

The Impact of Community Based Adventure Therapy
on Stress and Coping Skills in Adults

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Abstract

Stress and coping skills are among the most essential components of the mental health counseling field. The use of coping skills (e.g., meditation, physical activities, appropriate uses of leisure) has been identified as an effective strategy for stress management. Adventure therapy has emerged as a modality that can positively augment other therapeutic approaches by improving coping skills and assisting clients in managing stress. As with all therapies, a positive working alliance has been found to be important toward achieving clinical outcomes. This study explored how adventure therapy enhanced learned coping strategies for stress and improved therapeutic alliance. Outcomes from this exploratory research highlighted the potential of adventure therapy to decrease stress, increase coping skills, and build therapeutic rapport with the therapist.

Keywords: stress, coping, adventure therapy, working alliance

According to the American Psychological Association (2011), stress levels for adults in the United States continue to remain high, exceeding what is considered as healthy. Stress is defined as “a relationship between an individual and their environment that is appraised by the individual as exceeding his or her resources and threatening his or her well-being” (Lazarus & Folkman, 1984, p. 5). Two processes mediate this relationship: (1) the cognitive appraisal of an individual determining whether or not the interaction is stressful and (2) related coping mechanisms, or processes through which an individual handles the appraised stressful interaction (Bergdahl & Bergdahl, 2002). Coping is defined as a “person’s cognitive and behavioral efforts to manage (reduce, minimize, master, or tolerate) the internal and external demands of the person-environment transaction that is appraised as taxing or exceeding the person’s resources” (Folkman, Lazarus, Gruen & DeLongis, 1986, p. 572). Exposure to prolonged stress or appraised perceptions of stress can have negative impacts on both the psychological and physiological health of adults (Folkman, 2011). Stress has been linked to cases of depression (Hammen, 2005), as well as vulnerability of the human immune system (Segerstrom & Miller, 2004) and other physiological symptoms such as cardiovascular disease and irregularities (Kashani, Eliasson, & Vernalis, 2012; Wittstein et al., 2005), sleep disturbance (Hall et al., 2007), and negative changes in brain function (Thomaes et al., 2013)

There are a variety of coping strategies that can benefit individuals under stress and mitigate its negative affects (Maskowitz, 2010). Researchers have found positive change in physical and emotional well-being related to goal setting and motivation (Brunstein, Schultheiss, & Grassmann, 1998; MacLoed, Coates, & Hetherington, 2008). In addition, exercise in the outdoors has been specifically related to significant decreases in tension, confusion, anger, and depression

when compared to exercise indoors (Coon et al., 2011). Previous research also recognizes the importance of a strong working alliance as a predictor of successful counseling outcomes for clients (Gnilka, Chang, & Dew, 2012). Little research has looked at treatment alliance within adventure therapy.

Adventure Therapy

Adventure therapy (AT) is defined as the “prescriptive use of adventure activities by mental health professionals to kinesthetically engage clients on affective, behavioral, and cognitive levels” (Gass, Gillis, & Russell, 2012, p. 1). Adventure therapy as a field emerged out of experiential education and the Outward Bound movement in the United States. Experiential education theory guided by the work of John Dewey is rooted in the idea that we learn by doing with reflection (Dewey, 1938). Additionally, AT was influenced by the work of Outward Bound which was first adapted in the 1970s to be used with clinical populations of youth (Kelly & Baer, 1971). In fact, Walsh and Golins’ (1976) model of the Outward Bound process first introduced the key theoretic framework of AT. The foundational tenets of this model include putting participants in a unique physical and social environment in which they are given prescriptive problem solving tasks or challenges that lead to a state of adaptive dissonance, where mastery of the task must ensue in order to reorganize the meaning and direction of the learner’s experience (Walsh & Golins, 1976; Gass et al., 2012). All the while participants are engaged in active reflection on and processing of the experience to ensure further learning and transfer into their lives (Priest, Gass & Gillis, 2000).

In adventure therapy the novel setting or experience makes an environment rich for assessment opportunities and the positive use of eustress supports the belief that change occurs when people are placed outside of their comfort zone (Gass et al., 2012). In addition, the role of the therapist changes in AT from a passive and stationary therapist to a more active and mobile one (Gass et al., 2012). This creates space for the therapist to “support, join, or confront” clients with greater ease. The shift also removes the adventure therapist from “serving as the central vehicle of functional change, and instead the ‘experience’ becomes the medium for orchestrating change” (Gillis, Gass & Russell, 2014 p. 565). The therapist may now be more approachable and achieve greater client interaction further strengthening the therapeutic alliance (Gass, 1993; Gass et al., 2012).

At present, there is no research evaluating adventure therapy as an augmented modality for adults coping with stress; however, it has been shown to be effective for a variety of adults in different settings. Voruganti et al.’s (2006) two year, case-control study of an adventure-based intervention for adults with schizophrenia demonstrated significant improvements in self-esteem and global functioning and an average weight loss of 12 pounds. Wolf and Mehl’s (2011) study of 247 psychotherapy clients involved in an adjunctive therapeutic challenge course intervention found significantly more improvement in trait anxiety and self-efficacy than the control group at follow-up, though there were no significant differences in depressive symptoms or external locus of control. More recently, the use of a low-element challenge course intervention with adult females in substance abuse recovery resulted in significant improvements in abstinence and self-efficacy measures from intake to discharge (Clem, Smith, & Richards, 2012). A similar exploratory study (Scheinfeld, Rochlen, & Buser, 2011) on the supplementary use of AT with

middle-aged men found results supporting the potential for deeper therapeutic processing, rapid trust-building, and new perspective-taking with the AT intervention.

