

Concept Paper

Reintroducing a Pragmatic and Experiential Research Agenda for Adventure-Based and Outdoor Therapies: The Adventure Therapy Outcome Monitoring Study

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Abstract

This paper details an ongoing research study on practitioner and participant experiences in adventure therapy, informed by a progressive research program. To test the feasibility of this study, we present a contextual understanding of adventure therapy and explore the theoretical position informing an evolving research program. We use this theoretical orientation to propose a study intending to advance research in naturalistic settings, build knowledge, and to provide a framework for developing a robust person-centered evidence base for improving adventure therapy practices. Implications for future study are presented, along with opportunities for further collaboration and research based on the contextual model of adventure therapy presented.



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Keywords

Adventure therapy; feedback-informed treatment; pragmatism; psychotherapy outcome

1. Introduction

Adventure therapy (AT) literature expanded markedly over the past three decades, as demonstrated by the increasing number of empirical studies and the emergence of several meta-analyses and systematic reviews synthesizing outcomes from wilderness and adventure-based programs. Bowen and Neill [1], for example, meta-analyzed 197 studies yielding 2,908 effect sizes published from 1960 onwards. Short-term effect sizes generally remained in the small-to-moderate range (Hedges' $g = 0.47$ pre-post), with limited long-term maintenance ($g = 0.03$ at follow-up), high heterogeneity across studies, and most studies relying on pre-post designs lacking strong comparison groups or longitudinal outcomes. Those findings differed from Beck and Wong's [2] meta-analysis, which reported "significant effects of 0.832 and 1.054 respectively" (p. 700) for youth in wilderness therapy. Dobud and Harper [3] reviewed available comparison trials and found no differences in outcomes compared with direct comparison treatment groups not utilizing adventure-based treatment components. Though the available evidence base is growing and promising for a range of clinical applications, research evidence informing specifics of AT practice remains limited.

Alongside calls for higher-quality research with better controls [4] and longer follow-up studies [1], we collaborated to develop a research program based on the indication that the proliferation of literature has not yet translated into substantially stronger or more reliable evidence of improvements to AT practice and client outcomes. Additionally, there is a lack of knowledge surrounding how to best train and educate future AT providers [5].

The *Adventure Therapy Outcome Monitoring* (ATOM) study emerged from a collaboration among researchers and practitioners interested in advancing AT research, theory, and practice beyond pre- and post-program evaluations to explore a range of factors and pathways that may contribute to client outcomes. This study is informed by process-oriented psychotherapy research to use feedback-informed treatment to aid individual AT practitioners to build evidence of their clinical effectiveness. The process for data collection is described further below. As professionals with identities tied to social work, child and youth care, counseling, and youth work, we write as active contributors in our local, national, and international AT communities. The purpose of this paper is to present how we have oriented ourselves to the range of AT practices. We then discuss the feasibility of linking outcome monitoring to theory, practice, and research. Opportunities for future research are proposed.

2. What's in a Name? Contextualizing Therapy and Adventure

Attempts to define the boundaries of what is or is not AT often become a contentious, arduous, and ultimately unhelpful process [6]. When considering culture and international practices, we find ourselves stuck identifying the similarities and differences in AT practice worth consolidating into a boxed definition [7]. Inclusion and exclusion criteria remain difficult to define, especially as new

therapies continue to emerge, such as surf therapy and walk and talk therapies, which may fit as distinct therapies or within the broad scope of outdoor therapy. Adventure therapy remains diverse across populations served, qualification(s) required of the provider, cultural context, adventure-based activities facilitated, theoretical orientation, therapeutic modality, and the licensing conditions in any given jurisdiction [8]. Any research agenda requires consensus on what the inquiry intends to explore, and while potentially quarrelsome, we use this space to define our terms clearly to avoid a distortion of language as we work to advance the growing AT evidence base.

First, we explain what we mean by therapy and what it looks like when adventure is added. The two central complications with closed-ended definitions of AT include the gatekeeping of who can and cannot do this work, who accredits or authorizes the practice, and the context for what therapy we are really discussing. Outdoor therapies provide a catch-all umbrella term for many practices utilizing active bodily engagement and the intentional use of space, including AT [8]. There is confusion in the literature; however, terms have been used interchangeably. To determine what evidence base exists for AT, we found it important to clarify what we mean by therapy and adventure before considering the feasibility of a future research program [3].

Our concerns were reconciled somewhat by using Wampold and Imel's [9] contextual definition of psychotherapy:

Psychotherapy is a primarily interpersonal treatment that is (a) based on psychological principles; (b) involves a trained therapist and a client who is seeking help for a mental disorder, problem, or complaint; (c) is intended by the therapist to be remedial for the client disorder, problem, or complaint; and (d) is adapted or individualized for the particular client and his or her disorder, problem, or complaint. (p. 37).

This definition articulates well the factors common to all models of psychotherapy, though we require small amendments when addressing adventure-based approaches to the work and our understanding of the international and cultural contexts of therapy and mental healthcare. These changes, while limited, are not designed to claim specificity but to position AT among the factors common [10] to all models of therapy. Below, we unpack each of the factors identified by Wampold and Imel [9] with amendments to be inclusive of AT.

2.1 Practitioners

We agree that therapy efforts must be informed by psychological/sociocultural principles and contain theoretical backing. However, we adjust the necessity of a graduate trained therapist. For decades, international AT services have been successfully delivered with positive outcomes by practitioners with all levels of clinical training, or lack thereof, such as youth workers, educators, and police officers, among others [11]. These include an array of practitioners who do not always have graduate education including; chemical and alcohol dependency counselors, therapy assistants, allied health assistants, public health educators, outdoor educators, and others. AT services are often provided by bachelors, associates, or trade level facilitators, who may be practicing under the supervision of graduate level therapists. For this reason, we amend Wampold and Imel's [9] definition to use *practitioners* instead of *trained therapists*. AT is often delivered by practitioners with a wider range of educational levels and experience or qualifications depending on their legal and cultural context. We strongly emphasize that all services we include in this study report to adhere to their local regulations for the therapeutic services that they offer. Additionally,

terms like psychotherapy or counseling may come with legal protection in certain cultural contexts. We use the term therapy to be inclusive of various practitioners, such as occupational therapists, for example.

2.2 Active Participants

The client, whom we prefer to describe as an *active participant* or co-adventurer [11], engages in AT services to make meaning from an experience designed to be remedial, useful, and helpful. An active participant is preferred, given the experiential orientation informing AT, in which participants actively and freely construct meaning from their experience. The active participant engages in transactional encounters with the practitioner, other participants when in group settings, and the intentionally constructed environment, rich in indeterminate situations that demand inquiry and experimentation.

