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# Impact of a Recreational Outdoor and Adventure Program on Adolescent Well-Being

Mitchell J. Fritz

# Impact of a Recreational Outdoor and Adventure Program on Adolescent Well-Being

Mitchell J. Fritz

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**Impact of a Recreational Outdoor and Adventure Program on Adolescent Well-Being**

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Mitchell J. Fritz

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Committee Members

Celeste Jones, Psy.D., Chair

Amber Nelson, Psy.D., Member

Cherice Bock, M.S., M.Div., Member

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**Abstract**

This study used an archival dataset to investigate the effects of a recreational outdoor and adventure program (ROAP) on overall adolescent well-being. Successful ROAPs have been found to increase overall well-being as well as other factors such as increased self-efficacy, peer involvement, connectedness to nature, and decreased stress. This study examined 34 high school to college age individuals who participated in a summer ROAP. Five crews completed a 28-day canoe trip in northern Minnesota, and one crew completed a 37-day canoe trip near the Brooks Range in Alaska. Participants completed pre-trip, post-trip, and 45-day follow-up surveys measuring overall well-being, self-efficacy, perceived stress, peer involvement, and connectedness to nature. This study used multivariate analysis of variance to explore between-group differences between Times 1, 2, and 3, evaluating outcomes of the intervention period and the 45 days following intervention. Participant well-being, self-efficacy, and connectedness to nature significantly improved from pre-trip to post-trip (with small, small, and moderate effect sizes, respectively), but no significant difference was found between post-trip and follow-up. For perceived stress, however, least significant difference (LSD) post-hoc tests indicated that there was a significant improvement from the pre-trip to the 45-day follow-up (small effect size). Finally, peer relationships significantly improved from pre-trip to post-trip, then significantly decreased from post-trip to follow-up, with follow-up scores still significantly improved as compared to pre-trip scores (large effect size). These results provide some evidence of a lasting impact of ROAP participation on adolescent well-being, self-efficacy, and connectedness to nature. Limitations and areas for future research are discussed.

*Keywords:* recreational outdoor adventure program, self-efficacy, perceived stress, mindfulness, peer connectedness, well-being, nature

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# Impact of a Recreational Outdoor and Adventure Program on Adolescent Well-Being

## Chapter 1

Human connectedness to the natural environment has been an innate relationship that is sought after both consciously and unconsciously. Many would argue that this relationship is integral between humans and nature, and without it there is risk of damage to the health of both systems (Pritchard et al., 2020). Existing ecopsychology literature suggests that one's connection to nature can help predict subjective well-being, in addition to improved psychological health in areas of self-esteem, general well-being, and increased happiness (Mayer, 2004). Furthermore, those who reported higher levels of connection were less likely to experience physical and psychological difficulties (Bailey et al., 2018). Connectedness to nature not only has been found to support short-term well-being, but lasting effects have been identified when engaging in longer periods of direct contact, such as wilderness expeditions (Asfeldt & Hvenegaard, 2014).

Outdoor adventure and unstructured play have historically been fundamental cornerstones of adolescent development. These experiences foster opportunities that are not afforded by competitive activities and have predetermined rules (Brymer & Feletti, 2020). It is believed that authentic recreation can cultivate healthy growth in physical and emotional well-being, yet today, fewer adolescents participate in outdoor exploration (Curry & Brown, 2010). This study seeks to explore how engagement in a recreational outdoor adventure program (ROAP) promotes overall adolescent well-being, as well as other factors that support well-being in adolescents, including self-efficacy, perceived stress, peer involvement, and connectedness to nature.

## Importance of Outdoor Adventure for Adolescents in a Digital Era

Outdoor adventures remain valuable in an era that offers effortless engagement and easy escape through social media and other digital platforms. Brymer and Feletti (2020) found that these experiences allow adolescents to cultivate psychological growth in areas such as resilience, mindfulness, self-efficacy, and self-worth. These findings are salient, as current research suggests that increasing social media use leads to more pathology among adolescents (Manske, 2019). Brymer and Feletti (2020) illuminate one of the common threads throughout outdoor adventure research: the opportunity it provides for adolescents to face fears, allowing them to experience and accept their state of discomfort. The adventure can facilitate restructuring of their relationship with the environment as they come to understand that their fear does not have to dictate their ability to engage in the experience. Moreover, outdoor adventure provides a space to extend everyday experiences and recognize new and deepening probabilities, 'opportunities to test, play with, and possibly transcend the confines of the self' (Brymer et al., 2020). Nature is a space free of verdicts, allowing identity exploration physically, emotionally, and spiritually in a developmental period heavy with self-exploration and peer evaluation as a daily experience.

## What Do Outdoor Adventure Programs Offer Adolescents That the Digital Life Doesn't?

At the core of outdoor adventure is the idea that it promotes physical activity, which can encourage an increase in caloric expenditure, decrease depressive symptoms, and reduce stress levels (Bailey et al., 2018). In this same study, Bailey et al. (2018) concluded that leisure time outdoors can increase physical activity and be a robust protective factor against physical and mental illnesses. It is perceived that outdoor time decreases screen time use and increases engagement in leisure activities that require some degree of physical exertion. To test this hypothesis, (Bailey et al., 2018) had participants engaged in either of these two activities. One

group walked in an urban environment, while the other group walked in a natural environment. The findings indicated that individuals who walked in the natural environment had lower cortisol levels, reported less stress and anxious symptoms, and engaged in greater movement. They highlighted the positive effects of green spaces, including plentiful spaces to explore, decreased distraction, increased mindfulness, and increased self-reflection.

**Overall Well-Being**

Broadly, outdoor adventure programs provide opportunities for individuals to experience the eudaimonic (meaning and purpose) and hedonic (pleasure and enjoyment) elements necessary to fulfill psychological needs and promote psychological growth (Houge Mackenzie & Hodge, 2020). More specifically, engagement in an outdoor adventure program promotes overall adolescent well-being, as well as other factors that support well-being in adolescents, such as increased self-efficacy, decreased stress, increased involvement with peers, and increased connectedness to nature.

Recent ROAP research conducted by Gargano and Turcotte (2021) examined common program variables that led to successful outcomes and enhanced overall well-being. Their findings suggested that the programs that had the most successful effects elicited an opportunity to increase self-understanding, interpersonal learning, socialization, and cohesion. Similarly, Stott et al. (2015) discovered related components when looking at individuals who engaged in ROAP programs abroad. They noticed that individuals who participated in these programs had increased levels of upward personal growth (realizing potential), outward personal growth (self in relation to others), inward personal growth (learning about self), and downward personal growth (self in context and about the environment). While there are outdoor adventure programs that are therapeutic and designed for clinical populations, the present study is interested in the

impact of ROAPs targeted for non-clinical populations (although a clinical diagnosis may not necessarily be an exclusion criterion for participation in these programs).

### *Self-Efficacy*

Recreational outdoor adventure programs can enhance well-being through experiences that foster autonomy, competence, beneficence, and relatedness (Houge Mackenzie & Hodge, 2020). To illustrate this, in the ROAP examined in this study, adolescents had the opportunity to assist in planning during the preparation process for their trip. Teamwork and leadership development were facilitated from the outset, providing adolescents the opportunity to work with teammates to plan the route, gear and gain skills.

ROAP participation may have salient benefits to adolescent self-exploration and identity development. Mutz and Müller (2020) explored the mental health benefits of outdoor recreation and found that novel experiences increase competence and self-efficacy in individuals. The findings further indicated that the more competent an individual feels in the activity, the more self-esteem they experience. Stott et al. (2015) further explored the personal development of adolescents during youth expeditions. They discovered that increases in adolescent self-confidence came by giving the youth the opportunity and choice to voluntarily engage in challenging situations and find ways to overcome them. By doing so, self-esteem levels increased as perceived competency grew, both of which could be facilitated by engagement in ROAPs.

### *Perceived Stress*

In addition to the benefits of competency, mastery, and self-efficacy, research has identified improvements in mindfulness and decreased stress as a result of ROAPs (Chang et al., 2019). Collectively, research suggests that engaging with nature offers individuals a greater

sense of mindfulness and decreased stress. Nature has been found to be the most restorative in areas of self-attunement and well-being for individuals who are deeply engaged and immersed in the beauty of the natural environment (Barton et al., 2016). A study by Chang et al. (2019) explored perceived levels of stress in adolescents who engaged in ROAPs and found enhanced psychological well-being and decreased stress related to the way the natural environment provided separation from perceived stressors. Furthermore, other ecopsychological studies have found that a specific type of novel outdoor environment produces the best outcomes. Shin et al. (2010) discovered that forest spaces that include some form of water, such as streams, lakes, and ponds, produce the most favorable psychological outcomes in decreasing stress, improving mood, alpha brain waves, and lowering blood pressure. Another study exploring task engagement during meditation in an urban space versus a natural environment found that meditative states were facilitated for longer durations when completed in natural environments when compared to urban spaces (Zurawik et al., 2020). In sum, research has suggested that time in nature is related to decreased stress both psychologically and physiologically.

Another direction that this research has taken is to explore the benefits of soft fascination and its impact on well-being. Soft fascination occurs when one's attention is held by less active or activating stimuli, providing the opportunity to reflect and introspect (Joye & DeWitte, 2018). Natural environments limit stimuli that require voluntary attention, allowing ample space for soft fascination and involuntary attention, which is helpful to psychological restoration (Hopman et al., 2021). Soft fascination may be related to the brain's default mode network, responsible for replenishing exhausted higher-order cognitive resources, thereby improving mood and well-being (Hopman et al., 2021). As related to this study, nature experiences may be formative for

adolescents, allowing disconnection from tasks that require executive attention and granting space for psychological restoration.