While the preliminary outcomes of AT with adults have been positive, there has been no research looking specifically at stress reduction in adults in a community-based setting through the use of AT. This research aims to fill this void in the literature. Expanding research to adult populations in a community-based setting offers the opportunity for new insight on the utility of adventure as an effective intervention in this setting and begins to provide evidence toward the extension of using adventure with diverse populations. The purpose of this study was to answer the following research questions:

1. How did this model of adventure therapy impact adult participants' self-reported levels of stress as measured by the Perceived Stress Scale (PSS)?
2. How did this model of adventure therapy impact varied forms of coping in adult participants as measured by the Coping Skills Utilization Form?
3. As measured by the Working Alliance Inventory (WAI) what levels of alliance developed through the use of this adventure therapy model of intervention?
4. What was the relationship between changes in stress and working alliance as measured by the PSI and WAI?

Methods

Participants

The 31 participants in this study were all adults over the age of 18 years with an average age of 40.3 years ($SD = 12.2$). The participants received therapy from either a dual licensed Mental Health Counselor/Marriage Family Therapist or a Mental Health Counselor Intern supervised by a licensed Mental Health Counselor. Clients' average number of sessions with the clinician was 25 sessions with a range from 12 to 36 sessions. The majority of participants indicated relationship issues (41.9%) and work stress (29.0%) as reasons for seeking counseling as well as those coping with a major life change (16.1%). Three participants indicated anxiety and depression as the primary reason for seeking counseling, with one indicated "chronic pain" and one identified as being a "teen mom." Of the 31 participants, 18 identified as "Caucasian" of "Western European" descent, seven as "Caucasian," and four as "mixed race," one "Caucasian" of "Eastern European" descent, and one as "Caribbean African American" descent. About three quarters of the participants (71.0%), identified their gender as female, with 22.6% identifying as male and one identifying as transgender.

Procedure

From August 2012 until October 2013 all adult clients seeking counseling services at a small community agency in Florida were invited to participate in this study, which was approved by the Institutional Review Board at the first author's university. Data was collected from participants both at intake and discharge. All 35 adult clients who started treatment during this period consented to participate in the study, two of these clients did not finish treatment and another two clients finished treatment, but did not complete the outcome measures. Hence, there was an attrition rate of 11.4%.

Measures

The following three measures and one demographic form were used to collect data from participants in this study.

The Perceived Stress Scale (PSS). The PSS was designed to measure the self-appraisal of life stress (Cohen, Kamarck & Mermelstein, 1983) as well as the global experience of stress, so scores are inclusive of the effects of contextual and chronic stress (Cohen & Williamson, 1988). The scale has three versions: 14, 10, and 4 question options. The 10-question version was used because it was determined to have just as good or better psychometrics as the 14-question version (Cohen & Williamson, 1988). Reliability according to internal consistency had an alpha of .78. The construct validity was determined to be moderately good, with elements correlating significantly to parts of Stress Measures, Self-Reported Health and Health Services Utilization Measures, the Life Satisfaction Scale, and measures of help-seeking behaviors (Cohen & Williamson, 1988). The perceived stress scale was administered and completed by participants at intake and discharge.

Coping Skills Utilization Scale. This scale was created specifically for this study to evaluate the use of coping skills taught at this community based counseling center. The scale asks participants to indicate their frequency of participation in 17 activities over the previous 30 days. Response format consisted of six Likert responses (Never, Once per Month, Couple Times per Month, Once per Week, A Couple Times per Week, Daily). Participants were also able to report an additional three leisure activities and indicated the frequency of their participation of activities during the past month. This tool was developed collaboratively with the counseling center and the researchers of this study and represents the first time this tool was used. Activities chosen for inclusion were based on those supported by research as effective coping methods to reduce stress such as buying fresh flowers (Haviland-Jones, Rosaria, Wilson, & McGuire, 2005), expressing gratitude (Emmons & McCollough, 2003; Kashdan, Uswatte, & Julian, 2006; Maskowitz, 2010), listening to cheerful music (Marotos, Gold, Wang, & Crawford, 2008), practicing a form of meditation (Chu, 2010); performing acts of kindness (Otake, Satoshi, Tanaka-Matsumi, Otsui, & Fredrickson, 2006), journaling (Emmons & McCollough, 2003), planting seeds (Fried & Wichrowski, 2008), exercise (Coon et al., 2011) and setting goals (Brunstein et al., 1998; MacLeod et al., 2008). In addition, clients were asked to report on their engagement with activities commonly used in adventure therapy. See Figure 1 for a copy of the measure.