2.3 Adventure Therapy Rationale

There is a specific problem or rationale for initiating the interaction between the participant and practitioner. The contexts these interactions may occur in are many, such as respite for youth impacted by cancer [12], troubled youth [13], combat veterans with PTSD [14], people living with different abilities/disabilities [15], among others. In the context of the therapeutic alliance [16], the practitioner's actions are inherently designed to address the participant's chief complaints and tailor the outdoor or adventure-based experience to meet the participant's preferences and cultural context.

According to Wampold and Imel [9], psychotherapy is always defined as a voluntary treatment. That said, patients in secure care settings (i.e., involuntary) may be provided the opportunity to consent for therapy. In AT contexts, most programs described as wilderness therapy and outdoor behavioral healthcare in the US have promoted involuntary, residential programs as part of the US troubled teen industry [17]. While attendance in some programs may be court-ordered, involuntary therapy is still to be avoided. Wilderness therapy and outdoor behavioral healthcare are not a substitute for secure care, and recent research suggests attendance may be contraindicated for certain populations of youth [4]. A progressive research program examining AT outcomes should work with voluntary clients who consent to the therapy and the research project. Otherwise, readers may remain unclear as to how to interpret coerced data from involuntary therapy and research participants. Experientially, participants are always voluntary in freely making meaning from their experience, and AT practitioners should avoid totalistic and coercive programming at all costs, as this is not part of the philosophy of adventure described below [17].

3. Bringing Adventure to the Therapy

Harper and colleagues [18] suggested that AT became more widespread than similar terms, such as nature-based therapy, though what "adventure" means will differ between practitioners and across contexts. The term *adventure therapy* is used more widely in the relevant literature and remains inextricably linked to other outdoor therapies, such as surf, horticulture, forest, wilderness, and nature-based conceptualizations of therapy [19]. We agree with Alvarez and Stauffer [20] that

“adventure therapy” should stand together instead of viewing the adventure and therapy as separate or distinct in practice.

Adventure is used alongside our amendments to Wampold and Imel’s [9] definition of psychotherapy to include an experiential orientation that involves activities facilitated by a skilled practitioner in an intentional setting, often containing risk (perceived or real) and outcomes depending on how things unfold during the activity. Adventure in the context of AT is not a narrow category of high-risk outdoor pursuits but a broad and flexible set of “adventure tools and techniques” (p. 88) deliberately chosen and facilitated by a practitioner to promote therapeutic change [20].

Itin [21] argued adventure is both a specific philosophy and use of specific activities. For example, adventure cannot be defined solely by the use of outdoors as wilderness settings have historically been used for control and containing youth behavior, which is not the spirit of adventure. The philosophy of adventure “embraces an active exploration of the unknown, in which challenges encountered are seen as opportunities” (p. 80). The adventure activities, such as games, initiatives, rock climbing, canoeing, or backpacking, only when paired with the philosophy of adventure, become important to understanding AT practice. The so-called “adventurousness” of a particular activity is less important to this conceptualization. The philosophy of adventure also helps differentiate from other experiential therapies, such as art therapy or psychodrama, in that the practitioner facilitates opportunities for therapeutic growth through active engagement in the adventure activity.

We avoid a circumscribed distinction between therapy conducted indoors or out, as AT practitioners make intentional use of any setting where therapy takes place, which could be a rock climbing gym or a psychotherapist’s office. For example, AT can “range from wilderness experiences, to using a spider’s web created with masking tape across a doorway” [20]. Additionally, the available literature suggests treatment settings contributed to little variation in therapy outcomes [9]. Thus, we aim to include professional therapy efforts that include (1) active bodily engagement and (2) the intentional use of space – be it a nearby park, wilderness area, cave, or consulting room [22] into our exploration of AT.

4. Theoretical Orientation

As we present the feasibility for the developing study, a theoretical grounding is required to address the questions informing the inquiry [9]. To do so otherwise, psychotherapy researchers, or the team thereof, risk replicating previous studies lacking specific implications for AT practice. In this section, we provide some introduction and critique of the medical model’s influence on psychotherapy. We also link to how context, pragmatism, and an ontology of experience may help develop a research program established in the experiential philosophies [8].

4.1 Medical vs Contextual Models of Psychotherapy

For Wampold and Imel [9], the medical model’s influence in psychotherapy is made up of five components: (1) illness or disease, (2) a biological explanation for the illness or disorder, (3) a mechanism of change, (4) specific therapeutic procedures, and (5) specificity – that is, ingredients that must be present for the treatment to be administered effectively (i.e., time outside or inside). Previous research found AT outcomes to lack specificity when compared to outcomes of treatments

lacking adventure-based components [3]. Still, the medical model directs practitioners' attention to disorders and treatments, of which there are now over 1,000 in psychotherapy for the ever-evolving list of mental disorders [23].

Influencing AT literature, the medical model appropriates client change and positive outcomes to the specifics of the intervention. For example, the available literature suggests scholars attribute change to time in nature, the sense of accomplishment of overcoming an adventurous activity, such as climbing a mountain, intense group interactions, journaling in the outdoors, or learning survival skills [24, 25]. While these specific ingredients may plausibly interact with how the participant constructs meaning from the experience, the available literature does not suggest that AT specifically contributes to variance in client outcomes [3]. That is, therapy can work with or without these specific factors, and we present a contextual model for understanding the AT process below.

While appearing damning on the surface for advocates of specific practices, this replicated finding provides opportunities for further creativity and co-creation of AT services [26]. If the medical model's need for specificity does not stand up to empirical literature, a different understanding of and approach to therapy may be useful for developing a progressive research program. A contextual understanding of psychotherapy, whether adventurous or outdoors, may prove helpful.

Advocates for the medical model often strive to remove what they refer to as nuisance variables [26] from their research and understanding of their preferred treatment. For example, attributing outcomes to the person or the practitioner becomes problematic. Who delivers the treatment should not impact outcomes if change is attributed to the specifics of the treatment, like the outdoors or specific adventure tools and techniques. However, despite ongoing attempts to standardize treatment protocols through manuals, supervision, accreditation, and adherence to clinical assessments, the impact of practitioners should not be discounted when examining the feasibility of future AT-focused research programs [27].

If psychotherapy lacks specificity, a feasible research program might embrace context and experiential meaning-making. A relational and experiential framework should inform a contextual AT model, in which active participants endeavor to freely construct meaning from experience. Thus, there is nothing medical or specific to AT. A research program adhering to the available evidence base acknowledges that efforts to 'prove' efficacy will result in the same replicated problems proving the medical model's assumptions invalid for more than half a century [9, 28]. The purpose of our presentation of this orientation and the proposed study that follows is to use these ideas as a guide to build naturalistic evidence with clear implications for AT practice.

