

# An Examination of the Feasibility of Adventure-Based Therapy in Outpatient Care for Individuals With Psychosis

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## ABSTRACT

Adventure-based therapy (ABT) involves experiential learning, outdoor education, group counseling, and intrapersonal education. While it has shown benefits in a number of populations including at-risk youth, little research has focused on individuals with psychosis. The objective of this study was to employ a mixed-methods pre-post design to examine the feasibility of a 6-week ABT intervention in an outpatient care setting among 15 adults with psychosis. The intervention proved feasible with significant improvements found in engagement in the recovery process, emotional well-being, and energy level. No changes in self-esteem or global health were observed.

**Keywords:** adventure-based therapy, psychosis, schizophrenia

## RÉSUMÉ

La thérapie d'aventure est une intervention utilisant l'apprentissage expérientiel, l'éducation en plein air, l'orientation de groupe et l'éducation intrapersonnelle. Bien que cette thérapie se soit avérée utile auprès d'un certain nombre de populations, peu de recherches ont été effectuées auprès des individus souffrant de psychose. L'objectif de cette étude était d'examiner la praticabilité d'une intervention de 6 semaines de thérapie d'aventure dans un contexte de soins ambulatoires auprès de 15 adultes souffrant de psychose. Des méthodes multiples, comprenant une évaluation pré-test post-test, ont été utilisées. L'intervention s'est

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avérée praticable, et des améliorations significatives ont été observées en ce qui concerne le processus de rétablissement, le bien-être émotionnel et l'énergie.

**Mots clés :** thérapie d'aventure, psychose, schizophrénie

Attaining a good quality of life is a major challenge for most persons with psychosis. While medications can often provide relief for the positive symptoms of the illness (e.g., hallucinations and delusions), the linkage between symptoms and people's sense of well-being and satisfaction with their life circumstances, relationships, resources, and opportunities is quite modest. Meta-analyses have revealed that general psychopathology accounts for only 8% of the variance in quality of life (Eack & Newhill, 2007). It is an illness that clearly requires adjunctive treatments in addition to medication for meaningful treatment impacts to be realized (Jacobson & Greenley, 2001). There are a number of therapeutic treatment options that can assist clients through the recovery process, including psychotherapy, cognitive rehabilitation, art therapy, supported housing and employment, family interventions, and social skills training, to name a few (Jung & Newton, 2009).

Adventure-based therapy (ABT) is a treatment option that seems promising for individuals with severe and persistent mental illness. ABT is a form of treatment that uses traditional psychosocial and educational theories to provide counselling to individuals and groups. However, unlike traditional therapy, it often occurs in a natural environment and exposes individuals to new and challenging experiences, such as camping or ropes courses, to improve mental health (Fletcher & Hinkle, 2002). ABT emerged in the early 1900s when a New York psychiatric hospital experienced overcrowding due to an outbreak of tuberculosis. The patients who had tuberculosis were placed in tents on the hospital grounds to deal with overcrowding and to decrease the spread of disease. It was found that staying in the tents had significant positive effects on mental and physical health as compared to those in hospital (Fletcher & Hinkle, 2002; Williams, 2000). ABT has since evolved to include a variety of indoor and outdoor challenges that seek to promote well-being through personal growth (Ewert, McCormick, & Voight, 2001).

The population with which ABT has been most commonly used is troubled adolescents. With this population, it has proven to be effective in decreasing the number of rearrests and reoffences (Gillis, Gass, & Russell, 2008; Jones, Lowe, & Risler, 2004), increasing time spent with family, decreasing suicidal thoughts, and increasing school performance (Harper, Russell, Cooley, & Cupples, 2007). One example of such a program for at-risk youth is the Wendigo Lake Expedition Program, in Algonquin Park, Ontario. This program includes activities such as wilderness expeditions and leadership development. It has been shown to decrease anger and defiance for the participants, as well as to improve social skills (Russell, 2004). Due to the success ABT has with youth, its use has expanded to a variety of other populations including people recovering from addictions, people living with disabilities, victims of abuse and trauma, individuals with mental illness, children, oncology patients, families, and athletes (Bennett, Cardone, & Jarczyk, 1998; Berman & Anton, 1988; Cason & Gillis, 1994; Epstein, 2004; Fletcher & Hinkle, 2002).