Working Alliance Inventory (WAI). The WAI was developed based on Bordin's (1975, 1979) multidimensional theoretical view of the working alliance, exploring client's experiences with the therapist according to bond (mutual trust, acceptance and confidence), goals (mutual understanding and value of outcomes), and tasks (behaviors and cognitions in session) (Horvath & Greenberg, 1989). The subscales scores range from 12-84 with a total score ranging from 36-252. Higher scores indicate a positive working alliance (Hanson, Curry, & Bandalos, 2002). During development and subsequent trials in a variety of settings the three subcategories of counseling, peer review, career counseling in both the short and long form WAI (36 or 12-items) have shown consistent reliability with an alpha ranging from .87-.93 (Horvath & Greenberg, 1989). The construct validity showed that when WAI subscales were measured against other tools deemed as similar to measuring aspects of alliance, it showed good convergent and

Figure 1 *Coping Skills Utilization Form*

Coping Skills Utilization Form
<p>Please write the number that best represents how often you participated or completed the following activities in the blank space provided.</p>
<p>In the last month, how often have you participated in the below listed activities for 30 minutes of more?</p>
<ol style="list-style-type: none">1. ___ Hiked/Walked Outside2. ___ Sailed3. ___ Canoeed/Kayaked4. ___ Climbed Trees5. ___ Participated in Outdoor Challenge Activities6. ___ Participated in Indoor Challenge Activities with therapist7. ___ Participated in Indoor Challenge Activities at home
<p>In the past month, how often have you used the following coping strategies?</p>
<ol style="list-style-type: none">1. ___ Bought fresh flowers for yourself and kept them in a space where you can see them2. ___ Expressed gratitude to at least three people3. ___ Listened to bright and cheerful music you enjoy for at least 15 minutes4. ___ Practiced a form of meditation for at least 10 minutes5. ___ Exercised for at least 30 minutes6. ___ Count and journal every act of kindness you performed7. ___ Journal at least 2 pages about things you are grateful for in your life8. ___ Plant seeds and take care of them as they grew9. ___ Set your own goal, tracked progress, and told someone when you completed the goal.
<p>In the past month, how many leisure activities have you done? (List & Report How Often?)</p>
Activity 1: _____ How Often? _____
Activity 2: _____ How Often? _____
Activity 3: _____ How Often? _____
<p>Scale</p> <p>1-Never 2-A couple of times per month 3-Once a month 4-A couple of times per week 5-Once a week 6-Daily</p>

divergent validity with common variance for empathy greater (48%-52%) than goals and tasks. This supports that an empathetic connection as measured by bond on the WAI is especially

important to the working alliance as measured by other tools. This scale was administered and completed by participants at discharge.

Intervention Description

For the purpose of this study, client's clinical long-term goals included: (1) the reduction of the overall frequency of the stress response so that daily functioning was not impaired and (2) the reduction of the overall intensity of the stress response so that daily function was not impaired. Clinical short-term client goals included increases in the ability to do the following:

- (a) determine whether or not an interaction was stressful,
- (b) identify factors contributing to stress,
- (c) express emotions related to identified stressors,
- (d) regulate emotions, and
- (e) increase coping strategies for managing identified factors contributing to stress.

The primary adventure therapy model to meet these goals at this specific counseling center was the power of therapeutic experience through meaningful activity. On average, three sessions per month were 50 minutes long and one session was 90 minutes. Within those sessions the length of time that clients were engaged in activities ranged from 30- 90 minutes (depending on the type of activity). For example, in a 50 minutes session, the client may have tree climbed for 30 minutes or engaged in a problem solving activity and then participated in guided reflection for 20 minutes. If the therapist and client went sailing, the sailing occurs for 90 minutes and other than discussion on the boat, the following session was dedicated to additional reflection.

Meaningful activities used in therapy included problem-solving games and initiatives, as well as outdoor adventures. Problem-solving games/challenges, such as a "mouse trap bounce" helped clients to increase frustration tolerance or practice strategies to reduce anxiety. For purpose of clear explanation, these challenges are different than games. For the mousetrap bounce, "set" mousetraps are placed in a circle so that they all touch and if one goes off, so will all of the others (think of dominoes). Once the mousetrap circle is in place, the client is given a ball and invited to bounce a ball in the middle of the circle to the counselor without setting off the traps. A metaphor, (e.g., explosive situations) may guide the therapist to notice how the client responds if the mousetraps were set off and to ask questions about this response, (e.g., "What" (not who) causes "explosions" in your life or family? How were your responses here similar or different than your responses to those types of explosions?). This type of activity provides an opportunity to assess current coping strategies, increase understanding of how coping strategies manifest themselves, identify areas where coping strategies may need to be learned, as well as practice newly learned coping strategies. The 25 selected problem-solving challenges offered during the course of therapy were chosen from books that focus on the use of adventure activities for therapy (Lung, Stauffer, & Alvarez, 2008; Aubry, 2008). Client preference and therapeutic goals helped identify which activity was selected.

Similar activities such as sailing, kayaking, canoeing, or tree climbing were incorporated into the therapeutic process with the same intention and processing. As with the example above, during these activities client's strengths and abilities were emphasized to enhance areas that support client's clinical goals, while also identifying potential obstacles or areas for development supporting the client's clinical goals. No particular skills were required to participate and each

session was customized for the client.