4.2 Pragmatism and the Ontology of Experience

Pragmatism was central to the development of psychology, social work, and experiential education in the US, with William James [29, 30], Jane Addams [31], and John Dewey's [32] respective contributions to their work being informed by an experiential understanding of philosophy and helping/teaching relationships. Pragmatists avoid specific, prescribed ways of knowing and acknowledge that any research inquiry cannot be separated from the actions and beliefs of the researcher(s) [33]. Nor can the story of AT be told without the actions and beliefs of the active participant(s) and practitioner(s). The centerpiece of pragmatism is to build knowledge

from lived experience, which can be achieved quantitatively or qualitatively, and will evolve based on what works best.

The psychotherapy field has relied on “Quantitative methods, replicable truths, the study of isolated and controlled variables, and the objectivity of the researcher [as] the hallmarks of contemporary psychological research,” despite practitioners continuing “to rely on first-person accounts of diagnosis, thus using introspection and clinical judgment, mainstream psychology has long passed the point of relying on subjective analyses” [34]. Quantitative research has all but confirmed the effectiveness of psychotherapy, and these findings are routinely used to seek funding and third-party reimbursement to improve accessibility for disadvantaged populations [28, 35]. This is similar to the current evidence base for AT which includes replicated pre- and post-program evaluations demonstrating the effectiveness of AT with little knowledge built to inform practice or improve client outcomes [36]. Qualitative research, often informed by theories of social construction and postmodernism [37], allows for practitioners and recipients of psychotherapy to shift the narrative away from linear, mechanistic theories of change, encouraging those involved to embrace the contextual.

To test the feasibility of our current orientation, we implemented feedback-informed treatment (FIT) into AT practice for the ATOM study, a practice framework often considered where *evidence-based practice* meets *social construction* [37]. According to the APA [38], evidence-based practice in psychotherapy “is the integration of the best available research with clinical expertise in the context of patient characteristics, culture, and preferences” (p. 5). This definition invites practitioners of any modality to inform themselves, based on the available literature, to become responsive when actively tailoring their work to the feedback provided by those they serve. In many ways, this aligns the practitioner as a co-adventurer on the active participant’s adventure.

5. The Contextual Model of Adventure Therapy

For the purpose of preparing to test the feasibility of the ATOM study, we are grounding AT based on the available psychotherapy research evidence and our theoretical orientation of pragmatism and the ontology of experience. Presented initially in the first author’s doctoral thesis though developed further with this paper’s authorship team, Figure 1 illustrates our Contextual Model of AT, building off Wampold and Imel’s [9] contextual model for psychotherapy. Our model adds two specific concepts relating to AT, the intentional use of space (e.g., natural settings) and active bodily engagement, to provide some distinction as to what we are describing when we inquire into AT practice.

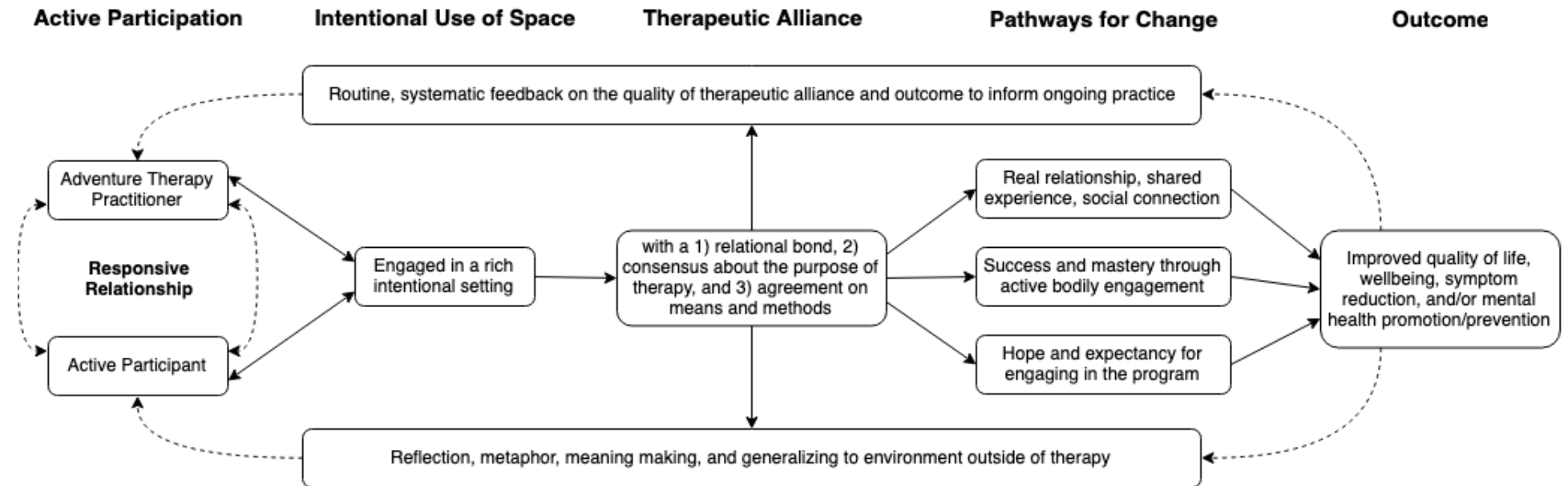


Figure 1 Contextual Model of Adventure Therapy.

Similar to all therapeutic modalities, AT occurs within the context of (1) a *responsive relationship* between (2) an *adventure therapy practitioner* and (3) *active participant(s)*. The practitioner facilitates the experience in (4) an *intentional space*, such as an outdoor or adventure-based setting. The practitioner uses the therapy settings and responsive relationship to form a (5) *working therapeutic alliance* as constructed by Bordin [33]. Outcome can occur through many (6) *pathways of change*, such as the experience of a real relationship [39], success and mastery [40] through active bodily engagement [22], and hope and expectancy in relation to wanting to engage in the therapy [9]. While intending to avoid a mechanical description of change, as if AT outcomes occur beyond the context of the responsive relationship, these pathways of change may lead to (7) an *improved quality of life* and well-being, which may include symptom reduction and mental health promotion.

The concern with Figure 1 is the presentation of a seemingly linear model, as if success and mastery cannot occur unless the intentional use of space, for example, is prevalent. Additionally, the relationship between the pathways of change is interconnected. They are not distinct and should be perceived as dynamic. This challenge the research team will explore throughout the study described in the following section. Each participant will experience varying levels of each pathway enroute to outcome (or not). To illustrate the experiential nature of AT, the practitioner obtains feedback on the participant's experience of the therapeutic alliance and outcome to inform future practice and tailor the participant's experience based on feedback. The participant constructs meaning based on their adventure-based sessions, their interaction with the treatment setting, and the experience of the therapeutic alliance.

