foster care, OBH clients often present with trauma. When clients experience trauma, deeply embedded trauma beliefs may take root

that limit clients' functioning (Price, et al, 2016). In order to overcome these beliefs, strengths-based interventions are needed that empower clients to shift to a survivor identity. OBH programs that focus solely on assessment, diagnosis and treatment, also need to focus on helping clients move towards recovery and post-traumatic growth.

Along with these important implications for OBH, findings also demonstrate the feasibility and acceptability of AT as a promising practice to facilitate post-traumatic growth among former foster youth who have experienced complex trauma. Though more research is needed, this type of intervention could be replicated in other settings as a viable intervention to promote resilience processes for transition age foster youth.

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## **Understanding Distress in Wilderness Therapy Frontline Staff**

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Ambrozaitis (2010) explains, “Many researchers have studied wilderness therapy, its effectiveness, and the participants who go through the programs, but very little research has been done on the instructors themselves” (p. 1). Wilderness therapy instructors have a unique position akin to that of frontline staff in Residential Treatment Centers. The stress of this position and high likelihood of burnout have been documented, and some research has begun to examine what contributes to high rates of turnover in this position (Marchand, 2008; Marchand, Russell, & Cross, 2009; Marchand, 2009). As research continues to emerge in the areas of burnout and vicarious traumatization for other professionals, like social workers and child welfare workers, some have suggested that a model incorporating two different constructs, one that views vicarious trauma as the product of chronic stressors and the other as a product of critical events, may give a fuller picture of what leads to employee distress and eventual job termination (Regrh, Hemsworth, Leslie, Howe, & Chau, 2004).

Research also suggests that the attachment relationships formed with direct care staff and the involvement of direct care staff in treatment may be important especially in regard to children and adolescents seeking treatment for trauma (Moses, 2000; Zelechowski et al., 2013). Staff well-being and, in particular, the construct of morale have a nearly perfect correlation with quality of care in residential children’s homes in the United Kingdom (Berridge & Brodie, 1998). These ideas are not confined to areas of treatment outside of wilderness therapy. Russell and Phillips-Miller (2002) found that the relationships clients build with wilderness therapy frontline staff are an important part of the change process in this modality. In particular, their research indicates the time of contact with leaders and counselors and the perceived realness of these individuals may impact clients. Research with wilderness therapy instructors also indicates that they perceive their role as important for client development through providing positive adult contact through consistency and the ownership of their own imperfections (Ambrozaitis, 2010). Importantly, these are all areas that may be affected by an experience of burnout or post-traumatic distress (Maslach & Leiter, 2008; McCann & Pearlman, 1990). Research by Heron & Chakrabati (2002) suggests that a failure to support staff may go so far as to encourage negligence and negatively impact clients’ treatment. Thus, it seems imperative to gain a better understanding of the experience of distress in the wilderness therapy instructor role and what can be done to mediate this distress.

This study examines the construct of burnout and how it applies to wilderness therapy instructors, the constructs of vicarious traumatization and secondary trauma and research on prevention, and explores whether training, direct feedback, and support from program therapists and the program at large may mediate some of the effects of both.

### **Methods**

In this mixed methods study, the researcher utilized a survey of demographic information, a survey of number, frequency, and type of potentially stressful experiences while in the field, the Trauma Attachment and Belief Scale (TABS) (Pearlman, 2003), the Impact of Events Scale- Revised (IES-R) (Weiss, 2007; Weiss & Marmar, 1997), and semi-structured interviews to collect data. The study population was comprised of wilderness therapy frontline