Benefits observed for psychiatric populations have included improved self-concept, confidence, teamwork skills, and physical capacity and reduced feelings of hopelessness, guilt, shame, loneliness, and anxiety

(Autry, 2001; Ragsdale, Cox, Finn, & Eisler, 1996; Sallans, 1998, 1999). One study of ABT for inpatient clients found that symptoms decreased more rapidly after participating in ABT programs than during other parts of the hospital stay (Berman & Anton, 1988). While limited, there are also indications of similar benefits in outpatient psychiatric care contexts in areas such as self-esteem, self-efficacy, and self-concept (Davis-Berman & Berman, 1989; Eikenaes, Gude, & Hoffart, 2006; Herbert, 1998).

The literature to date has not, however, adequately addressed the potential utility of ABT for individuals with psychosis. Most studies have examined ABT for heterogeneous psychiatric populations (Autry, 2001; Berman & Anton, 1988; Davis-Berman & Berman, 1989; Herbert, 1998). The more targeted studies have concentrated on populations such as individuals with avoidant personality disorder (Eikenaes et al., 2006) and post-traumatic stress disorder (Ragsdale et al., 1996), as well as adolescents (Berman & Anton, 1988; Davis-Berman & Berman, 1989). Only a single study focusing on individuals with psychosis was found. This pilot study of the Going Beyond program in Hamilton, Canada, examined ABT for an early intervention population and individuals at risk of developing metabolic complications. Pre-post analyses indicated improvements in self-esteem, cognitive abilities, and global functioning. These improvements were maintained over 1 year, with further occupational and social gains noted (Voruganti et al., 2006).

The present study was developed to expand the limited knowledge base regarding the utility of ABT for individuals with psychosis. The focus was on testing the feasibility and preliminary outcomes of an ABT program called Rise-Up provided for adults with schizophrenia and other psychoses. Rise-Up is a 6-week program facilitated by recreation therapists that involves a range of group activities such as team-building exercises, hiking, rock climbing, ropes courses, and horseback riding. A pre-post design using a mixed-methods approach was used to probe aspects of the program considered problematic or helpful and to examine changes in health and wellness domains over the course of the program.

## METHODS

### Study Design

Participants were recruited into the Rise-Up ABT program through a large urban case management service for persons with schizophrenia and other psychoses. Participants were referred to Rise-Up by their outpatient case managers and were subsequently recruited to take part in the study. Recruitment was done independently by research staff who assured participants that they could still take part in ABT even if they chose not to participate in research. Rise-Up modules took place in the winter and spring of 2011. A mixed-methods strategy was employed to assess feasibility. Specifically, a pre-post quantitative evaluation was undertaken to assess perceived physical health, self-esteem, and engagement in recovery from mental illness. A post-intervention qualitative examination of participant experiences was also undertaken, probing participant perspectives regarding the strengths and limitations of the ABT program. Due to the small sample size and assumptions for parametric statistics not being met, the Wilcoxon signed-rank test was used to compare the difference in scores between pre-test and post-test and to test for the significance of any observed differences. The Cohen's *d* test was then used to measure the effect size of significant findings.

A content analysis strategy was employed for the qualitative data (Smith, 1995). First, common themes/categories were identified through a line-by-line open-coding process (new categories created for each new

topic or aspect of experience). Second, there was a movement toward developing conceptual categories. This involved examining relationships between the most significant and frequent codes, and developing categories based on those relationships. All of the coding, including full transcripts and codes, was reviewed by two raters. The review yielded a high level of agreement regarding the categories and themes that emerged. In the rare instances of disagreement, the original text was reviewed and minor revisions in code structures were negotiated.

## **Intervention**

Rise-Up runs for 6 weeks, with activities taking place once per week and lasting from a half day to 3 days. The programming is based in part on the Going Beyond ABT model in terms of the types of activities employed (Voruganti et al., 2006). It is group based, typically including 10–15 individuals, with some seasonal variation in the types of activities used. Facilitated by two trained recreation therapists experienced with psychosis populations, modules include team-building exercises, horseback riding, dog sledding, and camping trips, with some activities taking place in the city and some involving trips out of the city.