6. Positioning the Study

The present study, presented here for the purposes of feasibility, grew from dialogue among members of the international AT community. We examined how a progressive research program [9] could build on the current evidence base of AT. As fierce advocates for adventure-based and outdoor therapies, we remain confident the decades of pre- and post-evaluations of AT programming confirm practices identified as AT were effective, though not without significant limitations when it comes to informing clinical practice [4]. One perceived, yet significant, limitation is the lack of randomized clinical trials, the so-called gold standard of psychotherapy research [41]. When reviewing the literature, we found waitlists and no-treatment controls, and comparisons to "treatment-as-usual" groups in multiple studies [42, 43], which Cuijpers and colleagues [44] argued should be concluded in practice due to ethics and a century of studies demonstrating virtually identical findings when active treatments are compared to passive comparisons inherently designed not to help those seeking care.

Over a decade of literature has included implications for progressing beyond pre- and post-program evaluations. In discussing risk and anxiety in adventure programming, Davis-Berman and Berman [45] cited factors common to all psychotherapy approaches, such as the therapeutic relationship, as part of AT's effectiveness. Harper [46] acknowledged that some AT programs, such as Project Venture, had conducted effective clinical trials to gain recognition as *evidence-based programs* but asked, "Now what?" The purpose of this paper is to launch an inquiry into that question.

Though replicated research established the effectiveness of therapy – AT included – the available literature could not find one therapy model more effective than the next [47]. Informed by the

evidence base of the time, both for psychotherapy and AT, Dobud and Harper [3] reviewed the available comparison trials in AT research finding the available evidence base did not find AT more effective than active comparison groups without adventure-based practices. The authors found that adding the outdoors, rock climbing, ropes courses, hiking, the unique role of the therapist, or survival skills (e.g., making fire by friction), among others, did not appear to improve outcomes when compared to treatments omitting these ingredients.

Building off the available evidence base, and if feasible, the ATOM study intends to operationalize the recommendations from contemporary AT research to progress beyond program evaluation outcome data. If the specific factors used in treatment tend not to improve outcomes, a progressive research program should move on from asking if AT works and begin exploring the context surrounding when AT is effective and, maybe more importantly, when it is not.

7. Objectives

7.1 Internationalizing the Project

Adopting a global perspective of AT is a deliberate response to the wide variation in practice. Conceptualizing these practices attempts to capture a worldwide picture of what is delivered, the common factors, and variances, so as not to distort our view by focusing on just one national entity, culture, or practice defined by socio-cultural influences. Additionally, we hope to demonstrate that through routine outcome monitoring [36], therapists across cultures can adapt their practices to meet the needs of their clients, wherever they may be. Therefore, this project aims to provide the international scholarly and practice communities with a framework to understand practitioner effectiveness in AT.

Scholars have begun to explore approaches to internationalizing routine outcome monitoring to develop an understanding of barriers and opportunities when using these approaches in different countries [48]. However, to our knowledge, no large-scale international research projects have been conducted to explore the implementation of routine outcome monitoring in AT practice. According to Beidas and colleagues [49], “Implementation science is the scientific study of methods to increase the adoption, implementation, and sustainment of evidence-based practices into routine care” (p. 2). It is well-researched that routine outcome monitoring is an empirically-supported approach to improve outcomes in mental health care [42]. However, we see a gap in knowledge about the implementation of these practices in international contexts. Our objective is that this project can provide the international AT community with empirical evidence to support the “adoption, implementation, and sustainment” [49] of outcome monitoring, based on a model that is evidence-based practice one person at a time.

7.2 Stakeholder Engagement

Understanding stakeholder engagement is a key component of understanding the landscape for international implementation of routine outcome monitoring [49]. Additionally, as we move towards a trauma-informed behavioral healthcare system – and especially so regarding trauma-informed ideas in the context of AT [50] – we must prioritize clients’ and practitioners’ engagement and involvement [51]. In a recent scoping review, researchers found that when stakeholder engagement (e.g., practitioners employed at an organization delivering AT services) was increased

(e.g., through training or peer consultation), there was more successful adoption and buy-in for the delivered mental health intervention [52]. Additionally, they found this engagement empowered stakeholders to share barriers that could then be overcome. This may lead to a more equitable power-sharing between researchers, practitioners, and clients. By asking active participants their assessments of what is working for them, the quality of the practitioners' work, and whether the work is making a difference, we maximize the client-centered aspect of our work and the participants' involvement in getting what they want from the work [11].

Additionally, by seeking input from practitioners about their perspectives on what does and does not work in their practice, we better understand how to implement these models in new, novel contexts more successfully. Simply put, if the therapy is not working for the client, more of the same is not likely to work unless specific feedback about the clients perspective of outcome and the alliance is sought. If the process does not work in a therapist's practice, clients are more likely to abandon it for one that they find more palatable. Therefore, we aim to prioritize the engagement of multiple stakeholders, including clients, practitioners, and administrators. This approach aims to minimize the influence of the medical model and maximizes the contextual nature of our therapeutic work.

8. Research Methods

8.1 Ethics

Ethics for this project were approved by the first author's institution (protocol number H21004) on March 11, 2022. Practitioners taking part in the study remain anonymous and will only be identifiable by the first author. Participants receiving AT will remain anonymous. All data will be made anonymous before the research team uses databases for data analysis.

8.2 Inclusion & Exclusion Criteria

The ATOM study looks to recruit practitioners whose therapeutic work involves AT (see Table 1). Informed by outcome research comparing licensed or pre-licensed psychotherapists with paraprofessionals without clinical training [47], participating in the ATOM has no requirement for qualification as a mental health professional except based on the jurisdiction of the practitioner. Determining what is or is not AT is more challenging. As described above, we conceptualize AT based on our adaptation of Wampold and Imel's [9] definition of psychotherapy and how we perceive adventure, which includes active-bodily engagement and the intentional use of the therapeutic setting, such as the outdoor environment or indoor setting. Practitioners working in traditional psychotherapy clinics or private practices, school-based or community organizations, and those in residential treatment centers have been invited to participate.

Table 1 Practitioner Inclusion Criteria.

Inclusion Criteria
Does the practitioner’s work meet our amendments to Wampold and Imel’s [9] definition of psychotherapy?
Does the practitioner’s work involve active bodily engagement?
Does the practitioner’s work involve the intentional use of space?
Are the participants involved in the practitioner’s work able to freely consent to participate in the ATOM study and FIT?