***Peer Involvement***

A healthy body of research supports the idea that peer connection is a very important aspect of adolescent identity development. Mutz and Müller (2020) examined this concept within a ROAP setting and found that increased group belonging was related to increased affective well-being. In addition, research on ROAPs has explored eudaimonic social well-being (defined as "a range of positive feelings such as happiness, joy, contentment and excitement, and arising from what people do and how they think and feel, coming from leisure practices such as adventure recreation" Mutz & Müller, 2020). Individuals with eudaimonic social well-being demonstrated a sense of autonomy, competence in their understanding of their surroundings and skill sets, and greater relatedness to others (Houge Mackenzie & Hodge, 2020). Sense of belongingness has been found to be impacted by ROAP group size. Mutz and Müller (2020) found that groups between seven and 15 promoted a sense of belonging without in-group and out-group dynamics. It was hypothesized that this group size facilitated quick rapport between group members as well as more rapid interpersonal role assignment. Individuals were also less likely to become marginalized, and group cohesion and willingness to participate increase significantly (Mutz & Müller, 2020).

Another common theme found across ROAP research is how shared experience fosters peer connection. Group cohesion is often formed when individuals work together to persevere through challenges and provide physical and social support for each team member's vulnerability (Gargano & Turcotte, 2021). Shared struggle is hypothesized to result in greater connection, in turn increasing the likelihood of further engagement.

### *Connectedness to Nature*

Connectedness to nature is the relationship between the self and the natural world, which reflects a sense of kinship and evokes an affective experience (Navarro et al., 2017). The connection can be broken down into two components: emotional connection (one's tenderness towards nature) and cognitive connectedness (how much nature is included in one's self-schema; Moreton et al., 2019). Ward-Smith et al. (2020) found that ecological immersion during critical periods of identity formation can not only enhance mood and bolster creativity but also enrich one's perceived connectedness to nature. Moreover, seeking time in nature has been found to provide one perspective as well as mental and emotional down-regulation, both factors that are associated with increased connectedness with nature (Brymer et al., 2020). This cognitive and emotional experience contributes to sense of belonging, relatedness, altruistic behaviors, perceived happiness, and well-being, all factors which are important for developing adolescents (Barrera-Hernández et al., 2020).

## Longitudinal Impacts of ROAPs

Current research depicts the short-term benefits of exposure to nature, though less attention has been paid to longitudinal impacts of ROAPs. Isolating program impacts from the impacts of other external adolescent experiences presents a challenge. In addition, regression towards pre-test measures has been noted (Garst et al., 2001). There is some evidence to suggest lasting impacts from engagement in ROAPs that have pursued data beyond immediate post-test measures. Goldenberg and Soule (2014) looked at two renowned programs (Outward Bound and National Outdoor Leadership School that served over 500 male and female participants who engaged in expeditions that were 14 days or longer. Their study found that participants continued to use and value program elements, including group experiences, interpersonal effectiveness,

leadership skills, decision-making, self-confidence, and self-esteem, even 4 years after completing the program. Another study looking at the impact of school-based expeditions identified “life changing” experiences nearly 40 years after the expedition (Allison et al., 2021). Findings discovered language, identity formation, coping in the outdoors, and the social and logistical issues around problem solving were key findings from their expedition engagement (Allison & Von Wald, 2011 as cited in Allison et al., 2021). Finally, participants reported that the experience offered opportunity to explore values and cultivate personal and social development with increased self-reliance (Allison et al., 2021).

Takano (2010) examined the longitudinal effects of a ROAP over a 20-year period, discovering that participants recollected their experience to have been a major life event impacting both their values and attitudes in their current day. In terms of lasting benefits, the study described an ongoing desire to seek personal growth through exploration and voluntary engagement in potentially challenging experiences. Next, individuals reported ongoing learning about self, learning about self in the context of others, and learning about human-nature relationships. Finally, participants reported developing and maintaining physical and mental fortitude (Takano, 2010).

In summary, these studies outline many ROAP outcomes that support well-being in adolescents, ranging from improved overall well-being, decreased perceived stress, increased peer involvement, and increased connectedness to nature. Studies have even begun to explore longitudinal impacts of ROAP participation. Building on this research, this study seeks to explore outcomes related to a 28–37-day outdoor adventure program for adolescents that supports areas including overall well-being, self-efficacy, perceived stress, peer involvement, and connectedness to nature.

The following hypotheses outline the adolescent well-being outcomes of the ROAP explored in this study:

Hypothesis 1: Participation in the ROAP will increase overall well-being (as measured by Warwick-Edinburgh Mental Well-Being Scale).

Hypothesis 2: Participation in the ROAP will increase self-efficacy (as measured by NIH Toolbox Item Bank/Fixed Form v2.0 – Self-Efficacy Ages 13-17 v2.0).

Hypothesis 3: Participation in the ROAP will decrease perceived levels of stress (as measured by NIH Toolbox Perceived Stress Fixed Form Ages 13-17 v2.0).

Hypothesis 4: Participation in the ROAP will increase involvement with peers (as measured by the PROMIS Pediatric Bank v2.0 – Peer Relationships).

Hypothesis 5: Participation in the ROAP will increase perceived connectedness to nature (as measured by Nature Connection Index).

# Chapter 2

# Methods

## Participants

The data used were obtained from an archival dataset collected as part of routine program evaluation by a Minnesota-based ROAP during the summer of 2021. The members of this study consisted of 34 participants (participants who had completed the expedition a year or two prior). Only participants that completed all three surveys were included (pre-trip, post-trip, 45-day follow-up), which excluded four participants. Participants ranged from 16–21 years of age with 16 males and 18 females. The participants identified as 89.5% European-American (*n* = 34), 5.3% Hispanic or Latino (*n* = 2), and 5.3% multiracial (*n* = 2; see Table 1).

Table 1

*Participant Demographics by Trip*

| Trip | *n* | Trip length | Location | Gender |
|---|---|---|---|---|
| Crew 1 – 1st Session | 6 | 28 days | BWCAW | Male crew |
| Crew 2 – 1st Session | 7 | 28 days | BWCAW | Female crew |
| Crew 3 – 2nd Session | 6 | 28 days | BWCAW | Male crew |
| Crew 4 – 2nd Session | 7 | 28 days | BWCAW | Female crew |
| Crew 5 – 2nd session | 4 | 28 days | BWCAW | Female crew |
| Crew 6 – Far North | 4 | 37 days | Alaska | Male crew |

*Note*. BWCAW – Boundary Waters Canoe Area Wilderness; $N = 34$

**Procedures**

Regarding the ROAP's data collection procedures, parental permission to use the data for research purposes was requested through email by the program director. Participants whose parents gave permission completed the pre-trip survey prior to their first crew interaction. The questions took approximately 15 minutes to complete. The post-trip survey was completed within 1 week of returning home from their respective trips. The participants then were sent a 45-day follow-up survey from the day they returned from their trip, though the latency to completion varied from 42–89 days after they returned from their trip ($M = 57.5$ days post-trip). Table 2 captures the timing of the three data collection points. Data were de-identified to protect the confidentiality of participants prior to data analysis for this study.

**Table 2**

*Administration Timing*

| Pre-trip | Immediate post-trip | 45-day Follow-up |
|---|---|---|

| | | |
|---|---|---|
| Prior to first crew interaction | Within 7 days of return - average 1.3 days | Varied between 42-89 days after return - average 57.5 days |

## Program

### *First-Year Trips*

First-year trips (Crews 1–5, 1st and 2nd Sessions) included sophomore through seniors in high school, most of whom were local students from the central Minnesota area. The trips were 28 days in length, and each crew consisted of seven participants and two guides. All guides were past participants of the program. Crews were same-gendered, either all-male or all-female, and took place in the Boundary Waters Canoe Area Wilderness in the upmost Northeast corner of Minnesota above Lake Superior. The Boundary Waters Canoe Area Wilderness includes over one million acres of terrain located within Superior National Forest. See trip objectives in Table 3.

**Table 3**

*Trip Objectives- Sessions 1 & 2*

| Session | Trip objectives |
|---|---|
| 1 and 2 | • Learn the basics of wilderness travel.<br>• Learn to make decisions based on what is best for the group rather than the self.<br>• Learn to accept personal limitations while enhancing personal strengths.<br>• Learn to understand and use basic leadership skills.<br>• Learn to better communicate with other people under diverse & extreme conditions.<br>• Come to grip on personal decisions and attitudes in the areas of chemical and alcohol use.<br>• Learn the value and responsibilities of group citizenship.<br>• Learn about the value and wonder of our natural world and how to use it without abusing it.<br>• Learn basic camping and canoeing skills.<br>• Develop physical strength, stamina, and the ability to persevere under extreme conditions. |

### *Far-North Trip*

One year of experience was required for participants to qualify for a Far-North Trip, an advanced program with participants who ranged in age from junior high school students to college freshmen. This was a 37-day trip covering more difficult and remote terrain in the Brooks Range, Alaska. The crew included four participants and two guides, allowing for closer relationships to be developed over the more rigorous expedition with significantly more challenges and skills required to succeed, as compared to the Sessions 1 and 2. See Table 4 for trip objectives.