The six activities used in the present study were two team-building sessions with a range of icebreakers and games, followed by showshoeing, downhill tubing, camping, and a closing celebration and meal. The facilitators, along with general coordination of the group, employed a psychosocial rehabilitation framework (King, Lloyd, & Meehan, 2007) to engage participants in the group activities. This approach included, as much as possible, tailoring activities to skill levels and interests, encouraging participants to take measured risks to build confidence, and inviting participants to reflect on how the experiences contributed to their recovery process.

## **Measures**

The study included three quantitative measures: the Medical Outcomes Study Short Form 36-Item Health Survey Instrument (SF-36) (Ware & Sherbourne, 1992), the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and the Recovery Assessment Scale (Corrigan & Jakus, 1994). These measures were chosen as they capture experiences that have been associated with ABT outcomes in previous studies and align with provider and client comments about outcomes informally gathered to date.

In order to measure health status, the SF-36 was used. This widely used measure evaluates eight aspects of health: physical functioning, role limitations due to physical health problems, bodily pain, general health perceptions, vitality, social functioning, role limitations due to emotional problems, and mental health (McHorney, Ware, Lu, & Sherbourne, 1994). When tested on individuals with schizophrenia, it was shown to have good test-retest reliability ranging from 0.65–0.90 on all of the subscales, and good concurrent validity, discriminant validity, and internal consistency (Russo et al., 1998).

Self-esteem was evaluated using the Rosenberg Self-Esteem Scale, a 10-item Likert response scale (Rosenberg, 1965, 1989). It has been used in a number of studies to measure self-esteem among people living with schizophrenia (Gureje, Harvey, & Herrman, 2004; Sorgaard et al., 2002; Torrey, Mueser, McHugo, & Drake, 2000). In populations of adults living with severe mental illness, a high internal reliability has been found ( $\mu = 0.88\text{--}0.90$ ), and a test-retest correlation of 0.87 has been reported (Torrey et al., 2000).

The Recovery Assessment Scale (RAS) measures hope, meaningful life, quality of life, symptoms, and empowerment. It is a 41-item measure in which participants describe themselves using a 5-point scale (Corrigan, Salzer, Ralph, Sangster, & Keck, 2004). This scale evaluates five aspects of recovery: personal confidence and hope, willingness to ask for help, goal and success orientation, reliance on others, and no domination by symptoms (Corrigan et al., 2004). The scale was administered using an interview format, as previous research shows that this format yields more reliable responses from people experiencing psychotic symptoms (Corrigan & Jakus, 1994). This measure has been found to have acceptable test-retest reliability ( $r = 0.88$ ) and good internal consistency ( $\mu = 0.93$ ; Corrigan, Giffort, Fadwa, Leary, & Okeke, 1999).

Qualitative data was collected through semistructured interviews. Participants completed a 10–20 minute interview on the last day of the ABT program or within the week following completion of the program. Participants were asked to describe various aspects of their experience including what they liked and disliked about the program, and to comment on any mental, physical, or social changes they may have noticed in themselves since taking part in the program.

## RESULTS

### Participants

Participants in this study were 21 inpatient and outpatient clients of a large urban schizophrenia program all of whom had psychosis as their primary mental illness. Six individuals did not complete the Rise-Up program and, as such, 15 participants were included in the study results. The participants ranged in age from 24–48 years old (mean = 35.3,  $SD = 8.3$ ) and were made up of 26.7% females ( $n = 4$ ) and 73.3% males ( $n = 11$ ). Years since diagnosis ranged from 0–27 (mean = 12.2,  $SD = 8.1$ ), and years since last hospitalization ranged from 0–12 (mean = 2.1,  $SD = 3.3$ ). There were five inpatient (33.3%) and 10 outpatient clients (66.7%), and the majority were also clients of the Ontario Disability Support Program (ODSP) (53.3%,  $n = 8$ ). None of the participants were competitively employed; one was retired (6.6 %), five were seeking work (33.3%), and four were volunteering (26.6%).

