

SIX ELEMENTS OF ADVENTURE THERAPY

Six Elements of Adventure Therapy: A Step Toward Building the “Black Box” Process of Adventure

Simon Priest, Ph.D.

Retired Independent Scholar

Abstract

This article summarizes six important elements of adventure therapy within the psychotherapeutic process. It outlines the history of the “black box” process within adventure and applies these six elements to begin building a model of how and why adventure is so effective. Readers might use the model to explain their practice to others, practitioners are invited to improve the model (including missing pieces), and researchers may want to study its interactive mediating or moderating factors.

Keywords: adventure therapy, challenge, nature, reflection, competence effectance

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Introduction

In photography, a lens is used to focus an image and to adjust the light entering the camera. Light is controlled by a diaphragm of several coordinated blades with an aperture opening at their center. The size of the opening is created by the synchronized position of the diaphragm blades. These can retract to open the aperture widely or can extend to close the aperture down to a pinpoint. A pinpoint greatly improves the focus for the entire image depth, while a wide opening allows only one area to be in focus.

This lens is a satisfying analogy for adventure therapy. If the aperture symbolizes the change clients can experience, then the diaphragm blades represent the six elements of the adventure experience (See Figure 1). As the influential elements get stronger, client change becomes more focused. These six adventure elements are challenges (exercise, risk, conflict), nature (mindful immersion), reflection (facilitated), the client (involvement), the group (support and analysis), and the leader (competence effectance theory — discussed later).

Figure 1

The Representation of Adventure Therapy as a Camera Lens



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Much like the lens housing that contains the diaphragm, these six interact and combine to produce change within the surrounding framework of the psychotherapeutic process. The presence of a supervisory therapist ensures that psychological modalities are being applied ethically (Herman, 1998), treatment plans are created and followed based on an intake assessment (Jongsma et al., 2012), and progress is regularly monitored and evaluated by analytical methods (Russell et al., 2018).

Challenges

In adventure, three types of challenges requiring perceived competence are common: exercise, risk, and conflict. Exercise is the active effort of moving and the kinesthetic awareness of body position during movement (Gass et al., 2020). Risk is the potential to lose something of value, where the losses can be psychological, social, physical, or financial, however, ethical leaders deal only with perceived risk, while managing safety systems to keep the real dangers at bay (Priest & Gass, 2018). Conflict is the expected social friction or tension caused by discord or disagreement between group members living together in close and distressful conditions outdoors (Pruitt et al., 2004). These challenges often arise from unfamiliar adventure activities conducted in unfamiliar environments and this novelty can disarm old habits and block client attempted tactics to deflect (Gass et al., 2020).

These challenges are also meant to be difficult undertakings that create distressful dissonance, where clients hold two opposing views in their minds at the same time (Festinger, 1957; Walsh & Golins, 1976). For example, when clients experience stress and discomfort by enduring hardships involving exercise, risk-taking, and/or conflict, they often melodramatically remark: “I’m okay AND I’m going to die from this!”

While endeavoring to resolve the paradox of this dissonance, clients attempt to master the situation by testing options (Morgan et al., 1990). Some examples of mastery attempt options or practice try choices include: stopping in protest or continuing with endurance exercise, freezing in fear or moving onward to counter perceived risks, and arguing or mediating small group conflicts. The choice they make depends upon their motivational strength to address the mastery attempt and is partially a function of the gap between both dissonant views with the support of the group and/or the involvement of the leader (Priest & Gass, 2018). In adventure therapy, mastery of new skills and resolving dissonance counters

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notoriously difficult-to-engage clients and provides them with high levels of new motivation (Gass et al., 2020).

According to early studies, when mastery attempts succeeded or failed to resolve the dissonance, due to the perceived competence of clients, their reflection on the challenge and its consequences led to their learning, change, and growth (Conrad & Hedin, 1981; Iso-Ahola et al., 1989; McKenzie, 2003). Reflection can be self-directed by clients or facilitated by a leader (Kolb, 1984; Schön, 1987).

Consequences must arise naturally from the challenge and outdoor environment; they cannot be dictated to or manufactured by the leader (Priest & Gass, 2018). Together, challenge, competence, and consequences allow clients to practice novel and tangible behavioral changes, receive immediate feedback on any healthy and unhealthy choices or behaviors, and then compare those present behaviors with their past conduct (Gass et al., 2020; Kimball & Bacon, 1993).