**Table 4**

*Trip Objectives- Far-North Trip*

| Trip designation | Trip objectives |
|---|---|
| Far-North trip | • Learn to plan, organize, and prioritize.<br>• Enhance leadership skills.<br>• Develop critical thinking habits.<br>• Master outdoor, white water and safety skills.<br>• Learn to communicate effectively with all crew members/guide.<br>• Remain actively involved in the ROAP. |

### *Trip Preparation & Execution*

Participant involvement begins with collaboration around planning their trip route, meal planning, food dehydration, organizing gear needed, learning to portage, learning to paddle, learning to tie knots, learning basic medical skills, and acquiring any other relevant skills. Crews typically begin preparations a month ahead of time, preparing up until the time they leave. A guide's role is to chaperone and ensure safety, though a program priority is allowing the participants to problem-solve challenges using their own skillsets (with guides intervening around safety concerns). This approach allows participants to develop their own leadership

structure, roles, and communication patterns. Once crews are on trail, there are various jobs that are rotated among members (e.g., dishwasher, making fire, quartermaster, cook, and "guide of the day"). The guide of the day is in charge of final decisions for the crew for the assigned 24-hour period. For example, the guide of the day decides wake-up time, daily paddle distance, mealtimes, any re-routing needs, and paddle partners. A typical day on trail may involve getting up and breaking camp around 6:00 AM, paddling until noon for lunch, paddling after lunch until 5:00 PM, then making camp and dinner. The guide of the day also helps the crew navigate daily challenges such as long portages, inclement weather, whitewater, bugs, homesickness, interpersonal conflict, getting lost, or broken or damaged gear.

## Instruments

Participants were surveyed at pre-trip, post-trip, and follow-up using the following five measures.

### *Warwick-Edinburgh Mental Well-Being Scale*

To measure overall well-being, the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) was used (Tennant et al., 2007). The WEMWBS aims to measure mental well-being using 14 questions rated on a five-point Likert scale. Total scores range from 15–70. The population mean has been found to be 51, with a standard deviation of 7. Raw scores were converted to T-scores, with a mean of 50 and a standard deviation of 10. Mental well-being is defined as the positive aspects of mental health that leave people feeling good and functioning well. Cronbach’s alpha coefficient was measured as 0.89, and test-retest reliability was measured to be .83 (Stewart-Brown & Janmohamed, 2008). The WEMWBS was found to be responsive to well-being changes across a wide range of mental health interventions in various populations.

### *NIH Toolbox® Emotion Batteries for Children- Self-Efficacy Fixed Form Ages 13-17 v2.0*

To measure self-efficacy, the Self-Efficacy Fixed Form Ages 13-17 v2.0 from the NIH Toolbox® Emotion Batteries for Children (Gershon et al., 2013) was used. The form is composed of ten questions that ask participants to assess their self-efficacy on a five-point Likert scale. Scores yielded are T-scores, with a mean of 50 and a standard deviation of 10. Self-efficacy is defined as a person's belief in his/her capacity to manage functioning and control meaningful events. Confirmatory factor analysis yielded a single-factor solution. Cronbach's alpha coefficient was measured to be .90 (Salsman et al., 2013). The validation of the NIH Toolbox® Emotion Batteries for Children is ongoing.

### *NIH Toolbox® Emotion Batteries for Children- Perceived Stress Fixed Form Ages 13-17 v2.0*

To measure perceived stress, the Perceived Stress Fixed Form Ages 13-17 v2.0 from the NIH Toolbox® Emotion Batteries for Children (Gershon et al., 2013) was used. The form is composed of ten questions that ask participants to describe their feelings on thoughts on a five-point Likert scale. Scores yielded are T-scores, with a mean of 50 and a standard deviation of 10. Perceived stress is defined as an individual's perception of the nature of events and their relationship with the values and coping resources of an individual. Confirmatory factor analysis yielded a single-factor solution. Cronbach's alpha coefficient was measured to be .89 (Salsman et al., 2013). The validation of the NIH Toolbox® Emotion Batteries for Children is ongoing.

### *Patient-Reported Outcomes Measurement Information System Peer Relationships Short Form, Modified*

To measure peer involvement, the Peer Relationships Short Form (PR-SF) from the Patient-Reported Outcomes Measurement Information System (PROMIS®; Dewalt et al., 2013) was modified for use in this study. This form is typically composed of 15 questions that ask

participants to describe their peer relationships on a five-point Likert scale. Items were summed to equal a total score. Cronbach's alpha coefficient was measured to be .83 (Varni et al., 2014). The content validity of PROMIS measures has been explored using patient interviews and reviews by expert review panels (DeWalt et al., 2007). Confirmatory and exploratory factor analyses have yielded a single-factor solution (Dewalt et al., 2013). For this study, the PR-SF was modified to only include the first ten items.

### *Nature Connection Index*

To measure connectedness to nature, the Nature Connection Index (NCI) items were used (Richardson et al., 2019). The form is composed of six questions that ask participants to assess their connectedness to nature on a seven-point Likert scale. The mean score for children aged under 16 years has been measured to be 57.45 (*SD* = 25.43). Items were summed to equal a total score. Connectedness to nature is defined as the extent to which individuals include nature as part of their identity, including its cognitive, affective, and behavioral components. The confirmatory factor analysis yielded a single-factor solution. Internal consistency was measured to be .84 and internal validity was measured to be .82 (Richardson et al., 2019).

# Chapter 3

# Results

## Normality

The Statistical Package for the Social Sciences (SPSS, version 27.0) was used for all analyses. Differences found in all analyses were considered significant and reported if reaching at least the .05 level of confidence. The skewness and kurtosis of each variable were explored using the Kolmogorov-Smirnov Test of Normality, and the results are displayed in Table 5.

**Table 5**

*Descriptive Statistics*

| Variable | Period | *M* | *SD* | *Mdn* | Normality (Kolmogorov-Smirnov *p*-value) |
|---|---|---|---|---|---|
| Well-being | Pre-trip | 51.400 | 11.768 | 53 | .200* |
| | Post-trip | 60.171 | 9.426 | 60 | .200* |
| | Follow-up | 55.901 | 10.435 | 57 | .200* |
| Self-efficacy | Pre-trip | 51.280 | 7.207 | 50 | 0.004 |
| | Post-trip | 55.910 | 7.238 | 55 | 0.088 |
| | Follow-up | 53.557 | 10.162 | 53 | 0.046 |
| Perceived stress | Pre-trip | 58.184 | 5.984 | 58 | <0.001 |
| | Post-trip | 57.394 | 4.833 | 58 | 0.030 |
| | Follow-up | 55.826 | 5.605 | 56 | 0.010 |
| Peer relationships | Pre-trip | 19.878 | 0.726 | 20 | 0.002 |
| | Post-trip | 44.121 | 0.664 | 45 | <0.001 |
| | Follow-up | 40.723 | 0.878 | 39 | <0.001 |
| Connectedness to nature | Pre-trip | 36.796 | 0.451 | 37 | .200* |
| | Post-trip | 39.344 | 0.327 | 42 | 0.002 |
| | Follow-up | 39.871 | 0.279 | 42 | 0.09 |

Of the dependent variables, only well-being had a normal distribution. Fractional rank method was used to transform non-normal distributions to normal distributions.

A 3 X 5 Repeated-Measures Multivariate Analysis of Variance was used to compare the effect of time (pre-test, post-test, and follow-up tests) on well-being, peer relationships, perceived stress, self-efficacy, and connectedness to nature. The results indicated that there were significant differences between at least two groups ($\Lambda = 1.052$, $F(2, 33) = 13.095$, $p < .001$, $\eta^2 = .526$, power > .999). The analysis of variance results indicated that there were significant

differences between the pre-test, post-test, and follow-up tests on well-being ($F(2, 33) = 9.181$, $p < .001$, $\eta^2 = .228$, power = .971), self-efficacy ($F(2, 33) = 6.002$, $p = .004$, $\eta^2 = .162$, power = .867), perceived stress ($F(2, 33) = 4.168$, $p = .02$, $\eta^2 = .119$, power = .714), peer relationships ($F(2, 33) = 228.285$, $p < .001$, $\eta^2 = .88$, power > .999), and connectedness to nature ($F(2, 33) = 18.039$, $p < .001$, $\eta^2 = .368$, power > .999).

Least significant difference (LSD) post-hoc tests indicated that participant well-being, self-efficacy, and connectedness to nature significantly improved from pre-trip to post-trip (with small, small, and moderate effect sizes, respectively), but no significant difference was found between post-trip and follow-up. For perceived stress, however, LSD post-hoc tests indicated that there was a significant improvement from the pre-trip to the 45-day follow-up (small effect size). Finally, peer relationships significantly improved from pre-trip to post-trip, then significantly decreased from post-trip to follow-up, with follow-up scores still significantly improved as compared to pre-trip scores (large effect size; see Figures 1 & 2).