### Quantitative Findings

Mean, standard deviation, significance, and effect size findings are detailed in Table 1. For *physical health*, no significant change was observed for the total SF-36 score, nor for the subcategories of physical functioning, role limitations due to physical health, role limitations due to emotional problems, social functioning, pain, and general health. Two-tailed Wilcoxon signed-rank test findings were significant, however, and large effect sizes were found for changes in the SF-36 subcategories of energy/fatigue ( $z = 1.97$ ,  $p = 0.05$ ,  $d = 0.90$ ) and emotional well-being ( $z = 2.93$ ,  $p = 0.003$ ,  $d = 1.10$ ). With respect to *self-esteem*, the pre-intervention mean fell in the range for normal self-esteem (18.33), as did the post-intervention mean (19.00), and no significant change was noted. Findings were significant for changes in the Recovery Assessment Scale total score with a modest effect size ( $z = 1.60$ ,  $p = 0.05$ ,  $d = 0.35$ ), and with a large effect size for the subcategory of “no domination by symptoms” ( $z = 2.46$ ,  $p = 0.01$ ,  $d = 1.10$ ). There were no significant changes found for the subcategories of personal confidence and hope, willingness to ask for help, goal and success orientation, and reliance on others.

**Table 1**  
**ABT Outcomes**

|  | Pre-<br>intervention<br><i>M (SD)</i> | Post-<br>intervention<br><i>M (SD)</i> | <i>z</i>           | <i>p</i> | Cohen's <i>d</i> |
|--|---------------------------------------|--|--------------------|----------|------------------|
| Medical Outcomes Study Short Form          |                                       |  |                    |          |                  |
| 36-Item Health Survey                      |                                       |  |                    |          |                  |
| SF-36 total                                | 59.62 (16.60)                         | 65.32 (17.98)                          | 1.14 <sup>a</sup>  | 0.26     |                  |
| Physical functioning                       | 62.33 (30.10)                         | 74.67 (26.35)                          | 1.60 <sup>a</sup>  | 0.11     |                  |
| Role limitations due to physical health    | 60.08 (37.42)                         | 26.35 (39.19)                          | -0.52 <sup>b</sup> | 0.61     |                  |
| Role limitations due to emotional problems | 44.53 (46.49)                         | 46.67 (39.44)                          | 0.08 <sup>a</sup>  | 0.94     |                  |
| Energy/fatigue                             | 51.67 (18.29)                         | 61.67 (15.20)                          | 1.97 <sup>a</sup>  | 0.05*    | 0.90             |
| Emotional well-being                       | 58.40 (21.32)                         | 74.27 (16.54)                          | 2.93 <sup>b</sup>  | 0.003**  | 1.60             |
| Social functioning                         | 54.17 (24.40)                         | 55.00 (33.67)                          | 0.49 <sup>a</sup>  | 0.62     |                  |
| Pain                                       | 65.17 (31.43)                         | 75.00 (23.72)                          | 1.43 <sup>a</sup>  | 0.15     |                  |
| General health                             | 59.00 (16.82)                         | 59.13 (17.80)                          | 0.18 <sup>b</sup>  | 0.86     |                  |
| Rosenberg Self-Esteem Scale                | 18.33 (4.79)                          | 19.00 (5.35)                           | 0.421 <sup>a</sup> | 0.67     |                  |
| Recovery Assessment Scale                  |                                       |  |                    |          |                  |
| RAS total                                  | 156.00 (18.41)                        | 158.67 (10.51)                         | 1.60 <sup>a</sup>  | 0.05*    | 0.35             |
| Personal confidence and hope               | 3.85 (0.52)                           | 3.98 (0.24)                            | 1.42 <sup>a</sup>  | 0.16     |                  |
| Willingness to ask for help                | 3.98 (0.37)                           | 4.11 (0.35)                            | 1.29 <sup>a</sup>  | 0.20     |                  |
| Goal and success orientation               | 4.02 (0.56)                           | 3.92 (0.39)                            | -0.82 <sup>b</sup> | 0.41     |                  |
| Reliance on others                         | 3.73 (0.54)                           | 3.80 (0.46)                            | 0.80 <sup>a</sup>  | 0.42     |                  |
| No domination by symptoms                  | 3.31 (0.73)                           | 3.84 (0.49)                            | 2.46 <sup>a</sup>  | 0.01**   | 1.10             |

Note. *N* = 15. *SD* = standard deviation.