From enduring difficult exercise, clients cultivate resolve, tenacity, fortitude, perseverance, and more while also improving their physical health and fitness. From encountering and overcoming perceived risks, clients gain confidence, self-efficacy, resilience, self-esteem, risk-taking propensity, self-concept, courage, and more to develop their intrapersonal and emotional health. From resolving conflicts by themselves, clients develop teamwork, collaboration, cooperation, trust, effective communication, problem-solving skills, and more to enhance their interpersonal and social health. While in adventure therapy, they grow their potential to prevent relapse, develop coping strategies, resolve trauma, transform behavior, reduce resistance to change (Priest, 2021), create self-protection factors that will mitigate future psychosocial disorders, and reinsert into healthy living situations (Gass et al., 2020).

Nature

In adventure, nature is defined as the non-human features of an ecosystem (Soper, 1995), even though humans are a part of nature (especially in adventures) and their influence cannot be easily separated apart from nature (Ducarme & Couvet, 2020). Deep and mindful immersion in nature provides restoration, relaxation, and healing. Western philosophies held by historically colonizing settlers are being modified to realize that which Indigenous Peoples have known instinctively: we came from nature and should return there for land-based healing, mental health, and overall well-being (Priest, 2022).

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Nature also provides exposure to sunlight (converting precursors to Vitamin D), fresh air (raising blood oxygenation levels without toxic fumes found in cities), plant phytoncides (boosting white cell immune response), anions (negative ions positively increasing mood chemicals and hormones), and serene surroundings that create feelings of peace and tranquility (Lee & Park, 2020; Park et al., 2021). Nature therapy plays varied roles: restoring attention, reducing stress, and regulating affect (Harper et al., 2021).

However, immersion in nature can also involve dissonance. Apprehensive or depressed clients, normally addicted to technology/substances or freed from the daily stressors of life, are often struck by how they feel different when mindfully and deeply immersed in nature. They may remark, “I’m always anxious or sad and tend to be defined by that diagnosis AND yet here I am happy and relaxed!” However, client practice tries or mastery attempts are not necessary in this instance, because mindful meditation and conscious contemplation are the tactics used to calm down and slow down. Reflection can then compare daily life with nature immersion and perhaps obtain future mindfulness and nature exposure to cope with stress.

While nature is a likely source of the aforementioned challenges of adventure therapy (Priest & Gass, 2018), the restorative properties of nature also offer respite from those multiple and sometimes overwhelming challenges. Ongoing challenge activates the sympathetic response (fight or flight) in the mammalian nervous system. A parasympathetic response (rest and digest) is much needed to offset the prolonged effects of stress hormones like adrenaline and cortisol (Ewert, 2015; Hart, 2016).

The sympathetic response is for emergencies only and readies the body for action. It raises the heart rate, the force of cardiac contraction, and blood pressure. It dilates the eye’s pupils, bronchioles within the lungs, and blood vessels in muscles. It restricts peristalsis in the gut, urine production or output, and blood flow to the digestive system (Biaggioni, 2011). The sympathetic response kicks in at times of social threat (fight for group conflicts) and personal danger (flight from risk-taking). The distress from risk-taking adventures and small-group living often activates the sympathetic response (Ewert, 2015).

The parasympathetic response is for taking it easy and helps the body to calm down. It lowers the heart rate, the force of cardiac contraction, and blood pressure. It constricts the eye’s pupils, bronchioles within the lungs, and blood vessels in muscles. It accentuates peristalsis in the gut, urine production or

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output, and blood flow to the digestive system (Biaggioni, 2011). The parasympathetic response kicks in at times of relaxation (resting) and meals (digesting). The eustress from reflection, deep nature immersion, and meditative mindfulness often activates the parasympathetic response (Hart, 2016). These are times when reflection is most potent: when the mind is calm after the heightened excitement of an adventure.