8.3 Data Collection

Practitioners interested in taking part in the ATOM are provided a participant information sheet, the *ATOM Implementation Checklist* to illustrate what participation involves, and a *Practitioner Demographics* survey to collect data about practitioner factors, such as theoretical orientation, self-assessment of effectiveness, professional qualifications, and years of experience. Upon returning the demographics survey, the first author forwards a link to download the free outcome and alliance measures, the participation information sheets for participants, and consent forms for adult and youth AT participants. Additionally, the practitioner is sent their unique ATOM Spreadsheet to record their outcomes and information about the participants engaged in their practice.

For each participant (see Figure 2), the practitioner provides a pseudonym to identify the participant and marks that informed consent was obtained. Further, data regarding gender identity, date of birth, ethnicity, and marital status are reported. Using a drop-down menu, the practitioners identify the referral source and presenting problems related to the rationale for engaging in the AT service.

[illegible]

Figure 2 Participant Data Collection.

8.4 Feedback-Informed Treatment Measures

Feedback-informed treatment (FIT) was preferred for outcome monitoring due to ease of implementation. The practice utilizes two ultra-brief measures to assess each participant's perception of outcome and the therapeutic alliance, as constructed by Bordin [16]. Adult and child versions of the measure are available in more than 20 languages and are free for practitioners to use. Software is also available to purchase, such as MyOutcomes.

8.4.1 Outcome Rating Scale

The Outcome Rating Scale (ORS; see Figure 3) measures the participant's perspective of progress throughout the course of therapy. The "specific items on the ORS were adapted from the three areas of client functioning assessed by the OQ-45.2; specifically, individual, relational, and social" [53]. This was preferred as much of the wilderness therapy literature in the US used the OQ-45.2, though the ORS is more feasible in routine practice given its brevity [54]. The scale also includes a global measure of the client's well-being. The measure is used at the start of each session, or episode of care, to inform the practitioner of the participant's experience with the outcome and progress in relation to the first session. Administration of the ORS is described below.

Outcome Rating Scale (ORS)

Name _____ Age (Yrs): _____ Sex: M / F
 Session # _____ Date: _____
 Who is filling out this form? Please check one: Self _____ Other _____
 If other, what is your relationship to this person? _____

Looking back over the last week (or since your last visit), including today, help us understand how you have been feeling by rating how well you have been doing in the following areas of your life, where marks to the left represent low levels and marks to the right indicate high levels. *If you are filling out this form for another person, please fill out according to how you think he or she is doing.*

Individually (Personal well-being)

I-----I

Interpersonally (Family, close relationships)

I-----I

Socially (Work, school, friendships)

I-----I

Overall (General sense of well-being)

I-----I

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Session Rating Scale (SRS V.3.0)

Name _____ Age (Yrs): _____
 ID# _____ Sex: M / F
 Session # _____ Date: _____

Please rate today's session by placing a mark on the line nearest to the description that best fits your experience.

Relationship

I did not feel heard,
understood, and
respected.

I-----I

I felt heard,
understood, and
respected.

Goals and Topics

We did *not* work on or
talk about what I
wanted to work on and
talk about.

I-----I

We worked on and
talked about what I
wanted to work on and
talk about.

Approach or Method

The therapist's
approach is not a good
fit for me.

I-----I

The therapist's
approach is a good fit
for me.

Overall

There was something
missing in the session
today.

I-----I

Overall, today's
session was right for
me.

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Figure 3 Outcome Rating Scale and Session Rating Scale for Adults.

8.4.2 Session Rating Scale

To conclude each session or episode of care, the Session Rating Scale (SRS; see Figure 3) is administered to measure the participant's experience of the therapeutic alliance [55]. Ultra-brief like the ORS, the SRS measures the relational bond, goal consensus, agreement on how the practitioner works towards the agreed goals, and an overall rating for the session. Practitioners are encouraged to use the measure to obtain negative feedback from the participant and provide a brief response in their spreadsheet should this feedback be obtained.

8.4.3 Administration of FIT Measures in Adventure Therapy

Determining what constitutes an episode of care required consultation from Dr. Scott D. Miller, one of the co-developers of FIT. In a traditional one-hour talk therapy session, the practitioner will administer the ORS to begin the session and provide 3-5 minutes to reflect on the participant's perception of progress (or lack thereof). To conclude the one-hour session, the practitioner should leave 5-10 minutes to administer the SRS and discuss the participant's perception of the therapeutic alliance.

Implementing FIT in certain AT settings, such as expeditions and residential treatment, requires consideration. Table 2 is adapted from Dobud and Natynczuk's [11] presentation of FIT implementation in outdoor therapies. Dobud et al. [36] and Dobud [54] have also provided implications for FIT in AT.

Table 2 Implementing Feedback-Informed Treatment Across Adventure Therapy Contexts.

Adventure Therapy Context	Outcome Rating Scale	Session Rating Scale
60-minute session	Start of each session	End of each session
Half or full day session	Start of each session	End of each session
Overnight session	Each morning	Each evening
7-day program	Days 1, 3, and 7	Days 3, and 7
14-day program	Days 1, 5, 10, 14	Days 5, 10, 14
21-day program	Days 1, 8, 15, 21	Days 8, 15, 21
Residential programming	Weekly	Weekly

For each session or episode of care, practitioners will record the date of the administration, whether this was a group or individual-based session, and the ORS and SRS scores. A drop-down list allows the practitioner to choose from a list of settings to describe where the session took place, and another with a list of activities that best reflect the session. The practitioners are asked if they sought negative feedback from the participant, and if so, provide a short qualitative response of what that feedback was.

9. Discussion: Opportunities and Lessons Learned

The ATOM study attempts to progress from pre/post outcome evaluations to explore variance across practitioners' outcomes and dose effects in AT. Depending on the feasibility of the study, the ATOM hopes to broaden AT literature and help practitioners in culturally diverse contexts build evidence of their practice.

9.1 Community of Practice

According to Wenger-Trayner and Wenger-Trayner [56], communities of practice “are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly” (p. 2). The ideal is a community of people engaged in collective learning in a specific domain of human endeavor. In this case, the ATOM community comprises of practitioners implementing FIT into their AT practice, as described above. This community is inclusive and adaptable based on the contributions of the ATOM participants, similar to a form of action research. While the research team is responsible for presenting this first paper on the ATOM study, the chief investigators, that is, the first and second authors, are responsible for implementing the ideas from the practitioners to progress the research agenda based on implementation science, the research findings, and qualitative data collected from the practitioners.