<sup>a</sup>Based on negative ranks.

<sup>b</sup>Based on positive ranks.

\**p* ≤ 0.05. \*\**p* ≤ 0.01.

## Qualitative Findings

Four themes were identified from the qualitative data analysis: (a) overcoming new obstacles, (b) establishing a routine, (c) making healthy changes, and (d) forming new connections.

**Overcoming new obstacles.** The theme of overcoming new obstacles was discussed by several participants. They spoke of facing their fears and finding courage to try new and challenging activities. One participant said, “[The program was] exciting because it was a new kind of therapy. It wasn’t just the same old sit down and talk.” Many of the participants talked about experiencing a new kind of therapy despite their long-standing experiences receiving mental health treatment.

I like most of [the activities]...because it is very new to me. I have never done [these activities] before and to be able to do it is making me a little proud and happy. [I was] able to do new things. I was dreaming about doing things like that.

What I liked about the program were the activities that we did. I thought they were challenging. Not to the point that it is impossible to do, but that it gives yourself more confidence when you do it.

**Establishing a routine.** Establishing a routine was a common theme several participants experienced over the course of the ABT program. Many spoke of how the program gave them a reason to get up in the morning and get out of the house. One participant said, “The program usually starts at 8:30, so it helps to get my day more organized.” Another said, “[The program] gave me something to do in my spare time.” Some participants became motivated to seek activities outside of the program. Two individuals talked about wanting to stay active after the program by joining a gym or going on walks on a regular basis. These participants said that the activities made them feel good, and they wanted to translate this feeling into their daily lives.

**Making healthy changes.** A third theme that emerged was that participants experienced healthy changes in their physical, mental, and social health. Seven participants spoke about physical improvements such as feeling stronger and more physically fit, and having more energy and less fatigue. One participant stated,

My physical health has been bad for the past year.... The program improved it slightly, but what I need to do is ... start exercising regularly because without exercise, health can't improve. It needs to be more than one day a week so this kind of gives me more motivation to seek out that.

Ten participants spoke about improvements in their mental health. This included feeling happier, less anxious, less stressed, calmer, more confident, more motivated, and more hopeful. One participant said, “Overall, I feel much more energized. I can focus better. The things that were bothering me before are bothering me much less.... I feel like a weight has been lifted.” Twelve participants spoke about social changes they experienced, such as getting along better with people, talking to others more frequently, having increased trust in others, becoming easygoing, being more accepting of others, and feeling more friendly. The analysis indicated considerable overlap between these domains of health. Three participants experienced changes in only one of these three areas, four reported changes in two areas, and six experienced changes in all three areas. Finally, only two participants did not report experiencing physical, mental, or social changes.

**Forming new connections.** The fourth theme that emerged from the interviews was the concept of forming new connections with others. Many spoke about how they enjoyed working as a team and belonging to a group. They discussed how they liked the encouragement and support they gave and received as part of this group. One individual stated,

Doing this as a group is a little different because we are sharing the power and joy of being able to do it. So it's collective. It's more than just me going up there and walking away doing it on my own. As a group it's better and more fun.

The participants spoke of making new friends with other group members and staff. One individual said, “I liked the fact that we got to get close with other people at [hospital name] that you don't regularly really get to meet.” Some participants spoke about making new connections with staff members or getting to know staff better. One participant viewed staff as peers because they would complete activities along with the participants:

The staff members were helpful because they are overcoming their fears too. It's not like they do this on a regular basis. So to me it felt like we were all in the same boat. If they can do it, we can do it. It's very inspiring you know, to have people get in there and do it with you. They could have just supervised.

Participants also spoke of making connections at a psychological level, describing improved insight regarding their psychological resources and what they personally can bring to challenging situations. They spoke about overcoming obstacles that they never thought they could and found new ways of learning and challenging themselves.