Choosing the particular activity was extremely important in the therapy process as well. When a client came into a session he or she was asked what he or she would like to work on during that session. If the client was not able to identify anything, the practitioner provided several choices based on the treatment goals that were collaboratively developed. Once the goal was established for the session, the client decided if he or she would like to stay inside or go outside and also if they would like to do a physical activity, or problem-solving activity (none of which was always mutually exclusive). Based on this information, the practitioner facilitated the activity. Practitioner participation in the activity varied depending on the goal and the client. For example, one client was particularly anxious participating in activities related to water due to her limited swimming ability. Although there is always a lifeguard and all participants wear PFDs, the practitioner was more active in the actual sailing of the boat. For the client being on the boat and moving around following the directions of how to change the sails were enough challenge for this client. In comparison, another client who has sailed since childhood was challenged to dock the boat by themselves under sail power only, a significantly difficult and often stressful activity. In addition to the actual adventure activities and their influence on coping and perceived levels of stress, the skills learned in adventure therapy could be useful and effective resources for creating positive affect and coping with stress outside of the therapeutic setting.

Findings

Stress and Coping

Paired samples *t*-tests were used to look at changes in stress as measured by the PSI and coping as measured by the Coping Skill Utilization Form, from intake to discharge including Bonferroni corrected *p* values to limit Type I error. Participants decreased stress and increased coping skills scores over the course of treatment. Participants total perceived stress scores reduced by a mean 13.6 points from intake to discharge. Participants had a total mean intake score of 25.4 (*SD* = 5.5) and a total mean discharge score of 11.8 (*SD* = 6.4). A paired sample *t*-test indicated significant differences between intake and discharge perceived stress scores ($t = 12.1$, $df = 30$, $p < .001$) with a large effect size ($d = 5.12$, $CI 3.18-7.41$), supporting a large positive clinical change.

Table 1 shows the mean frequencies of engaging in coping strategies reported at intake and discharge by participants. Participation scores in all activities (except counting and journaling acts of kindness) significantly increased from intake to discharge, with some of the largest increases occurring for hiking, participating in outdoor challenges, participating in indoor challenges with therapist, listening to music, meditation, planting seeds, and journaling. Such findings support a mix of types of coping with strong effects sizes of 1.0 or greater for most changes. Change scores were computed for each coping activity, as well as the Perceived Stress Scale to further explore the relationships between stress and particular coping skills. Pearson correlation analyses were conducted between changes in stress and changes in each activity but no significant relationships were found, further supporting that no single activity accounted for the decreases in stress.

Table 1
Frequencies of engaging in various coping activities

Activity	M_{intake} (SD)	$M_{Discharge}$ (SD)	M_{change}	t	d	95% CI (lower – upper)
Hiked or walked outside	3.6 (1.6)	5.0 (1.2)	1.3 (1.9)	4.0***	2.2	1.8 - 2.8
Sailed	1.0 (.18)	1.8 (.48)	.77 (.43)	10.1***	5.4	5.3 - 5.5
Canoed/kayaked	1.2 (.40)	1.9 (.75)	.71 (.82)	4.8***	2.7	2.5 - 2.9
Climbed Trees	1.0 (0.0)	1.2 (.58)	.16 (.58)	1.5	1.5	1.3 - 1.5
Participated in outdoor challenge activities	1.0 (0.0)	2.2 (.82)	1.2 (.82)	7.9***	6.5	6.3 - 6.5
Participated in indoor challenge activities with therapist	1.0 (0.0)	3.1 (.81)	2.1 (.81)	14.7***	11.6	11.3 - 11.6
Participated in indoor challenge activities outside treatment	1.0 (0.0)	1.4 (.72)	.39 (.72)	3.0**	2.5	2.2 - 2.5
Bought fresh flowers and kept them in a space you can see	1.2 (.58)	1.7 (.73)	.58 (.92)	3.5**	1.7	1.5 - 1.9
Expressed gratitude to at least 3 people	4.7 (1.4)	5.3 (1.3)	.65 (1.5)	2.3*	1.0	.5 - 1.5
Listened to bright and cheerful music for at least 15 minutes	4.3 (1.6)	5.8 (.76)	1.5 (1.7)	4.6***	2.8	2.6 - 3.4
Practiced a form of meditation for at least 10 minutes	2.5 (1.8)	5.1 (1.4)	2.5 (2.5)	5.7***	3.6	3.1 – 4.3
Exercised for at least 30 minutes	3.5 (1.8)	5.0 (1.2)	1.5 (2.0)	4.2***	2.2	1.5 – 2.2
Counted and journaled every act of kindness you performed	1.6 (1.1)	1.6 (1.1)	0 (1.4)	0.00	0	-0.4 - 0.4
Journaled at least two pages for things you are grateful for in life	1.4 (1.2)	2.5 (1.6)	1.1 (2.0)	3.0**	1.8	1.2 – 2.2
Planted seeds and taken care of them as they grew	1.8 (1.6)	3.2 (2.0)	1.4 (2.6)	2.9**	1.7	1.0 – 2.3
Set goal, tracked progress, and told someone when completed goal	1.9 (1.2)	4.0 (1.8)	2.1 (2.2)	5.2***	3.1	2.5 – 3.5

* $p < .05$, ** $p < .01$, *** $p < .001$ (Bonferroni Corrected)

Note: Mean frequencies for 1 = never, 2 = a couple times per month, 3 = once a month, 4 = a couple times per week, 5 = once a week, 6 = daily.