The evidence for nature-based therapy is clear: deep and mindful immersion soothes and calms, by accessing the parasympathetic response, and downplays fear, stress, and anxiety resulting from a sympathetic response (Richardson, et al., 2016). Physiological studies demonstrated that prefrontal cortex activity, sympathetic nervous activity, blood pressure, heart rate, and cortisol (stress hormone) decreased, but parasympathetic nervous activity increased with exposure to nature (Song et al., 2016).

A recent meta-analysis compiled data from 20 studies for the impact of nature on depression, anxiety, and anger studied pre-post treatment. The before and after analysis found a medium effect size for reducing depression, a large effect size for decreasing anxiety, and a medium effect size for diminishing anger. All findings were significant and offered strong and substantial evidence that a parasympathetic response was engaged during immersion in nature (Kotera et al., 2020).

Reflection

In adventure, reflection refers to the examination of one's own feelings, thoughts, and behaviors in the context of the experience or the comparison of past situations with the present (Kolb, 1984) and where meaning from experience is assimilated and accommodated in the client's mind (Luckner & Nadler, 1997). Reflection has potential for learning and change, especially when shared with others for positive reinforcement or negative contradiction. Reflection can take the form of active group discussion or passive solo contemplation and can be facilitated by a leader or clients can be left to their own (Schön, 1987). Several facilitation techniques, known to accelerate learning and change (Priest & Gass, 2018; Priest et al., 2023), include:

1. Framing (commencing activities with a reality, fantasy, or metaphoric introduction).
2. Fundamentals (the basics of leading unstructured debriefings after each activity).

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3. Funneling (asking sequenced questions in a structured discussion after each activity).
4. Frontloading (asking a single provocative question with dialogue before each activity).
5. Freezing (interrupting the activity with a “time-out” to ask a single deliberate question).
6. Focusing (asking solution-oriented questions rather than problem-oriented ones).
7. Fortifying (a stepwise progression of addressing client resistance through psychotherapeutic techniques such as clarification, negotiation, confusion, paradox, and double bind).

To these seven facilitation techniques, the licensed and graduate-trained psychotherapist would add common psychotherapeutic modalities, such as Cognitive or Dialectical Behavioral Therapies, Narrative Therapy, Somatic Transformation, or Acceptance and Commitment Therapy (Cooley et al., 2020).

The use of metaphor is critically important to facilitate the transfer of learning from reflection on the experience to the client’s daily life (Bacon, 1983). A metaphor is one idea, object, or description used to stand for another different idea, object, or description, to denote comparative similarity between the two apparently different things (Priest & Gass, 2018). If clients can make metaphoric connections between the adventure and their daily lives, then the two seemingly different settings become very similar, and any learning obtained in the adventure is likely to show up in daily life (Gass, 1985). For the purposes of adventure therapy, metaphors can be constructed by the leader/facilitator during framing or discovered by clients depending on answers to questions asked in the techniques listed above (Priest & Gass, 2018).

In some instances during adventure therapy, clients may be left on their own to sort out their learning and change. One particular approach to achieve this is the solo experience where clients, separated from their group as isolated individuals, spend a period of time alone to contemplate (Daniel et al., 2014). Left on their own, most clients reflect over time to learn for themselves (Leberman & Martin, 2004). However, facilitation techniques are known to accelerate the self-learning process (Stremba, 1989).

The Client

In adventure, the role of the client is pivotal to their own transformation.

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Their demographics (age, gender, ethnicity, etc.) and expectations can, and frequently do, influence the beneficial outcomes they receive (Conrad & Hedin, 1981). A meta-analysis of limited research suggests that adults, who may be participating voluntarily, receive a greater benefit on average than youth, who may be obligated to attend (Hattie et al., 1997). Gender differences remain at the center of differentiated programming in all forms of adventurous outdoor learning (Blaine & Akhurst, 2021). Clearly, facilitation ought to be sensitive to the diverse demographic composition of attending clientele (Warren, 1998). Little research has been conducted on these contributions to outcomes or anticipated levels of engagement. More is needed.

Client safety is not solely the responsibility of the leader. Clients share responsibilities for the safe and environmentally protected delivery of adventure activities and for social maintenance, analysis of learning, and change of the group (Orson et al., 2020). Client involvement in goal setting is strongly associated with willing engagement in therapy and positive treatment outcomes (Evans, 1984). Ideally, the client actively serves as a partner in their treatment process and monitoring (Behrens, 2008).