One opportunity from this community of practice is in how practitioners can implement feedback-informed supervision [57] in AT settings [11]. While various peer support groups exist online, such as the *Adventure Therapists in Private Practice* (1,232 members) and the Australia focused *Outdoor Therapy Peer Support Group* (84 members) on Facebook, the opportunity for a community to support and engage with each other, based on their AT participants’ outcome and alliance data would provide opportunities for peer support to become based on naturalistic practice-based evidence. In the future, the research team may encourage ATOM practitioners to make themselves available to other practitioners participating in the study so the community can connect and facilitate a culture of feedback among ATOM practitioners.

9.2 Variance in Practitioner Outcomes

Upon entering the ATOM study, practitioners are asked for a range of demographic data. A significant gap in the AT literature is the lack of evidence around the effectiveness of individual practitioners in relation to their sex, age, cultural background, level of education, professional qualification, years of relevant work experience, amount of supervision received, case load, and their self-assessment of effectiveness. The ATOM study will be able to examine how these variables factor against clinical outcomes.

Additionally, if practitioners engage in the study as they develop their practice and experience, data analysis can explore how AT practitioners can improve across their careers. These findings may provide knowledge for building an evidence-based program for AT providers to improve their outcomes over the span of their careers, which informs our further discussion about deliberate practice.

9.3 Dose Effect

The work of Kenneth Howard et al. [58, 59] on ‘dose effect’ in psychotherapy was described by Kopta [60] as a defining achievement. Dose effect research examines the relationship between the dose of psychotherapy (length, intensity, frequency) and the subsequent probability of a positive outcome. Howard and colleagues’ [58, 59] research found successful psychotherapy participants tended to improve at similar rates, no matter if the practitioner believed their work to be brief, short-term, or long-term. Described further below, the majority of published AT outcome studies come from a select group of wilderness therapy programs in the US referred to as outdoor

behavioral healthcare [43]. These programs are typically delivered to involuntary adolescents in remote outdoor settings for an average of 90 days. The majority of the participants are White and from upper-middle-class backgrounds [61]. While this research provides evidence for wilderness therapy practice internationally, the outcomes from residential, long-term, fee-for-service wilderness therapy programs do not reflect the diversity of practices and outcomes associated with community-based AT. Informed by Howard et al.'s [58, 59] work, the ATOM study may also examine dose effects in various AT settings.

Exploring dose effect can help practitioners to assess when, during therapy, a positive outcome for the participant becomes unlikely, such as research by Harper and colleagues [4]. For example, the study could explore the frequency of sessions based on a client's intake ORS score or presenting problem, whether change occurs at different times based on intensity of the treatment (i.e., inpatient versus outpatient), or provide an approximation (i.e., number of sessions) for when a practitioner should be concerned about the lack of progress. Implementation across different practice contexts may help build the literature around naturalistic AT practices.

9.4 Paraprofessionals

One promising area of future research includes the involvement of paraprofessionals providing AT services. For example, in Australia, the ATOM study includes four paraprofessionals without clinical training (a retired school-based police officer, one youth worker and two outdoor educators – one of which holds a Bachelor of Psychology degree). In 2024, these practitioners worked with 159 youth in group settings. Youth participants attended an average of 5.02 sessions with a 0.28 average of missed sessions. Their client self-reported outcomes include an effect size of 0.67, far beyond Bowen and Neill's [1] benchmark for AT outcomes and appears to be increasing in 2026. These outcomes provide a promising data for influencing policy in Australia that a paraprofessional workforce could alleviate stress on a crowded mental health system through expanding AT delivery. As more ATOM research participants build enough data to achieve a high-enough level of statistical confidence, like these paraprofessionals have, the study can transition to explore ways to improve client outcomes over time. A manuscript about paraprofessional outcomes is currently in development, which could challenge definitions claiming AT can only be provided by licensed mental health professionals [6].

9.5 Deliberate Practice

The first mention of deliberate practice in psychotherapy literature came when Miller et al. [62] spoke with the late Swedish Psychology researcher K. Anders Ericsson, whom Miller described as "*the expert of experts*" (p. 16, emphasis in original). Ericsson had studied the best athletes, musicians, doctors, pilots, and chess players, to name a few, and found the tests to attribute expert performance to genetic endowment to be "surprisingly unsuccessful" (p. 16). According to Ericsson's work with colleagues [63], the top performers of their respective fields worked harder at their craft than the others. Ericsson's work found that it was not time on the job, case load, or the demand of the practice that led to practitioners' eliciting improved outcomes. Experience was not a predictor of outcome. The top performers tend to practice their work 10 times more than others. Referring to *deliberate practice*, Miller and colleagues [62] leaned into the notion that therapy practitioners should actually *practice* their craft.

If proven feasible, the ATOM study intends to examine deliberate practice in naturalistic settings. First, the ATOM can help practitioners establish their baseline effectiveness [64, 65]. Practitioners can use their ORS data to calculate a baseline effectiveness. From the start, those engaged in the ATOM study will work towards implementing FIT with 30 or more participants before data analysis begins, which is why the paraprofessionals' data is so promising early on. According to the FIT manuals:

Effect sizes can be influenced by random variations in a clinician's caseload, so they are likely to be "unstable" or unreliable with caseloads of fewer than 30 clients. Caseloads of 60 or more clients are likely to yield effect sizes that are stable unless systematic changes in therapist functioning or caseload occur; and caseloads of 100 or more clients will provide especially robust or predictive effect sizes (again, unless substantial changes occur in the clinician's overall performance or caseload characteristics) [66].

Once practitioners have established their baseline, the possibility arises to work with them individually to improve their effectiveness, based on their outcome data and feedback from participants. Linking back to the previous discussion, the ATOM study may allow space for the community of practice to encourage practitioners to work together to examine the creation of an evidence-based model for improving outcomes for AT providers, which should link to Ericsson et al.'s [63] and Miller et al.'s [64, 65] work around deliberate practice in therapy.

9.6 Diversity of Adventure Therapy Literature

Adventure therapy practice is far more diverse than the literature, which remains dominated by wilderness therapy programs in the US [67]. Many practitioners incorporate the outdoor environment and adventure-based programming into their work in ways that may not make it to peer review or undergo empirical evaluation. Practitioners engaged in the ATOM study represent a range of practices and opportunities worthy of empirical research, inquiry, and examinations of different practice frameworks. This project aims to raise awareness of the numerous possibilities and practices co-existing in AT.