**Figure 1**

*Well-Being, Self-Efficacy, and Perceived Stress T-Scores*

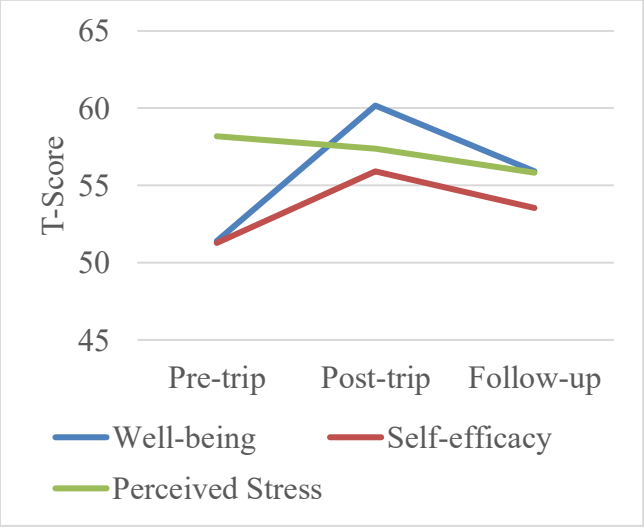
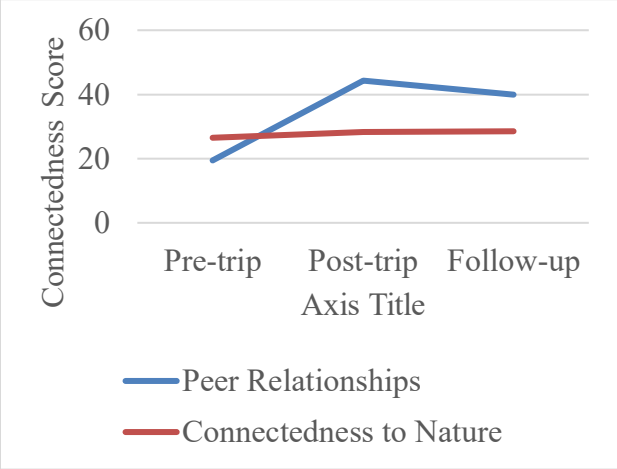


**Figure 2**

*Peer Relationships and Connectedness to Nature Total Scores*




## Chapter 4

## Discussion

This study explored how engagement in a recreational outdoor adventure program (ROAP) promoted overall adolescent well-being, as well as other factors that support well-being in adolescents, including self-efficacy, perceived stress, peer involvement, and connectedness to nature. Outdoor adventure and unstructured play have historically been fundamental cornerstones of adolescent development. Prior research has found that ROAPs improve overall well-being (Gargano & Turcotte, 2021; Stott, 2015), self-efficacy (Mutz & Müller, 2020), perceived stress (Chang et al., 2019; Shin et al., 2010), peer involvement (Mutz & Müller, 2020), and connectedness to nature (Ward-Smith et al., 2020). Additionally, prior research supports the longitudinal impact of ROAP participation on these outcomes (Allison et al., 2021). Research on ROAPs has primarily focused on those developed for clinical populations, which incorporate therapeutic components as a basis for the program's structure. However, fewer studies have explored ROAP outcomes for non-clinical populations and the benefits for developing adolescents. In summary, research has outlined many ROAP outcomes that support well-being in

adolescents, ranging from improved overall well-being, decreased perceived stress, increased peer involvement, and increased connectedness to nature. Studies have even begun to explore longitudinal impacts of ROAP participation. Building on this research, this study sought to explore outcomes related to a 28–37-day outdoor adventure program for adolescents that supports areas including overall well-being, self-efficacy, perceived stress, peer involvement, and connectedness to nature.

**Outcomes**

Well-being findings were commensurate with previous research findings indicating significant improvement in overall well-being between the beginning and end of participation in a 28–37-day outdoor adventure program. This paralleled findings of Gargano and Turcotte (2021) and Stott et al. (2015). While the effect was small, it was sustained at 45-day follow-up, suggesting that this intervention may have lasting impacts on adolescent well-being. The significant improvement in well-being through ROAP participation further suggests that engagement with the natural environment remains beneficial to adolescent development.

In regard to self-efficacy, there was also significant improvement from pre- to post-ROAP participation, consistent with Mutz and Müller (2020), providing further support that outdoor recreation and novel experiences in the form of a ROAP can benefit adolescent self-efficacy development. This effect size was also small, but the impact was sustained at follow-up, suggesting a longitudinal impact. Specific program characteristics may have also benefitted self-efficacy, such as the autonomy and leadership opportunity provided.

Levels of perceived stress progressed in a downward trend from pre-trip to 45-day follow-up, with significant decreases noted at 45-day follow-up. Previous research found enhanced psychological well-being and decreased stress in adolescents engaged in ROAPs

related to the way the natural environment provided separation from perceived stressors (Chang et al., 2019). However, this study didn't find significantly decreased stress between the pre-trip and post-trip periods. It is possible that during the intervention period on trail, the related physical and emotional challenges experienced necessitated management and coping with stressful situations. Ongoing challenges and uncertainty can threaten an individual's sense of comfort, which can be a stressful experience. Weather, navigation, and waning energy levels provoke creativity, flexibility, humor, self-compassion, and acceptance toward effective coping. Perhaps engagement in these challenging tasks didn't immediately reduce stress, but ultimate success improved self-efficacy, resulting eventually in decreased stress after the intervention period. For instance, participants may have become more proficient in their capacity to solve problems and self-sooth among confronted stressors, and these psychosocial skills may have then expanded in helping them manage the familiar stressors of returning home. Of course, these findings could also be explained by a third external variable that influenced perceived stress more prominently than ROAP engagement (e.g., being on summer break from school).

Regarding peer relationships, peer relationships significantly improved over the intervention period from pre-trip to post-trip with a large effect size. However, peer relationships scores significantly decreased from post-trip to follow-up (though follow-up scores were still significantly improved as compared to pre-trip scores; see Figures 1 & 2). The increased scores during the intervention period aren't surprising, given the significantly increased contact between the study participants during their time on trail and the shared challenges they faced. The large effect size was commensurate with prior research findings by Mutz and Müller (2020) suggesting optimal group size to be between seven and 15 participants to promote sense of belonging without in-group and out-group dynamics. Gargano and Turcotte (2021) had also

found increased group cohesion when individuals worked together to persevere through challenges and provide physical and social support for each team member's vulnerability. Limited prior research had explored longitudinal follow-up data on peer relationships, and this study suggests that while peer relationship scores declined significantly after the intervention period, 45-day follow-up scores were still significantly higher than pre-trip, indicating some long-term impact.

Finally, the impact of this ROAP on connectedness to nature was explored, with results indicating significant improvement (moderate effect size) from pre- to post-ROAP participation. This impact was sustained at follow-up, suggesting a longitudinal impact. These findings were consistent with prior research (e.g., Ward-Smith et al., 2020, Brymer et al., 2020) which also found that ecological immersion and time in nature increased one's connectedness to nature. Findings of this study add to this prior research, outlining that these impacts on connectedness to nature are lasting beyond the study period.

**Limitations and Future Research**

Although the current study found significant results overall, several limitations were discussed. This study had a small sample size, which limited the number of analyses that could be used. With a larger sample, impacts of gender and age would be possible, certainly areas worthy of future exploration. Another limitation was that some of the measures used were designed for use in individuals up to age 17 years. The mean and median age range in this study was 17 years, with some participants above the age cutoff for those measures. However, for continuity of data, and comparisons across this age group, the measures were selected based on the total mean and median age of participants, as opposed to by individual.

Next, the population studied is primarily composed of individuals who are enrolled at a private high school in central Minnesota, as program recruitment occurred most heavily at this school. As the program has grown in popularity, an increasing number of participants from other surrounding schools and cities have diversified the race, ethnicity, and socioeconomic markers of its participants. However, because the participants originated from a centralized area that is predominately of European heritage, the diversity of participants remains a limitation.

Future research might consider adding control group comparisons, exploring which components of the program specifically affected well-being. This would help determine areas of emphasis for future participation and focus, potentially enhancing both participant satisfaction and program outcomes. One idea might be to use an outdoor school control group, an outdoor curriculum that is required as opposed to optional, controlling better for selection bias.

Additionally, Far North participants were returners, having previously done an expedition with the company before. This could have influenced the impact of the intervention for this group, either dampening it because of it being a second intervention, or strengthening it due to building on prior foundations. Future research will benefit from differentiating the impact of prior engagement on current intervention responsiveness.

In addition, while this ROAP was advertised as an adventure-based program versus a therapeutic intervention (wilderness therapy), it does not automatically exclude participants with mental health concerns. While the program did screen for this (in addition to physical health concerns) for safety considerations, there may have been individuals included in this study whose results were impacted more significantly as a result of improved or worsened mental health concerns. Additionally, this study did not test mediators or moderators to explore pathways to well-being or decreased perceived stress. Further research would be helpful to

explore whether ROAP engagement increases self-efficacy, which in turn decreased perceived stress, for instance. Finally, outside of this study, there is limited research on the long-term impact of engagement in ROAPs. Most studies suspended data collection after immediate follow-up, suggesting that future research on ROAPs would benefit from follow-up at later points to determine the length of time that significant results are maintained (even beyond 45 days).