Working Alliance and Stress

The total mean score of the working alliance for the 31 participants at discharge was 229.7 ($SD = 15.1$). The total subscale score for task was 77.5 ($SD = 6.4$), for bond, 74.7 ($SD = 3.6$), and for goals 77.4 ($SD = 6.8$). Such scores reflected a positive rating of a working alliance at discharge because the scores fell on the higher end of the range of scores possible (total: 36-252; subscales: 12-84) for this instrument. As shown in Table 3, a Pearson's correlation analysis found a significant positive correlation between changes in perceived level of stress and the total working alliance ($r = .36, p = .05$), including a significant positive correlation with the Bond ($r = .40, p = .03$) and Goal ($r = .36, p = .05$) subscales. However, no significant relationships were found between working alliance and age, length of treatment, or frequency of adventure activities.

Discussion

Stress and Coping

In this study stress levels decreased after participants' engagement in this adventure therapy model. At intake, participants had a mean score of 24.5 with a discharge mean of 11 on the PSI. PSI scores can range from 0-40, and in this study, an intake score of 24.5 was considered high while 11 was considered to be part of the low range of stress (Cohen & Williamson, 1988). Hence, an overall mean score of 11 for participants in this study indicated significant stress reduction at treatment discharge. A variety of coping strategies appeared to be related to decreased levels of stress among participants, suggesting that multiple coping strategies were used together to help mitigate the negative impact of stress.

In terms of utilizing coping strategies, participants reported increases in all forms of coping. Some activities showed greater increase than others (e.g., practicing a form of meditation for at least 10 minutes, participating in indoor challenges with therapist, exercising for at least 30 minutes, setting a goal and tracking its progress). These results support previous research linking these coping strategies to stress reduction and improved overall health (Chu, 2010; Coon et al., 2011). As shown in Table 2, participants also reported increases from intake to discharge in hiking/walking outside, listening to bright and cheerful music for at least 15 minutes a day, planting seeds and taking care of them as they grow, and expressing gratitude toward others and tracking personal gratitude. These findings further support previous research identifying these activities as effective coping strategies to mitigate negative affect and reduce stress (Coon et al., 2011; Emmons & McCullough, 2003; Haviland-Jones et al., 2005; Kashdan et al., 2006; Maskowitz, 2010; Otake et al., 2006). In terms of adventure therapy activities, this study was the first to look at specific aspects of adventure therapy used by adults in a community-based setting. Participants reported increases both in activities done with the therapist as well as activities done on their own. This is important due to the goal of teaching coping skills in a manner where clients can integrate or transfer skills into their lifestyles. This transfer of learning is an underlying component of adventure therapy (Gass, 1995). For clients, learning such skills or attitudes from specific interventions such as the one in this study is of most value and effective when clients can utilize these skills and ideas in future experiences outside of therapy (Gass et al., 2012).

Table 2
Correlations between PSS Change, Age, Gender, Length of Treatment and WAI

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) PSS ^a Change	1							
(2) Age	.22	1						
(3) Gender (Male = 0)	-.43*	.04	1					
(4) Length of Treatment	-.14	-.21	-.05	1				
(5) WAI ^b Total	.36*	.22	.16	-.00	1			
(6) WAI Task	.25	.32	.09	.03	.93***	1		
(7) WAI Bond	.40*	.00	.15	.20	.74***	.51**	1	
(8) WAI Goal	.36*	.18	.19	-.14	.97***	.85***	.64***	1

Note. ^aPerceived Stress Scale, ^bWorking Alliance Inventory, * $p < .05$, *** $p < .001$

This model of adventure therapy seemed to have allowed clients to find the methods of coping that worked for them, as opposed to using a structured model to be applied to all clients universally. It appears that no one specific coping technique was related with decreases in stress, so perhaps it is the combination of coping methods chosen by the client that makes the most meaningful change for the clients. This client-centered approach aligns well with the adventure therapy model. Adventure therapy aims to remove the therapist as the medium of change, and instead uses adventure and experiential activities in which that the client actively engages to orchestrate change (Gass et al., 2012). This is an effort to place as much responsibility for change in control of the client. Empowering clients to have choice and control in this treatment process may have supported greater change for clients coping with high stress.

Working Alliance

This study was interested in examining reported levels of treatment alliance by participants. On average clients reported a high level of alliance with their clinician, which was significantly correlated with overall working alliance, bond, and goals. Individuals with significantly larger decreases in stress appeared to have higher bonds with their clinician as well as a stronger alliance around client goals. This was not true in terms of decreases in stress and working alliance task. The significant correlation within the bond and goal categories could be a result of the adventure therapy model. Underlying characteristics found in AT may have contributed to strengthening the working alliance in bond and goal areas.