10. Conclusion

Since obtaining ethics approval in March 2022, and at the time of submitting the present manuscript, the ATOM project includes more than 30 AT practitioners who have successfully implemented FIT into their practice, 21 additional practitioners working with the research team towards implementation, and a growing list of practitioners expressing interest in joining the project. With this paper, we intend to progress the AT research program based on our understanding that, yes, AT works, yet more evidence is required to explore how individual practitioners impact outcomes, dose effect, and whether experience leads to improved outcomes. The feasibility of this study is still to be determined. Additionally, a community of AT practitioners building evidence from their own practice may increase the diversity of AT literature and evidence while creating a supportive network of evidence-informed care across international contexts and professions.

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Author Contributions

Dr. Dobud and Dr. Cavanaugh were responsible for the development of the ATOM study. Consultation was provided by Professor Harper, Dr Healy, and Kat Sharp throughout. Luke Elder is a social work student who completed an indirect social work placement with the Outdoor Therapy Centre for Research and Practice as a research assistant for the ATOM study. All authors contributed equally to the development of this manuscript.

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Competing Interests

The authors have declared that no competing interests exist.

References

1. Bowen DJ, Neill JT. A meta-analysis of adventure therapy outcomes and moderators. *Open Psychol J*. 2013; 6: 28-53.
2. Beck N, Wong JS. A meta-analysis of the effects of wilderness therapy on delinquent behaviors among youth. *Crim Justice Behav*. 2022; 49: 700-729.
3. Dobud WW, Harper NJ. Of Dodo birds and common factors: A scoping review of direct comparison trials in adventure therapy. *Complement Ther Clin Pract*. 2018; 31: 16-24.
4. Harper NJ, Dobud WW, Magnuson D. Adolescent wilderness therapy: The relationship of client outcomes to reasons for referral, motivation for change, and clinical measures. *Youth*. 2024; 4: 382-394.
5. Cavanaugh DL, Dobud WW, Riebschleger J, Russo C. Path to adventure: A qualitative exploration of provider training for adventure-based prevention practice. *J Adventure Educ Outdoor Learn*. 2025; 25: 653-667.
6. Gass MA, Gillis HL, Russell KC. *Adventure therapy: Theory, practice, & research*. New York, NY: Routledge; 2012.
7. Natynczuk S. *Perceptions of professionalism in adventure therapy: Working towards a competency framework*. Worcester, UK: University of Worcester; 2016.
8. Harper NJ, Dobud WW. What is outdoor therapy? A new name for an old therapeutic practice. *OBM Integr Complement Med*. 2024; 9: 065.
9. Wampold BE, Imel ZE. *The great psychotherapy debate: The evidence for what makes psychotherapy work*. New York, NY: Routledge; 2015.

10. Cuijpers P, Reijnders M, Huibers MJ. The role of common factors in psychotherapy outcomes. *Annu Rev Clin Psychol*. 2019; 15: 207-231.
11. Dobud WW, Natynczuk S. Solution-focused practice in outdoor therapy: Co-adventuring for change. New York, NY: Routledge; 2022.
12. Chan YT, Lau HY, Chan WY, Cheung CW, Lui W, Chane-Thu YS, et al. Adventure therapy for child, adolescent, and young adult cancer patients: A systematic review. *Support Care Cancer*. 2021; 29: 35-48.
13. Tucker AR, Javorski S, Tracy J, Beale B. The use of adventure therapy in community-based mental health: Decreases in problem severity among youth clients. *Child Youth Care Forum*. 2013; 42: 155-179.
14. Bettmann JE, Anderson I, Makouske J, Hanley A. Mental health outcomes of peer-led therapeutic adventure for military veterans. *J Exp Educ*. 2022; 45: 295-315.
15. Newstadt E. Efficacy of an adventure therapy program for brain injury survivors and caregivers. *Am J Recreat Ther*. 2009; 8: 31-37.
16. Bordin ES. The generalizability of the psychoanalytic concept of the working alliance. *Psychotherapy*. 1979; 16: 252-260.
17. Magnuson D, Dobud W, Harper NJ. Can involuntary youth transport into outdoor behavioral healthcare treatment programs (wilderness therapy) ever be ethical? *Child Adolesc Social Work J*. 2022; 41: 417-425.
18. Harper NJ, Rose K, Segal D. Nature-based therapy: A practitioner's guide to working outdoors with children, youth, and families. Gabriola Island, BC, Canada: New Society Publishers; 2019.
19. Harper NJ, Dobud WW. Outdoor therapies: An introduction to practices, possibilities, and critical perspectives. New York, NY: Routledge; 2020.
20. Alvarez AG, Stauffer GA. Musings on adventure therapy. *J Exp Educ*. 2001; 24: 85-91.
21. Itin CM. Adventure therapy-critical questions. *J Exp Educ*. 2001; 24: 80-84.
22. Harper NJ, Doherty TJ. An introduction to outdoor therapies. In: *Outdoor therapies: An introduction to practices, possibilities, and critical perspectives*. New York, NY: Routledge; 2020. pp. 3-15.
23. Meichenbaum D, Lilienfeld SO. How to spot hype in the field of psychotherapy: A 19-item checklist. *Prof Psychol Res Pract*. 2018; 49: 22-30.
24. Harper NJ, Fernee CR, Gabrielsen LE. Nature's role in outdoor therapies: An umbrella review. *Int J Environ Res Public Health*. 2021; 18: 5117.
25. Fernee CR, Gabrielsen LE, Andersen AJ, Mesel T. Unpacking the black box of wilderness therapy: A realist synthesis. *Qual Health Res*. 2017; 27: 114-129.
26. Miller SD, Hubble MA, Chow DL, Seidel JA. The outcome of psychotherapy: Yesterday, today, and tomorrow. *Psychotherapy*. 2013; 50: 88-97.
27. Okiishi J, Lambert MJ, Nielsen SL, Ogles BM. Waiting for supershrink: An empirical analysis of therapist effects. *Clin Psychol Psychother*. 2003; 10: 361-373.
28. Smith ML, Glass GV. Meta-analysis of psychotherapy outcome studies. *Am Psychol*. 1977; 32: 752-760.
29. James W. *The meaning of truth: A sequel to pragmatism*. London, UK: Longmans, Green, and Co.; 1909.
30. James W. *The Principles of Psychology - Vol.2*. New York, NY: Camelot Press; 1890.
31. Addams J. *Democracy and social ethics*. Champaign, IL: University of Illinois Press; 1902.