## Conclusion

This study sought to explore outcomes related to a 28–37-day recreational outdoor adventure program for adolescents that supports areas including overall well-being, self-efficacy, perceived stress, peer involvement, and connectedness to nature. Multivariate Analysis of Variance results indicated that participant well-being, self-efficacy, and connectedness to nature significantly improved from pre-trip to post-trip (with small, small, and moderate effect sizes, respectively), with no significant differences found between post-trip and 45-day follow-up. For perceived stress, there was a significant improvement from the pre-trip to the 45-day follow-up (small effect size). Finally, peer relationships significantly improved from pre-trip to post-trip, then significantly decreased from post-trip to follow-up, though follow-up scores remained significantly improved as compared to pre-trip scores. These findings were promising, reinforcing previous research on the beneficial impacts of recreational outdoor adventure programs for adolescents. All five of the dependent variables in the study were improved significantly between the pre-test and 45-day follow-up period, with well-being, self-efficacy, peer relationships and connectedness to nature improving most during the intervention period. While stress wasn’t significantly decreased during the study period (perhaps due to the challenging nature of the adventures), longer-term stress was significantly improved. Future

research might include controlled exploration of various program components, exploring different program options and identifying how outcomes change related to programming shifts.

## References

Allison, P., Stott, T., Palmer, C., & Ramirez, M.J. (2021). Forty years on: Just how life changing are school expeditions? *Journal of Outdoor Recreation, Education, and Leadership*, *13*(3), 4. https://doi.org/10.18666/JOREL-2020-V13-I3-10674

Asfeldt, M., & Hvenegaard, G. (2014). Perceived learning, critical elements and lasting impacts on university-based wilderness educational expeditions. *Journal of Adventure Education & Outdoor Learning*, *14*(2), 132–152. https://doi-org.georgefox.idm.oclc.org/10.1080/14729679.2013.789350

Bailey, A. W., Allen, G., Herndon, J., & Demastus, C. (2018). Cognitive benefits of walking in natural versus built environments. *World Leisure Journal, 60*(4), 293-305. doi:10.1080/16078055.2018.1445025

Barton, J., Bragg, R., Pretty, J., Roberts, J., & Wood, C. (2016). The wilderness expedition: An effective life course intervention to improve young people's well-being and connectedness to nature. *Journal of Experiential Education, 39*(1), 59-72. doi:10.1177/1053825915626933

Barrera-Hernández, F., Sotelo-Castillo, A., Echeverría-Castro, B., & Tapia-Fonllem, O. (2020). Connectedness to nature: Its impact on sustainable behaviors and happiness in children. *Frontiers in Psychology*, *11*, 276. https://doi.org/10.3389/fpsyg.2020.00276

Brymer, E., & Feletti, F. (2020). Beyond risk: The importance of adventure in the everyday life of young people. *Annals of Leisure Research, 23*(3), 429-446. doi:10.1080/11745398.2019.1659837

Brymer, E., Crabtree, J., & King, R. (2020) Exploring perceptions of how nature recreation benefits mental wellbeing: A qualitative enquiry, *Annals of Leisure Research*. DOI: 10.1080/11745398.2020.1778494

Chang, Y., Davidson, C., Conklin, S., & Ewert, A. (2019). The impact of short-term adventure-based outdoor programs on college students' stress reduction. *Journal of Adventure Education and Outdoor Learning, 19*(1), 67-83. doi:10.1080/14729679.2018.1507831

Curry, N., & Brown, K. (2010). Differentiating outdoor recreation: Evidence drawn from national surveys in Scotland. *Journal of Policy Research in Tourism, Leisure and Events, 2*(1), 29–50.

DeWalt, D., Rothrock, N., Yount, S., Stone, A., & PROMIS Cooperative Group. (2007). Evaluation of item candidates: The PROMIS qualitative item review. *Medical care, 45*(5 Suppl 1), S12–S21. https://doi.org/10.1097/01.mlr.0000254567.79743.e2.

Dewalt, D., Thissen, D., Stucky, B., Langer, M., Morgan Dewitt, E., Irwin, D., Lai, J., Yeatts, K., Gross, H., Taylor, O., & Varni, J. W. (2013). PROMIS Pediatric Peer Relationships Scale: Development of a peer relationships item bank as part of social health measurement. *Health Psychology: Official Journal of the Division of Health Psychology, American Psychological Association, 32*(10), 1093–1103. https://doi.org/10.1037/a0032670.

Gargano, V., & Turcotte, D. (2021). Helping factors in an outdoor adventure program. *Journal of Social Work, 21*(1), 88-106. doi:10.1177/1468017319863708

Garst, B., Scheider, I., & Baker, D. (2001). Outdoor Adventure Program Participation Impacts on Adolescent Self-Perception. *Journal of Experiential Education, 24*(1), 41. https://doi-org.georgefox.idm.oclc.org/10.1177/105382590102400109

Gershon, R., Wagster M., Hendrie H., Fox N., Cook K., & Nowinski C. NIH toolbox for assessment of neurological and behavioral function. Neurology. (2013) 10.1212/WNL.0b013e3182872e5f. PMID: 23479538; PMCID: PMC3662335.

Goldenberg M., & Soule, K. (2014). A four-year follow-up of means-end outcomes from outdoor adventure programs. *Journal of Adventure Education and Outdoor Learning., 15*(4), 284–295.

Hopman, J., Atchley, A., Atchley, P., & Strayer, L. (2021). How nature helps replenish our depleted cognitive reserves and improves mood by increasing activation of the brain's default mode network. In S. M. Lane & P. Atchley (Eds.), *Human Capacity in the Attention Economy.* (pp. 159–187). American Psychological Association. https://doi-org.georgefox.idm.oclc.org/10.1037/0000208-008

Houge Mackenzie, S., & Hodge, K. (2020). Adventure recreation and subjective well-being: A conceptual framework. *Leisure Studies, 39*(1), 26-40. doi:10.1080/02614367.2019.1577478

Joye, Y., & Dewitte, S. (2018). *Nature's broken path to restoration. A critical look at attention restoration theory*. ResearchGate. https://doi.org/10.31234/osf.io/72uhz

Manske, A. (2019). Mediators of problematic social media use in adolescence as possible mechanisms of change in psychotherapy. *Praxis Der Kinderpsychologie Und Kinderpsychiatrie.*, *68*(8), 690–710. https://doi.org/10.13109/prkk.2019.68.8.690

Mayer (2004). Why Is Nature Beneficial?: The Role of Connectedness to Nature. *Environment and Behavior.*, *41*(5), 607–643.

Moreton, S., Moreton, A., Arena, A., & Tiliopoulos, N. (2019). Connectedness to nature is more strongly related to connection to distant, rather than close, others. *Mary Ann Liebert, Inc*. Retrieved April 21, 2021, from https://www.liebertpub.com/doi/10.1089/eco.2018.0063

Mutz, M., & Müller, J. (2020). From experiences to outcomes: Conditions and mechanisms of effective outdoor and adventure education camps for youths. [Vom Erlebnis zum Ergebnis: Zur Wirkungsweise abenteuer- und erlebnispädagogischer Jugendfreizeiten] *Zeitschrift Fur Erziehungswissenschaft, 23*(4), 847-868. doi:10.1007/s11618-020-00960-y

Navarro, O., Olivos, P., & Fleury-Bahi, G. (2017). "Connectedness to Nature SCALE": Validity and reliability in the French context. *Frontiers*. Retrieved April 21, 2021, from https://www.frontiersin.org/articles/10.3389/fpsyg.2017.02180/full

Pritchard, A., Richardson, M., Sheffield, D., & McEwan, K. (2020). The relationship between nature connectedness and eudaimonic well-being: A meta-analysis. *Journal of Happiness Studies*, 21(3), 1145–1167. https://doi-org.georgefox.idm.oclc.org/10.1007/s10902-019-00118-6

Richardson, M., Hunt, A., Hinds, J., Bragg, R., Fido, D., Petronzi, D., Barbett, L., Clitherow, T., White, M. (2019). A measure of nature connectedness for children and adults: Validation, performance, and insights. *Sustainability*, *11*, 3250. https://doi.org/10.3390/su11123250

Salsman, J., Butt, Z., Pilkonis, P., Cyranowski, J., Zill, N., Hendrie, H., Kupst, M., Kelly, M., Bode, R., Choi, S., Lai, J., Griffith, J., Stoney, C., Brouwers, P., Knox, S., & Cella, D. (2013). Emotion assessment using the NIH toolbox. *Neurology*, *80*(11 Suppl 3), S76–S86. https://doi.org/10.1212/WNL.0b013e3182872e11

Shin, S., Yeoun, S., Yoo, W., & Shin, S. (2010). Forest experience and psychological health benefits: The state of the art and future prospect in Korea. *Environmental Health and Preventive Medicine, 15*(1), 38-47. doi:10.1007/s12199-009-0114-9

Stewart-Brown & Janmohamed (2008). *Warwick-Edinburgh Mental Well-being Scale user guide: Version 1*. NHS Health Scottland. http://www.mentalhealthpromotion.net/resources/user-guide.pdf

Stott, T., Allison, P., Felter, J., & Beames, S. (2015). Personal development on youth expeditions: A literature review and thematic analysis. *Leisure Studies*, *34*(2), 197-229. doi:10.1080/02614367.2013.841744

Takano T. (2010). A 20-year retrospective study of the impact of expeditions on Japanese participants. *Journal of Adventure Education and Outdoor Learning.*, *10*(2), 77–94.

Tennant, R., Hiller, L., Fishwick, R., Platt, S., Joseph, S., Weich, S., Parkinson, J., Secker, J., & Stewart-Brown, S. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. *Health Qual Life Outcomes*, *5*(63). https://doi.org/10.1186/1477-7525-5-63

Varni, J., Magnus, B., Stucky, B., Liu, Y., Quinn, H., Thissen, D., Gross, H., Huang, I., & DeWalt, D. (2014). Psychometric properties of the PROMIS® pediatric scales: Precision, stability, and comparison of different scoring and administration options. *Quality of Life Research*, *23*(4), 1233-1243.