staff drawn from three different programs in three different states in the United States. One program is a member of both the Outdoor Behavioral Healthcare Council (OBHC) and the National Association of Therapeutic Schools and Programs (NATSAP). One program is a member of NATSAP only, and the third program is not a member of either organization. Programs and individuals were identified through attendance at the Wilderness Therapy Symposium in August 2016, postings to industry Facebook pages such as the Therapeutic Adventure Professional Group and the Wilderness Genealogy Project. Due to the exploratory nature of this study and the focus on coping in the field, only instructors who had worked a shift in the past month were included in the sample size. In total, the researcher sent out 100 surveys to various programs and individuals along with prepaid return envelopes, and 10 survey packets were returned, resulting in a return rate of 10%. Of the 10 surveys returned, all were fully completed and all participants who completed packets indicated they would be willing to participate in a follow-up interview. Interviews took place over the phone between December 2016- February 2017. Of the 10 participants who agreed to be contacted for interviews, 7 interviews were scheduled and completed.

The total sample size included in the study was 10 participants. 80% of the participants identified as cisgender female, 20% as cisgender male. 50% of the participants had completed a Bachelor's degree, with 3 participants reporting their major as some sort of Outdoor Recreation, 1 reporting a major in Creative Writing, and another reporting a dual degree in History and Anthropology. Two participants reported completing some college and did not report a major. One participant reported current enrollment in a dual degree Masters in Social Work and Kinesiology program. One participant reported having completed a Masters in Exercise Science and one participant reported having completed a Masters in Counseling Psychology. 30% of the participants completed the survey as they were beginning a shift, 50% as they were finishing a shift, and 20% while they were on shift. The average number of field days reported by respondents was about 255 days with a range from 25 to 400 field days reported. 90% of participants reported having at least 130 field days as an instructor and 50% reported having 300 or more field days. 60% of participants reported having shifts that were 8 days in length, 30% reported 16-day long shifts, and 10% reported 4-day long shifts.

## **Findings**

The mean number of potentially stressful events the respondents reported experiencing over the preceding 6 months was 82.8. The most frequently experienced stressful event reported was verbal threats directed at staff with 90% of respondents having reported experiencing the event over the preceding 6 months with a mean frequency of 25.4 times over that period.

Scores on the TABS indicated levels of disruption varying from high average to extremely high in the areas of self-safety, other-safety, self-esteem, self-intimacy, other-intimacy, self-control, and other-control for some participants when compared to a nonclinical sample reported by Pearlmann (2003).

On the IES-R, 40% of the participants scored above the cutoff designated by Asukai et al. (2002) as an indicator of possible clinical levels of distress, 30% scored above the level designated by Creamer et al. (2003) as a cutoff for the diagnosis of PTSD, and 20% of the participants scored above the level that research by Kawamura, Kim, and Asukai (2001) indicate as a possible marker for decreased immune function for up to 10 years after the event due to stress.

In the analysis of the interview data, themes that emerged included ideas about staff including number and training, feeling solely responsible for wellbeing, a fear of not being able to control a situation, high-risk students particularly those at risk for self-harm, suicidal ideation, or physical acting out, fear of reaching out for support, and not being able to take time away or disengage sometimes even in sleep.

### **Implications for Outdoor Behavioral Healthcare**

The findings of this study indicate that frontline staff at OBH programs may be experiencing potentially stressful events sometimes with great frequency and these experiences may be impacting their functioning through alterations to cognitive and emotional schemas and some sort of post-traumatic distress. This exploratory study offers an avenue for further refinement of and improvement to a growing movement in the field of wilderness therapy towards self-regulation, licensure, and best practice by adding to efforts already in place by organizations such as NATSAP and OBHC to create ethical recommendations and best practice guidelines.

While the results of this study are not generalizable, they do suggest a need for further and more extensive study in the realm of post-traumatic distress for wilderness therapy frontline staff. Future research in this arena could seek to further understand how instructors experience stress to create appropriate metrics for programs to utilize in identifying instructors who may need extra support. Research could also examine instructor characteristics and how these impact experiences of stress due to their work. Longitudinal studies could also address how instructor distress impacts client outcomes and conduct a cost benefit analysis of instructor turnover. Finally, research could seek to examine the impacts of various initiatives taken by programs on levels of distress and turnover in the instructor role.

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