Within adventure therapy, clients have participatory roles in their treatment. Along with the framework of the experiential and adventure activity, this role requires a certain level of mutual trust and confidence between the client and the therapist. Furthermore, the changing role of the therapist (as mentioned earlier) could impact the strength of alliance. If the therapist is removed as a central figure in the change process while maintaining clear and appropriate boundaries, clients may feel more comfortable approaching and interacting with the therapist and deepen their level of alliance (Gass, 1995). In addition to the intentional focus on client's active participation, sometimes novel or challenging experiences in treatment set the stage for a significant level of trust to develop throughout the therapeutic process.

Goal setting as a means of coping with stress was reinforced by the findings in this study. However, the participatory and active role of the client in this adventure therapy model also may have contributed to strengthening the working alliance around client goals. Clients may have placed greater value on outcome because of their direct involvement and personal choice in the adventure and experiential activities used in their treatment. In adventure therapy models such as the one in this study, the therapist provides experiences where clients choose to participate or not (Tucker, 2009). Based on a thorough assessment, the therapist presents activities that are most closely matched to client's clinical needs (Schoel & Maizell, 2004). Together the client and therapist share observations, thoughts, feelings, and overall reflections about the experience -- either before, during, or after -- which can allow new insights and perspectives to develop (Schoel & Maizell, 2004). This reflection and shared experience may work to lay the foundation for healthy change and positive treatment outcomes. These adventure therapy components make for powerful therapeutic experiences for clients where the therapeutic alliance is potentially strengthened, particularly around the bond and treatment goals.

It is unclear why there was not a significant correlation in the task component; however, this may be due to how adventure therapy is conducted. For example, when presented with problem-solving initiatives or active challenges, clients are not necessarily given specific directions on how to solve or approach a challenge. This is intentional as a way to help clients increase their problem-solving capacity on their own when faced with stress or challenges. Hence, when clients were asked questions on the WAI which are part of the task subscale like question #7 "I find what I am doing confusing in therapy" or question # 31 "I am frustrated by the things I am doing in therapy" and they respond "often," "very often," or "always," this is actually reflective of the adventure therapy process. In fact, over the course of evaluation, seven participants shared with the researchers their confusion over questions which were all on the task subscale. For example, one participant responded, "question #7 which asks if things are confusing. Yes, they are and then they make sense." Similarly, another participant said regarding question #31, "Sometimes the activities cause frustration. This is part of the process." It may be that for this type of therapy, the task subscale may not be the best measure of alliance. In Bordin's (1979) article, he made note of certain therapies, such as client-centered therapy where tasks are never "specifically assigned yet develop gradually and ambiguously," a point which supports our findings (p. 254). This could shed light in terms of why this adventure therapy model, which is client-centered, may not have shown a correlation in the task component of the working alliance and is important to consider in future research.

Limitations

There are several limitations that are important to discuss in terms of this study. First of all, the sample for this study was small without comparison groups and follow-up data were not collected. Without a comparison group it is unclear if the client improvements were due in part from their participation in the adventure therapy or from other outside influences. It also is unclear if after leaving treatment client change remained. The sample was mostly Caucasian and female, so it is unclear how this intervention would impact male clients or non – Caucasian clients. Clearly, more long-term research is needed with larger samples of diverse adult clients.

In addition, the Coping Skills Utilization Form was created by the researchers who recognize some limitations with its use. First of all, it has not been tested for reliability or validity. Furthermore, it did not ask the frequency of “Participation in Outdoor Challenges with the Therapist”, although these activities were completed with the clinician over the course of treatment, at least once every four sessions. In fact, each client over the course of treatment engaged with the clinician in hiking, rock climbing and at least one water activity (kayaking, canoeing or sailing). Because clients were given by the clinician a list of possible coping skills they could use for decreasing stress and also completed the Coping Skills Utilization Form at intake, it is unclear if the list itself became part of the therapeutic process influencing their frequency of coping skills usage. Clearly, future research is needed including long-term follow up to see if the coping skills learned by clients were successfully transferred into the clients’ lives after treatment.

Practice Implications

This study highlights a new, alternative intervention aimed to improve coping strategies in adults in order to manage both real and perceived stress as well as mitigate its deleterious effects. Adventure therapy has a long history of evidence showing its effectiveness as both a primary and adjunct intervention with youth (Norton et al., 2014); yet it has only recently been considered when working with adults (Scheinfeld et al., 2011; Vorungati et al., (2006). However, it is logical that it may have the same positive clinical applications with adults because it is an active approach to therapy that is both flexible and goal oriented. This allows clients to be full participants in their choice of treatment according to the mutually agreed upon goals. In essence, adventure therapy takes the client out of the chair, compelling a more active participation in one’s own treatment (Lung, Stauffer, & Alvarez, 2008).

Adult beliefs about autonomy and self-direction can shape learning as well as the therapeutic process (Fink, 2003). Many adult learners may be resistant to new learning when it is perceived that the educator is imposing information, ideas or actions (Knowles, Holton, & Swanson, 2005). Adventure therapy allows the role of the practitioner to facilitate a more self-directed learning. This helps the client to increase responsibility for change as well as engages the client’s internal motivation for learning or change. Facilitated reflective learning opportunities for adults specifically help the learner to examine existing biases or habits based on life experiences, which helps create a shift toward a new understanding of knowledge and behavior (Fidishun, 2000; Fink, 2003). This concept is at the core of a truly transformative psychotherapy experience.