Ward-Smith, Naidoo, T., Olvitt, L., & Akhurst, J. (2020). Perceived benefits of nature-based experiences as mediators of connectedness with nature: the case of Mystic Mountain. *South African Journal of Psychology*, 50(4), 553–564. https://doi.org/10.1177/0081246320947064

Zurawik, A., Carson, J., & Snape, R. (2020). “Magic mirror on the wall”: Is Nordic walking or rambling better for your mental well-being? [“Magiczne lustro na ścianie” - czy Nordic walking jest lepszy dla samopoczucia psychicznego niż wędrówki?] *World Leisure Journal, 62*(2), 132-145. doi:10.1080/16078055.2019.1636857

## Appendix A

## Informed Consent Form

CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

Research Description

We are requesting your child's participation in research to assess the impact of the Les Voyageur's program on overall well-being. During this study your child will be asked to complete three questionnaires, one being before they leave, one upon their return, and one 45 days after their return.

The amount of time required for your child's participation will be approximately 10 to 15 minutes per questionnaire.

Voluntary Participation

Your child's participation is entirely voluntary, and you may choose not to allow them to participate in this study or withdraw your consent at any time. You will not be penalized in any way should you choose not to participate or withdraw.

Privacy and Confidentiality

We will do everything we can to protect your child's privacy. Personal data collected from this study is your child's age, gender, and ethnicity. Your child's identity will not be revealed in any publication that may result from this study.

Contact Information

If you have any questions or concerns regarding this study or feel that you have been harmed in any way by your participation in this research, please contact the Les Voyageurs office at (phone number).

❑ I have read this consent form and have been given a chance to ask questions. I agree to participate in the research study described above.

_____ _____

(Parent/Guardian Signature) (Date)

## Appendix B

## Informed Assent Form

ASSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES
Research Description

We are requesting your child's participation in research to assess the impact of the Les Voyageur's program on overall well-being. During this study you will be asked to complete three questionnaires, one being before you leave, another upon your return, and a third 45 days after your return.

The amount of time required for your participation will be approximately 10 to 15 minutes per questionnaire.

Voluntary Participation

Your participation is entirely voluntary, and you may choose not to participate in this study or withdraw your consent at any time. You will not be penalized in any way should you choose not to participate or withdraw.

Privacy and Confidentiality

We will do everything we can to protect your privacy. Personal data collected from this study is your child's age, gender, and ethnicity. Your child's identity will not be revealed in any publication that may result from this study.

Contact Information

If you have any questions or concerns regarding this study or feel that you have been harmed in any way by your participation in this research, please contact the Les Voyageurs office at (phone number).

❑ I have read this consent form and have been given a chance to ask questions. I agree to participate in the research study described above.

_____ _____

(Participant Signature) (Date)

# Appendix C

## Questionnaires

PROMIS® Pediatric Item Bank v2.0 – Peer Relationships

### Pediatric Peer Relationships

**Please respond to each question or statement by marking one box per row.**

| | **In the past 7 days...** | **Never** | **Almost Never** | **Sometimes** | **Often** | **Almost Always** |
|---|---|---|---|---|---|---|
| 5018R1r | I felt accepted by other kids my age..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 5058R1r | I was able to count on my friends ..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 5056R1r | I was able to talk about everything with my friends..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 1147R1r | I was good at making friends ..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 5055R1r | My friends and I helped each other out..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 233R2r | Other kids wanted to be my friend..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 210R1r | Other kids wanted to be with me..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 9020R1r | Other kids wanted to talk to me ..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 726aR2r | I felt good about my friendships ..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |
| 9019r | I liked being around other kids my age..... | ☐ 1 | ☐ 2 | ☐ 3 | ☐ 4 | ☐ 5 |

Last Updated: 28 July 2016

| | | | | | | |
|---|---|---|---|---|---|---|
| SC011 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC014 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC007 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC001 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC009 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC002 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC003 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC010 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC008m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| SC006 | | ☐ | ☐ | ☐ | ☐ | ☐ |

| | | | | | | |
|---|---|---|---|---|---|---|
| GSE01 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE02m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE03m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE04m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE05m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE06m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE07m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE08m | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE09 | | ☐ | ☐ | ☐ | ☐ | ☐ |
| GSE10 | | ☐ | ☐ | ☐ | ☐ | ☐ |

# The Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

**Below are some statements about feelings and thoughts.**

**Please tick the box that best describes your experience of each over the last 2 weeks**

| STATEMENTS | None of the time | Rarely | Some of the time | Often | All of the time |
|---|---|---|---|---|---|
| I've been feeling optimistic about the future | 1 | 2 | 3 | 4 | 5 |
| I've been feeling useful | 1 | 2 | 3 | 4 | 5 |
| I've been feeling relaxed | 1 | 2 | 3 | 4 | 5 |
| I've been feeling interested in other people | 1 | 2 | 3 | 4 | 5 |
| I've had energy to spare | 1 | 2 | 3 | 4 | 5 |
| I've been dealing with problems well | 1 | 2 | 3 | 4 | 5 |
| I've been thinking clearly | 1 | 2 | 3 | 4 | 5 |
| I've been feeling good about myself | 1 | 2 | 3 | 4 | 5 |
| I've been feeling close to other people | 1 | 2 | 3 | 4 | 5 |
| I've been feeling confident | 1 | 2 | 3 | 4 | 5 |
| I've been able to make up my own mind about things | 1 | 2 | 3 | 4 | 5 |
| I've been feeling loved | 1 | 2 | 3 | 4 | 5 |
| I've been interested in new things | 1 | 2 | 3 | 4 | 5 |
| I've been feeling cheerful | 1 | 2 | 3 | 4 | 5 |

Warwick-Edinburgh Mental Well-Being Scale (WEMWBS)

**Nature Connectedness Index**

| | **1- STRONGLY DISAGREE** | **2** | **3** | **4** | **5** | **6** | **7- STRONGLY AGREE** |
|---|---|---|---|---|---|---|---|
| I always find beauty in nature. | | | | | | | |
| I always treat nature with respect. | | | | | | | |
| Being in nature makes me very happy. | | | | | | | |
| Spending time in nature is very important to me. | | | | | | | |
| I find being in nature really amazing. | | | | | | | |
| I feel a part of nature. | | | | | | | |

**Appendix D**

**Curriculum Vita**


# MITCH FRITZ, MA, QMHP

 (320) 291-8099  mfritz19@georgefox.edu  1802 N College Street Newberg, Oregon 97132


## EDUCATION

**PsyD** Doctoral Candidate in Clinical Psychology Anticipated: May 2024
Graduate School of Clinical Psychology (APA Accredited)
George Fox University – Newberg, Oregon
Dissertation: "Impact of a Recreational Outdoor and Adventure Program on Adolescent Well-Being" – **Defended August 11, 2022**

**MA** Master of Arts, Clinical Psychology May 2021
Graduate School of Clinical Psychology (APA Accredited)
George Fox University – Newberg, Oregon

**BA** Bachelor of Arts, Psychology May 2019
Saint John's University – Collegeville, Minnesota

## SUPERVISED CLINICAL EXPERIENCE

**Providence Medical Group – Sherwood** – Behavioral Health Consultant July 2022 – Present
Pre-Internship, Sherwood, Oregon
Supervisor: Elizabeth Beswick, PsyD
Setting: Primary Care Clinic, Internal Medicine, Family Medicine, and Pediatrics

- Provided multifaceted services including short-term psychotherapy, assessments, comprehensive assessments, and professional consultation in an integrated medical setting.
- Provided face to face intervention and HIPAA compliment tele-behavioral health services and psychotherapy.
- Conducted evidence-based therapy including CBT, ACT, Person-Centered Therapy, and Motivational Interviewing with individuals across the lifespan.
- Crisis consultation and risk assessment for harm to self, harm to others, abuse, and inability to care for self.
- Treated patients with behavioral, emotional, and comorbid medical concerns; depression, anxiety, neurodevelopmental, trauma, psychosis, chronic pain, substance abuse/misuse, grief, fibromyalgia, diabetes, insomnia, hypertension, obesity, seizure disorders, tobacco cessation, cancer, and cognitive impairment, etc.

- Coordinated care among a multidisciplinary team including primary care providers, medical staff, social workers, psychiatry, and administrative staff.
- Collaborated with patients to create individualized treatment plans with consideration for cultural and lifestyle diversity.
- Identification and advocacy to medical staff about potential barriers that could impact patients health.
- Skills training and targeted behavior change to facilitate autonomy, medication management, treatment adherence, coping strategies, distress tolerance, stress reduction, and relaxation.
- Provided warm hand-offs with providers to increase work flow and provide patient centered care.
- Provided psychoeducation for patients and their support systems.
- Position funded by HRSA; additional training, seminars, and didactics consistent with HRSA grant.