32. Dewey J. Experience and nature. North Chelmsford, MA: Courier Corporation; 1925.
33. Borden W. Experiments in adapting to need: Pragmatism as orienting perspective in clinical social work. *J Soc Work Pract.* 2013; 27: 259-271.
34. Marchel C, Owens S. Qualitative research in psychology: Could William James get a job? *Hist Psychol.* 2007; 10: 301-324.
35. Parikh A, Fristad MA, Axelson D, Krishna R. Evidence base for measurement-based care in child and adolescent psychiatry. *Child Adolesc Psychiatr Clin.* 2020; 29: 587-599.
36. Dobud WW, Cavanaugh DL, Harper NJ. Adventure therapy and routine outcome monitoring of treatment: The time is now. *J Exp Educ.* 2020; 43: 262-276.
37. Tilsen J, McNamee S. Feedback informed treatment: Evidence-based practice meets social construction. *Fam Process.* 2015; 54: 124-137.
38. APA Presidential Task Force on Evidence-Based Practice. Evidence-based practice in psychology. *Am Psychol.* 2006; 61: 271-285.
39. Gelso CJ, Kivlighan Jr DM, Markin RD. The real relationship and its role in psychotherapy outcome: A meta-analysis. *Psychotherapy.* 2018; 55: 434-444.
40. Frank JD, Frank JB, Wampold BE. Persuasion and healing: A comparative study of psychotherapy. Baltimore, MD: JHU Press; 2025.
41. Gabrielsen LE, Fernee CR, Aasen GO, Eskedal LT. Why randomized trials are challenging within adventure therapy research: Lessons learned in Norway. *J Exp Educ.* 2016; 39: 5-14.
42. DeMille S, Tucker AR, Gass MA, Javorski S, VanKanegan C, Talbot B, et al. The effectiveness of outdoor behavioral healthcare with struggling adolescents: A comparison group study a contribution for the special issue: Social innovation in child and youth services. *Child Youth Serv Rev.* 2018; 88: 241-248.
43. Gass M, Wilson T, Talbot B, Tucker A, Ugianskis M, Brennan N. The value of outdoor behavioral healthcare for adolescent substance users with comorbid conditions. *Subst Abuse.* 2019; 13. doi: 10.1177/1178221819870768.
44. Cuijpers P, Miguel C, Harrer M, Ciharova M, Karyotaki E. The overestimation of the effect sizes of psychotherapies for depression in waitlist controlled trials: A meta-analytic comparison with usual care controlled trials. *Epidemiol Psychiatr Sci.* 2024; 33: e56.
45. Davis-Berman J, Berman D. Risk and anxiety in adventure programming. *J Exp Educ.* 2002; 25: 305-310.
46. Harper NJ. Future paradigm or false idol: A cautionary tale of evidence-based practice for adventure education and therapy. *J Exp Educ.* 2010; 33: 38-55.
47. Duncan BL, Miller SD, Wampold BE, Hubble MA. The heart and soul of change: Delivering what works in therapy. Washington, D.C.: American Psychological Association; 2010.
48. Roe D, Drake RE, Slade M. Routine outcome monitoring: An international endeavour. *Int Rev Psychiatry.* 2015; 27: 257-260.
49. Beidas RS, Buitenheim AM, Mandell DS. Transforming mental health care delivery through implementation science and behavioral economics. *JAMA Psychiatry.* 2021; 78: 941-942.
50. Pringle G, Boddy J, Slattery M, Harris P. Adventure therapy for adolescents with complex trauma: A scoping review and analysis. *J Exp Educ.* 2023; 46: 433-454.
51. Substance Abuse and Mental Health Services Administration. SAMHSA's Concept of Trauma and Guidance for a Trauma-Informed Approach [Internet]. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2014. Available from:

<https://www.traumainformedcare.chcs.org/resource/samhsas-concept-of-trauma-and-guidance-for-a-trauma-informed-approach/>.

52. Triplett NS, Woodard GS, Johnson C, Nguyen JK, AlRasheed R, Song F, et al. Stakeholder engagement to inform evidence-based treatment implementation for children's mental health: A scoping review. *Implement Sci Commun*. 2022; 3: 82.
53. Miller SD, Duncan BL, Brown J, Sparks JA, Claud DA. The outcome rating scale: A preliminary study of the reliability, validity, and feasibility of a brief visual analog measure. *J Brief Ther*. 2003; 2: 91-100.
54. Dobud W. Towards an evidence-informed adventure therapy: Implementing feedback-informed treatment in the field. *J Evid Inf Soc Work*. 2017; 14: 172-182.
55. Duncan BL, Miller SD, Sparks JA, Claud DA, Reynolds LR, Brown J, et al. The session rating scale: Preliminary psychometric properties of a "working" alliance measure. *J Brief Ther*. 2003; 3: 3-12.
56. Wenger-Trayner E, Wenger-Trayner B. Introduction to communities of practice: A brief overview of the concept and its uses [Internet]. Sesimbra, Portugal: Wenger-Trayner; 2015. Available from: <https://www.wenger-trayner.com/introduction-to-communities-of-practice/>.
57. Bargmann S. Achieving excellence through feedback-informed supervision. In: *Feedback-informed treatment in clinical practice: Reaching for excellence*. Washington, D.C.: American Psychological Association; 2017. pp. 79-100.
58. Howard KI, Kopta SM, Krause MS, Orlinsky DE. The dose-effect relationship in psychotherapy. *Am Psychol*. 1986; 41: 159-164.
59. Howard KI, Moras K, Brill PL, Martinovich Z, Lutz W. Evaluation of psychotherapy: Efficacy, effectiveness, and patient progress. *Am Psychol*. 1996; 51: 1059-1064.
60. Kopta SM. The dose-effect relationship in psychotherapy: A defining achievement for Dr. Kenneth Howard. *J Clin Psychol*. 2003; 59: 727-733.
61. Harper NJ, Magnuson D, Dobud WW. A closer look at involuntary treatment and the use of transport service in outdoor behavioral healthcare (wilderness therapy). *Child Youth Serv*. 2021; 42: 200-219.
62. Miller SD, Hubble M, Duncan B. *Supershrinks: What is the secret of their success*. Psychother Aust. 2008; 14: 14-22.
63. Ericsson KA, Krampe RT, Tesch-Römer C. The role of deliberate practice in the acquisition of expert performance. *Psychol Rev*. 1993; 100: 363-406.
64. Miller SD, Hubble MA, Chow D. *Better results: Using deliberate practice to improve therapeutic effectiveness*. Washington, D.C.: American Psychological Association; 2020.
65. Miller SD, Chow DE, Malins SE, Hubble MA. *The field guide to better results: Evidence-based exercises to improve therapeutic effectiveness*. Washington, D.C.: American Psychological Association; 2023.
66. Miller SD, Barmann S. *Feedback informed treatment: A treatment, training and implementation manual*. ICCE Press; 2025.
67. Harper NJ. Wilderness therapy, therapeutic camping and adventure education in child and youth care literature: A scoping review. *Child Youth Serv Rev*. 2017; 83: 68-79.