In addition to engaging multiple learning styles, adventure therapy is holistic in nature. It engages clients on physical, cognitive, and affective levels while at the same time it can be seen as fun (Schoel & Maizell, 2004). According to the National Institute of Play (2009), play is the path toward a healthier and more fulfilling life because it allows clients to seek out novelty, generate optimism, and feel enthusiastic. Additionally, play increases frustration tolerance by making perseverance fun, increases coping skills and can foster empathy, a sense of belonging, and strengthen relationship (National Institute for Play, 2009). When nourished, playful communications and interactions produce a climate for easy connection and a deepening, more rewarding relationship - true intimacy (National Institute for Play, 2009). All of these outcomes

are directly related to personal health and well-being.

Finally, any discussion of adventure therapy must also highlight the need for training for clinicians. Therapists who engage in adventure therapy, must not only understand clinical theories and interventions, they must also understand how to choose and safely facilitate the adventure experience so that it provides an opportunity for meaningful learning and change for the client (Tucker & Norton, 2013). Therapists must be able to accurately assess the client, client functioning and work collaboratively with the client to choose activities that will challenge the client, but not put the client at physical or emotional risk (Gass et al., 2012). Hence, with the proper training adventure therapy has the potential to offer a new way to engage with adults in a clinical setting.

References

- American Psychological Association. (2011). *Stress in America: Our health at risk*. Retrieved from www.stressinamerica.org.
- Aubry, P. (2008). *Stepping stones: A therapeutic adventure activity guide*. Beverly, MA: Project Adventure, Inc.
- Bergdahl, J., & Bergdahl, M. (2002). Perceived stress in adults: Prevalence and association of depression, anxiety, and medication in a Swedish population. *Stress and Health, 18*, 235-241. doi: 10.1002/smi.946.
- Bordin, E. S. (1975, August). *The working alliance: Basis for a general theory of psychotherapy*. Paper presented at the 1975 Annual Convention of the American Psychological Association, Washington, DC.
- Bordin, E. S. (1979). The generalizability of the psychoanalytic concept of the working alliance. *Journal of Psychotherapy: Theory, Research, and Practice, 16*(3), 252-260.
- Brunstein, J. C., Schultheiss, O. C., & Grassmann, R. (1998). Personal goals and emotional well-being: The moderating role of motive dispositions. *Journal of Personality and Social Psychology, 75*(2), 294-508.
- Chu, L. (2010). The benefits of meditation vis a vis emotional intelligence, perceived stress and negative mental health. *Health and Stress, 26*(2), 169-180.
- Clem, J. M., Smith, T. E., & Richards, K. V. (2012). Effects of a low-element challenge course on abstinence self-efficacy and group cohesion. *Research on Social Work Practice, 22*(2), 151-158.
- Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 386-396.
- Cohen, S., & Williamson, G. (1988). Perceived stress in a probability sample of the United States. In S. Spacapan and S. Oskamp (Eds.), *The Social Psychology of Health* (pp. 31-67). Newbury Park, CA: Sage Press.
- Coon, J. T., Boddy, K., Stein, K., Whear, R., Barton, J., & Depledge, M. H. (2011). Does participating in physical activity in outdoor natural environments have a greater effect on

- physical and mental wellbeing than physical activity indoors? A systematic review. *Environmental Science and Technology*, 45, 1761-1772. doi: 10.1021/es102947t
- Dewey, J. (1938). *Experience and education*. New York, NY: Kappa Delta Phi Publications.
- Emmons, R. A., & McCullough, M. E. (2003). Counting blessings versus burdens: An experimental investigation of gratitude and subjective well-being in daily life. *Journal of Personality and Social Psychology*, 84(2), 377-389. doi:10.1037/0022-3514.84.2.377.
- Fidishun, D. (2000). Andragogy and technology: Integrating adult learning theory as we teach with technology. *Proceedings from Extending the Frontiers of Teaching and Learning. Instructional Technology Conference*. Retrieved on 10/15/14 from <https://scholarsphere.psu.edu/files/8s45q881f#.VHJ9Jnl0yUk>
- Fink, L. D., (2003). *Creating significant learning experiences*. San Francisco, CA: Jossey-Bass.
- Folkman, S. (2011). *The Oxford handbook of stress, health, and coping*. New York, New York: Oxford University Press.
- Folkman, S., Lazarus, R. S., Gruen, R. J., & DeLongis, A. (1986). Appraisal, coping, health status, and psychological symptoms. *Journal of Personality and Social Psychology*, 50(3), 571-579.
- Fried, G. G., & Wichrowski, M. J. (2008). Horticultural therapy: A psychosocial treatment option at the Stephen D. Hassenfeld Children's Center for Cancer and Blood Disorders. *Primary Psychiatry*, 15(7), 73-77.
- Gass, M. (1993). *Adventure therapy: Therapeutic applications of adventure programming*. Dubuque, IA: Kendall/Hunt Publishing.
- Gass, M. (1995). Adventure family therapy: An innovative approach answering the question of lasting change with adjudicated youth? *Mongraph on Youth in the 1990's*, 4, 103-113.
- Gass, M. A., Gillis, H. L. & Russell, K. (2012). *Adventure therapy: Theory, practice, and research*. NY: Routledge Publishing Company.
- Kashdan, T. B., Uswatte, G., & Julian, T. (2006). Gratitude and hedonic and eudaimonic well-being in Vietnam war veterans. *Behaviour Research and Therapy*, 44, 177-199. doi: 10.1016/j.brat.2005.01.005.
- Kessler, R. C., Chiu, W. T., Demler, O., & Walters, E. E. (2005). Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Archives of General Psychiatry*, 62(6), 617-27.
- Knowles, M., Holton, E. F., & Swanson, R. A. (2005). *The adult learner: The definitive classic in adult education and human resource development* (6th ed.). Burlington, MA: Elsevier.
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer Publishing Company.
- Lung, D. M., Stauffer, G., & Alvarez, A. (2008). *Power of one: Adventure and experiential activities for one on one counseling sessions*. Oklahoma City, OK: Woods N Barnes Publishing.