**Cedar Hills Hospital –** Individual and Group Therapist February 2022 – Present
Practicum Experience and Professional Experience
Supervisor: Mario Bolivar, LCSW, Supervised hours with Chelsea Thompson, PsyD
Setting: Military Unit, Psychiatric Inpatient

- Facilitated evidenced based group therapy for active duty military personnel and veterans with trauma, chemical dependency, chronic pain, suicidal ideation, and severe mental illness.
- Provided individual therapy using evidence based practice to patients with trauma, chemical dependency, suicidal ideation, and severe mental illness.
- Completed psychosocial assessments and treatment planning to support and facilitate patient care.
- Consulted and collaborated with multidisciplinary team including other therapists, psychiatrists, hospitalists, social workers, nurses, mental health technicians to provide patient centered care.

**Qualified Mental Health Professional (QMHP)** – Crisis Consultant May 2021 – Present
Practicum Experience and Professional Experience
Behavioral Health Crisis Consultation Team, Yamhill County, Oregon
Setting: Emergency Department, ICU, Medical-Surgical
Supervisors: Luann Foster, PsyD, Mary Peterson, PhD, Bill Buhrow, PsyD

- Contracted with local county services to provide crisis consultation in the emergency department, ICU, and medical/surgical units at two rural hospitals.
- Provided risk assessment for suicide/homicide, psychosis, substance abuse, cognitive impairments, and other behavioral health evaluations to determine imminent risk.
- Consultation with supervisor after every risk assessment.
- Collaborative problem solving and treatment planning with attending physician and medical staff to establish appropriate level of care post assessment dependent on level of severity (acute hospitalization, respite care, or outpatient services).

- Engaged in risk mitigation, safety planning and development of appropriate discharge plans for patients in emergency departments who are stable to return home with outpatient services or to be discharged to respite care.
- Attended weekly group supervision and didactics.
- Aided in training new crisis consultants providing shadowing opportunities and mentorship.

**Providence Medical Group – Newberg**– Behavioral Health Consultant July 2021 – July 2022
Practicum II, Newberg, Oregon
Supervisor: Jeri Turgesen, PsyD, ABPP, MSCP
Setting: Primary Care Clinic, Internal Medicine and Family Medicine

- Provided multifaceted services including short-term psychotherapy, assessments, comprehensive assessments, and professional consultation in an integrated medical setting.
- Provided face to face intervention and HIPAA compliment tele-behavioral health services and psychotherapy.
- Conducted evidence-based therapy including CBT, ACT, and Person-Centered Therapy with individuals across the lifespan.
- Participated in chemical dependency rotation; substance use/abuse evaluation, identification of maladaptive coping strategies, co-visits with patients primary care physician and patient, attended didactics conducted by board certified psychiatrist specialized in addiction, and development of harm reduction strategies
- Provided psychoeducation for patients and their support systems.
- Coordinated care among a multidisciplinary team including primary care providers, medical staff, social workers, psychiatry, and administrative staff.
- Collaborated with patients to create individualized treatment plans with consideration for cultural and lifestyle diversity.
- Identification and advocacy to medical staff about potential barriers that could impact patients health especially when working with complex medical and mental health concerns.
- Skills training and targeted behavior change to facilitate autonomy, medication management, treatment adherence, coping strategies, distress tolerance, stress reduction, and relaxation.
- Provided warm hand-offs with providers to increase work flow provide patient centered care.
- Provided supervised oversight training and onboarding for new practicum students including supervised supervision of their intervention and assessment planning.
- Position funded by HRSA; additional training, seminars, and didactics consistent with HRSA grant.

**Tongue Point Job Corps** – Therapist November 2020 – June 2021
Practicum I, Astoria, Oregon
Supervisor: Alec Mendelson, PhD
Setting: Government Training Center

- Provided multifaceted services to underserved populations within a government run career training center.
- Conducted long-term and short-term evidence based therapy, including CBT, ACT, Person-Centered Therapy, and Solution Focused Therapy.
- Administered intake interviews, developed treatment plans, and composed weekly progress notes.
- Crisis intervention and risk assessment to identify current level of risk and safety; development of individualized safety planning.
- Collaborated with school administration and disability services to develop individualized learning plans to support student needs.
- Utilized group supervision to discuss patient presentation and concerns with a licensed psychologist and other therapists.

**Newberg High School Wellness Center** – Therapist September 2020 – November 2020
Practicum I, Newberg, Oregon
Supervisors: Brent Fisk, PsyD
Setting: High School, 9th – 12th Grade
*Impacted by COVID which led to change of training location*

- Psychodiagnostic interviewing to determine level of distress, functional impairment, symptom severity, and diagnostic impressions.
- Conducted long-term and short-term evidence based therapy through a cognitive behavioral lens.
- Crisis intervention and risk assessment to identify current level of risk and safety; development of individualized safety planning.
- Developed individualized treatment plans for presenting problem with consideration to individual and cultural diversity, composition of professional reports, and present clinical cases within group supervision.
- Engaged in weekly individual and group supervision to discuss cases with a licensed psychologist.

**Depression Support Group** – Group Therapist August 2020 – December 2020
Pre-Practicum, Supplementary, Newberg, Oregon
Supervisor: Tamara Rodgers, M.D., Glena Andrews, PhD, ABPP, MSCP

- Facilitated group therapy and psychoeducation to adults experiencing depression, grief, and loss.
- Reviewed psychoeducational videos and workbooks with group members.
- Created a safe and respectful environment to facilitate discussion and utilized group psychotherapy skills to ensure people had a chance to share their insights.
- Received peer to peer supervision on a weekly basis.

## RELATED CLINICAL EXPERIENCE

**St. Cloud Hospital –** Mental Health Technician February 2018 – August 2019
Professional Experience, St. Cloud, Minnesota
Setting: Adult Psychiatric Inpatient Unit / Child & Adolescent Psychiatric Inpatient Unit

- Established therapeutic rapport with patients to attain a therapeutic healing environment.
- Collaborated with patients to develop and achieve effective daily goals.
- Directed day-to-day unit programing to enhance coping skills and overall well-being.
- Conducted risk assessment with patients who expressed self-harm ideation; developed safety plans to mitigate imminent risk.
- Provided mental support in addition to performing hands on care.

**CentraCare Plaza Behavioral Health** – Behavioral Health Intern May 2018 – August 2018
Professional Experience – Undergraduate Student Intern, St. Cloud, Minnesota
Supervisor: Scott Palmer, PhD
Setting: Child and Adolescent Outpatient, Adult Outpatient, Intensive Outpatient Program (IOP)

- Calculated and scored psychometric testing (e.g., MMPI, WISC, WJ, BRIEF, IVA, WRAML-II).
- Observed diagnostic assessments and comprehensive testing procedures.
- Participated in co-visits with licensed psychologist in therapy sessions.
- Utilized supportive therapeutic interventions and collaborative problem-solving with psychologists to facilitate patient growth and monitor risk management.

## RESEARCH EXPERIENCE

**Dissertation Research** – Primary Researcher 2019 – 2022
Title: "Impact of a Recreational Outdoor and Adventure Program on Adolescent Well-Being"
Committee Chair: Celeste Jones, PsyD, ABPP
Other Committee Members: Amber Nelson, PsyD, Cherice Bock, M.S., M.Div.

- Preliminary defense: October 22, 2021
- Final defense **completed**: August 11, 2022
- This study was intended to contribute to the literature on the utilization of nature based experiences within the context of health and wellness. Current literature exists exploring nature-based interventions for use with clinical populations; however, few studies had determined if there were significant effects and a longitudinal impact on well-being with non-clinical populations. Specifically, I investigated the impact of a nature-based recreational outdoor and adventure program on adolescent well-being.
- Currently in the process of submitting for peer-reviewed publication.

**Research Vertical Team – Research Assistant/Mentor** 2019 – Present
Graduate School of Clinical Psychology
George Fox University, Newberg, Oregon
Supervisor: Celeste Jones, PsyD, ABPP

- Bi-monthly meetings to discuss research projects of team members related to health psychology and child and adolescent development.
- Research preparation for dissertation, conference presentations, and research topics.
- Collaborated on supplemental research projects such as posters presented at the national APA conference.
- Aided and mentored other students seeking research opportunities.

## POSTERS & PRESENTATIONS

**Fritz, M.** (2019). *Evaluating Mental Health within Millennials*. Poster session presented at Scholarship and Creativity Day – Saint John's University, United States.

**Fritz, M.** (2018). *The Effects of Notifications: Inattentional Blindness During Cell Phone Use* Poster session presented at Scholarship and Creativity Day – Saint John's University, United States.

**Fritz, M.** and Hiljus, J. (2022). *Crafting Relationships & Healthy Boundary Setting – Relationship Series* [Symposium]. Student Oregon Psychological Association, George Fox University, United States.

Standal Schollars, W., **Fritz, M.**, Johnson R., & Peterson, M. (2022). *Preventing Burnout: The Role of Personality and Awareness in Early Career Mental Health Professionals in Acute Settings.* Poster session presented at the American Psychosocial Association National Conference, Minneapolis, MN.

## SUPERVISION EXPERIENCE

**Clinical Psychology Oversight** August 2022 – Present
Graduate School of Clinical Psychology
George Fox University, Newberg, Oregon
Supervisor: Rodger Bufford, PhD

- Provided clinical analogue-supervision of a second year PsyD student while developing skills within an integrated competency-based supervision model.
- Aided in the development of knowledge, skills, and attitudes within the context of relationships.
- Provided formative and summative feedback on clinical and professional skills.