## DISCUSSION

This study was conducted to examine the utility of adventure-based therapy in a large hospital-based treatment setting for individuals with psychosis. In the past it has been found that ABT has had positive effects on individuals with mental illness (Autry, 2001; Berman & Anton, 1988; Davis-Berman & Berman, 1989; Eikenaes et al., 2006; Herbert, 1998; Ragsdale et al., 1996; Sallans, 1999); however, minimal research has examined the effects of ABT in populations with psychosis and severe mental illness (Voruganti et al., 2006). This study has provided preliminary evidence for the feasibility of ABT for a psychosis population.

Significant improvements were reported in several areas. While global self-reported health status did not significantly change, SF-36 subscale findings indicated improved emotional well-being, increased energy, and decreased fatigue. The improvement found in emotional well-being mirrors results found in ABT applied in other contexts (Autry, 2001; Ragsdale et al., 1996; Sallans, 1998, 1999). A significant improvement in the participants' overall score for the Recovery Assessment Scale (RAS) over the course of the program was also observed, suggesting a general improvement in the degree to which participants were engaged in the recovery process (Corrigan et al., 2004). This improvement was particularly evident in the "no domination by symptoms" category, suggesting that participants experienced a decrease in the degree that their symptoms were the main focus of their daily lives.

There were, however, no significant changes in perceived physical functioning, or in the personal confidence and hope subscales of the RAS, which include statements about respondents liking themselves, having hope for the future, and being able to handle stress (Corrigan et al., 2004). These findings stand in contrast with previous work on similar programs among other populations, which has suggested improvements in confidence (Ewert et al., 2001; Sallans, 1999) and hope (Ragsdale et al., 1996; Sallans, 1998). Another area in which no change was found was self-esteem. It is possible that the relatively high level of self-esteem reported by participants prior to taking part in ABT may have led to a "ceiling effect" that decreased the likelihood of improvements being observed. This consideration is of note as improved self-esteem is one of the most commonly reported benefits of ABT across other programs and populations (Berman & Anton, 1988; Davis-Berman & Berman, 1989; Ewert et al., 2001; Herbert, 1998). There were also no changes found in the SF-36 categories of role limitation due to physical health, role limitation due to emotional problems, social functioning, and general health; nor in the RAS categories of willingness to ask for help, goal and success orientation, and reliance on others. These findings contrast with the qualitative data, which along with being indicative of improvements in domains found quantitatively significant, also suggested that participants experienced improvements in areas such as changes in role limitation due to physical health and emotional



problems, social involvement, and general health. Indeed, the participant viewed ABT as a “holistic” type of intervention with clear and interrelated benefits to physical health, mental health, and social connectedness.

### Limitations

This study had several limitations. The small sample size, along with the study having taken place in one urban health-care program, may limit generalizability. A second limitation is the lack of a control group. This limits the ability to state that the changes the participants experienced were due to ABT and not other factors. The self-report format of the surveys is another limitation, possibly leading to biased responses. Lastly, the study design did not control for factors such as program attendance.

### Implications for Practice and Future Research

Overall, the findings of this study provide preliminary evidence supporting the use of ABT in hospital-based contexts for individuals with severe and persistent mental illnesses. The intervention was readily integrated into traditional programming, did not lead to any indications of harm done to participants, and may have led to improvements in health and well-being. This study contributes to a growing body of literature attesting to the utility and effectiveness of ABT for a range of populations and assists in addressing the paucity of work that is focused on ABT for individuals with severe mental illness. It is timely for a field that is increasingly looking to adjunctive interventions that might enhance the quality of life and functional outcomes for individuals with schizophrenia. There has been both an increase in critical commentary highlighting the limitations of anti-psychotic medications (Morrison, Hutton, Shiers, & Turkington, 2012) and a rapidly increasing interest in interventions that might complement or enhance the impacts of medication (e.g., cognitive remediation, cognitive adaptation training, cognitive behavioural therapy). In such a context, ABT would seem to be worth considering as part of a portfolio of treatment options that should be made available. As has been the case for other interventions such as cognitive remediation (McGurk, Mueser, DeRosa, & Wolfe, 2009), ABT may need to be embedded in and more explicitly linked to other psychosocial interventions. Further work is also needed to determine which components have the greatest impact and what is the optimal length of intervention. Such examinations, which should include randomized trials and efforts to dismantle the “active ingredients,” would likely enhance the uptake of ABT and lead to improved ABT programming.

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