- MacLeod, A. K., Coates, E., & Hetherington, J. (2008). Increasing well-being through teaching goal setting and planning skills: Results of brief intervention. *Journal of Happiness Studies*, 9, 185-196. doi: 10.1007/s10902-007-9057-2.
- Maratos, A., Gold, C., Wang, X., & Crawford, M. (2008). Music therapy for depression. *Cochrane Database of Systematic Review*, 1, Art. No CD004517. doi: 10.1002/14652858.CD004517.pub2.
- Maskowitz, J. T. (2010). Coping interventions and the regulation of positive affect. In S. Folkman. (Ed.), *Oxford handbook of stress, health, and coping* (pp. 408-427). New York, NY: Oxford University Press.
- National Institute for Play. (2009). *Relationships*. Retrieved 3/4/14 from http://www.nifplay.org/what_opp_relationship_md.html
- Norton, C.L., Tucker, A., Russell, K., Bettmann, J., Gass, M., Gillis, H. L., & Behrens, E. (2014). Adventure therapy with youth. *Journal of Experiential Education*, 37(1), 46-59. doi: 10.1177/1053825913518895.
- Otake, K., Satoshi, S., Tanaka-Matsumi, J., Otsui, K., & Fredrickson, B. L. (2006). Happy people become happier through kindness: A counting kindness intervention. *Journal of Happiness Studies*, 7, 361-375. doi: 10.1007/s10902-005-3650-z.
- Priest, S., Gass, M. A., & Gillis, H. L. (2000). *The essential elements of facilitation*. Dubuque, Iowa: Kendall/Hunt Publishing.
- Scheinfeld, D. E., Rochlen, A. B., & Buser, S. J. (2011). Adventure therapy: A supplementary group therapy approach for men. *Psychology of Men & Masculinity*, 12(2), 188-194.
- Schoel, J., & Maizell, R. (2002). *Exploring islands of healing: New perspectives on adventure - based counseling*. Beverly, MA: Project Adventure, Inc.
- Seegerstrom, S. C., & Miller, G. E. (2004). Psychological stress and the human immune system: A meta-analytic study of 30 years of inquiry. *Psychological Bulletin*, 130(4), 601-630.
- Thomaes, K., Dorrepaal, E., Draijer, N., Jansma, E., Veltman, D. & van Balkom, A. (2014). Can pharmacological and psychological treatment change brain structure and function in PTSD? A systematic review. *Journal of Psychiatric Research*, 50, 1-15.
- Tucker, A. (2009). Adventure-based group therapy to promote social skills in adolescents. *Social Work with Groups*, 32, 315-329.
- Tucker, A. R., & Norton, C. L. (2013). The use of adventure therapy techniques by clinical social workers: Implications for practice and training. *Clinical Social Work Journal*, 41, 333-343. doi: 10.1007/s10615-012-0411-4
- Voruganti, L. P., Whatham, J., Bard, E., Parker, G., Babbey, C., Ryan, J., & MacCrimmon, D. J. (2006). Going beyond: An adventure- and recreation-based group intervention promotes well-being and weight loss in schizophrenia. *Canadian Journal of Psychiatry*, 51(9), 575-580.
- Wittstein, I., Thiemann, D., Lima, J., Baughman, K., Schulman, S., Gary Gerstenblith, G., Wu, K., Rade, J., Bivalacqua, T., & Champion, H. (2005). Neurohumoral feature of

myocardial Stunning due to sudden emotional stress. *The New England Journal of Medicine*, 352(6), 539-548.

Wolf, M., & Mehl, K. (2011). Experiential learning in psychotherapy: Ropes course exposures as an adjunct to inpatient treatment. *Clinical Psychology and Psychotherapy*, 18(1), 60-74
doi:10.1002/cpp.692

World Health Organization. (2008). *The global burden of disease: 2004 update*. Retrieved on 3/5/14 from
http://www.who.int/healthinfo/global_burden_disease/GBD_report_2004update_AnnexA.pdf?ua=1