## RELATED EXPERIENCE

**Primary Care Track/HRSA Recipient** August 2021-Present
Graduate School of Clinical Psychology
George Fox University, Newberg, Oregon
Supervisor: Amber Nelson, PsyD

- Specific training to increase depth and breadth in a primary care setting.
- Training to treat and assess patients from 3 to 103, presenting with conditions from adjustment disorders to complex medical conditions.
- Professional development and training to work on a multidisciplinary team and/or integrated care setting.
- HRSA grant was awarded George Fox University to expand services to underserved, vulnerable populations through simultaneous training for graduate psychology students in treatment for OUD/SUD and establishment of tele-behavioral health services (TBS).
- Completed various trainings according to requirements of the HRSA grant.
- Didactic trainings focused on integrated behavioral health in primary care.

**Clinical Team** – Member Aug 2019-Present
Graduate School of Clinical Psychology, Newberg, Oregon
Supervisors: Roger Bufford, PhD; Shaun Davis, PsyD; Daniel Rodriguez, PsyD, Chelsea Thomas, PsyD

- Consultation group that meets weekly to present and discuss cases from various clinical perspectives.
- Conceptualized clients through a biological, psychological, and social framework.
- A team based model that utilized interprofessional communication to process bias, countertransference, and explore treatment options.
- Experienced summative feedback from clinical team supervisors strengths and weaknesses.

**Admissions Committee-** Student Representative 2020 – Present
Graduate School of Clinical Psychology, Newberg, Oregon

- Responsible for collaborating with faculty for graduate student admissions into the PsyD program.
- Reviewed and discussed potential strengths and weaknesses of applicants.
- Advocated for diversity, equity, and inclusion during admissions process.
- Hosted potential applicants as they shadow classes.
- Participated in interview day as a student evaluator and acted as student representative for the program on the student panel.

**Health Psychology Student Interest Group –** Member 2019 – Present
Graduate School of Clinical Psychology, Newberg, Oregon

- Responsible for introducing new graduate students to various roles and opportunities related to integrated care.
- Spoke on a student panel about practicum and supplementary opportunities in integrated care.
- Coordinated didactics and seminars to enhance knowledge and dive deeper into health psychology topics.
- Collaborated with peers and student body for possible suggestions for future events.

**Student Wellness Committee** – Member 2019 – Present
Graduate School of Clinical Psychology, Newberg, Oregon

- Responsible for planning events and creating a healthy student environment in common spaces and student lounges.
- Collaborated with peers and student body for possible suggestions to improve student wellness.
- Responsible for promoting, teaching, and advocating for a healthy work-life balance.

## ASSESSMENT COMPETENCIES

Have met program-wide competency and trained with the following assessment materials:

WAIS-IV WIATT-III WISC-V WMS-IV WJ-IV Cognitive WJ-IV Achievement

| | | | | | |
|---|---|---|---|---|---|
| 16PF | MMPI-A | MMPI-2 | MMPI-2RF | PAI | MCMI-IV |
| BASC-3 | CVLT-II | DKEFS | WCST | TOMM | CPT |
| MoCA | MMSE | | | | |

## EVIDENCE-BASED TREATMENTS

All modalities learned with formal, in-person training with manualized format, supervision and review of sessions through direct observation, audiotape and/or videotape.
Settings: George Fox University, Providence Medical Group – Internal Medicine, Providence Medical Group – Family Medicine, Cedar Hills Hospital

**Cognitive Behavioral Therapy (CBT);** Theoretical Orientation
**Acceptance and Commitment Therapy (ACT)**
**Person-Centered Therapy (PCT)**
**Solution-Focused Brief Therapy (SFBT)**
**Motivational Interviewing (MI)**

## CERTIFICATIONS

Basic Life Support (CPR & AED) 2019- Present

National Register Associate Certificate Program: Clinical Suicidology 2022- Present

## PROFESSIONAL AFFILIATIONS

**Oregon Psychological Association –** Student Committee 2021 – Present

**National Register of Health Service Psychologists** 2019 – Present

**American Psychological Association** – Graduate Student Affiliate 2019 – Present
Student
Division 3, Experimental Psychology and Cognitive Science
Division 6, Society for Behavioral Neuroscience and Comparative Psychology
Division 10, Section 12 Graduate Students and Early Career Psychologists
Division 19, Society for Military Psychology
Division 43, Society for Couple and Family Psychology
Division 56, Trauma Psychology
Division 221, Pediatric Rehabilitation Psychology

## TRAININGS

**Medical Disorders That Look Like Psychological Disorders** 2022
Shearer D., MS, MSCP, PhD
**Misunderstanding Health Habits** 2022

Wood W., PhD
**The Kids Are Not Alright** **2022**

**Murthy V., MD, MBA, Prinstein M., PhD, Worrell F., PhD, Odgers C., PhD, Masten A., PhD, Gray D., PhD, Cohen G., PhD, Akbar M.**

**How Leaders Enhance the Resilience of Military Personnel** **2022**

**Adler A., PhD, Bowles S., PhD, Trachik B., PhD**

**Upstream Military Suicide Prevention: Rational Thinking, Emotion Regulation and Problem Solving (REPS*)*** **2022**

**Lacroix J., PhD, Van Sickle M., PhD**

**Weight Stigma – Mechanisms, Health Consequences, and Next Steps** 2022
Lacallie L., PhD, Leget D., MA, Emery R., PhD, Hunger J., PhD, Mann T., PhD, Tomiyama A., PhD, Standen E., MA.
**The Brain Opioid Theory Of Social Attachment** 2022
Newport Healthcare
**Innovative Approaches To Using Cognitive Behavioral Therapy for Individuals With Opioid Use Disorder** 2022
Peck K., PhD, Barry D., PhD, Pericot-Valerde I., PhD, Saraiya T., PhD
**Tips, Tools, And Lessons Learned In Pediatric Primary Care Integration Of Behavioral Health Services** 2022
**Schellinger K., PhD, Adams D., MHP., Bialstozky M., MD, Gibney J., MD., Gonzales J., MSW**

**Critical Components Of Assessing Autism Spectrum Disorder** **2022**

**Donahue K., PhD**

**Empowering Diversity, Equity, & Inclusion (DEI) Agents of Change** 2022
William Cox, PhD
**Intractable Conflict In Families & Society: Do We Know About Healing The Rifts** 2022
Wendy Bourg, PhD
**Telehealth Training for Behavioral Health Providers** 2021
Jeff Sordahl, PsyD
**Scaffolded Training in Culturally Specific Trauma-Informed Care** 2021
Gil-Kashiwabara PsyD & Knows His Gun PsyD
**Erotic Transcendence: Integrating Faith with What's New in Sex Research** 2021
Elisabeth Esmiol Wilson, PhD
**Gender Diverse Clients: Therapy and Intervention Readiness Assessments** 2021

Chloe Ackerman, PsyD
**Interprofessional Solutions for Racism in Primary Care: Diversity & Equity** 2021
Amber Nelson PsyD, Kristie Knows His Gun PsyD
**Removing Barriers to Integrated Behavioral Health in Primary Care: Research, Practices & Implementation** 2021
Patti Robinson PhD, Bhavesh Rajani MD
**Native Culture and Individuals** 2021
Knows His Gun, PsyD & Pilar Peltier
**Complex Trauma and Military Psychology** 2020
Jason Steward, PhD
**Pediatric Cancer and Epilepsy** 2020
Justin Lee, PhD
**Mitigating the Effects of ACES & Transforming Primary Care Through Resilience Building & Compassionate Connection** 2020
Amy Stoeber, PhD
**Behavioral Health Clinician Essentials: BHC & FACT Training** 2020
Patti Robinson PhD, Julie Oyemaja PsyD
**FACT Training & Skills Workshop** 2020
Patti Robinson PhD, Kirk Strohsal PhD
**FACT: The Basics and Beyond** 2019
Kirk Strosahl PhD
**Foundations of Relationships Therapy- The Gottman Model** 2019
Douglas Marlow PhD
**Intercultural Prerequisites for Effective Diversity Work** 2019
Cheryl Forster, PsyD

## AWARDS, HONORS & GRANTS

**HRSA Grant Recipient** 2021- Present
Awarded by George Fox University

- Integrated Care Models for Practicum Training in Addictions and Culturally congruent treatment using Tele-Behavioral Health (IMPACT) through George Fox University
- Granting Agency: Health Resources and Services Administration
- This project seeks to expand services to underserved, vulnerable populations through simultaneous training for graduate psychology students in treatment for OUD/SUD and establishment of tele behavioral health services (TBS)
- Received living and research stipend

**Minnesota Grant –** Recipient 2016-2019
Awarded by Saint John's University

- Commitment to pursing higher education and would benefit from financial support in the areas of academic and living stipend.

**MIAC Hockey All-Rookie Team (NCAA)** - Recipient 2016

Awarded by Saint John's University and the MIAC conference

- Awarded to student athlete who have excelled within their athletic performance and leadership roles on their team and within the conference.
- Nominated by coaches within the MIAC who have recognized exceptional performance and leadership among opposing teams.

## REFERENCES

**Jeri Turgesen, PsyD, ABPP, MSCP** 503.474.8818
jeri.turgesen@providence.org

**Mary Peterson, PhD, ABPP** 503.442.3237
mpeterso@georgefox.edu

**Celeste Jones, PsyD, ABPP** 503.475.0802
cjones@georgefox.edu

**Mario Bolivar, MSW, LCSW** 503.707.1251
mario.bolivar@uhsinc.com