The Group

In adventure, the role of the group is critical for supporting individual client change efforts and is the source of minor and major conflicts (Sibthorp & Jostad, 2014). Groups in adventure therapy tend to be kept small (about 10-12 diverse clients). While this is ideal for supervision by two or more leaders, the size is also large enough to generate conflict and achieve big tasks by capitalizing on individuals' strengths, but also small enough to enable conflict resolution and avoid clique formation that may undermine the group cohesion (Walsh & Goulin, 1976). Within the small group family, behaviors can be reshaped through peer pressure and support (Kimball & Bacon, 1993). However, the creation of a psychologically safe space for discussion must be established early by the group as encouraged by the leader (Priest & Gass, 2018). In this space, clients are free to experiment with new behaviors and pro-social skills, while learning to give and take help, care about self and others, and enjoy familial support (Whitman, 1995). Often clients lack a family structure, so the group provides them with a sense of belonging and an adequate substitute for their longing for love and support (Jostad et al., 2019).

Adventure therapy is viewed as a non-deliberate form of group psychotherapy with group cohesion (opposite of conflict) as an important

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indicator of a successful process (Tucker et al, 2016). One study found that group cohesion was the best predictor of successful treatment results (Crowe & Grenyer, 2008), so its creation often becomes a necessary turning point in group development (Braaten, 1991). The value of shared adversity, or difficult hardships experienced as bonding among group members, is thought to be critical in the development of group cohesion, especially in adventure therapy, but very little research has been conducted on this potential moderating or mediating factor (Mirkin, 2014).

The Leader

In adventure, the role of the leader is commonly seen as delivering the adventure experience in a safe, environmentally protective, and therapeutically effective manner. Perhaps the most influential aspect of the latter is the leader's ability to facilitate. While this may be true, an oft-overlooked responsibility of the leader's facilitation is based on the clients' correct perceptions of their newfound skills also known as Competence Effectance Theory (Klint, 1992).

Competence effectance is founded on effectance motivation (White, 1959) and competence motivation (Harter, 1978). Effectance motivation suggests that people are intrinsically motivated to positively influence their environments by attempting mastery of the skills needed to survive and thrive in that environment. By succeeding at mastery, and thus controlling the demands of the situation they find themselves in, they experience "effectance" or positive emotions. Feeling good makes them want to try again and motivates them to improve their competence and succeed for more difficult times ahead.

Competence motivation is a more sophisticated model that adds the influence of others and considers the motivation of failure. It suggests that perceived competence is influenced by success or failure after an attempt at mastering new skills, perceptions of being in control, and the positive or negative reinforcement of success or failure from significant others: family, friends, peer group, teachers, etc. Therefore, a successful attempt at mastery brings accompanying positive feedback and influential comments from others that make a person feel good inside. Now, they want to try again, but perhaps with added difficulty. While a failed attempt may bring negative feedback from others that makes the person feel bad inside and leads to trying again, but perhaps with an easier challenge. Repeated failures can result in fault, blame, and guilt to the extent that the person gives up trying to master that new skill.

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Competence effectance is a complex model that introduces the role of a leader and attribution to the motivational process. Competence effectance posits that correctly perceived competence, coupled with the influence of attribution (internal or external locus of control), will determine whether people will select easier or more difficult tasks in the next mastery attempt. The leader acts as a gatekeeper of client decisions by influencing them to attribute their successes or failures to internal (due to personal competence) or external (due to social or environmental factors) influences. By shifting the attribution of success or failure away from an internal and toward an external locus of control, the facilitator helps internalized failure from being taken on board by the timid individual and hinders success from feeding the arrogant ego. In therapy, this facilitated gatekeeping is obviously conducted sparingly, by sound ethical practices, not to unscrupulously manipulate, and with the best intentions in mind for client growth (Klint, 1990; 1992).

Finally, leadership style can vary from autocratic (leader decides) through democratic (shared decisions) to abdicative (clients decide) according to who holds the power to control the group and its actions (Priest & Gass, 2018). Competent leaders working in adventure therapy vary their style to suit the situation (Pickard, 1998) and current stage of group development (Jansen & Shapcott, 2006). In this way, leadership style becomes an important part of the psychotherapeutic process and building alliances.

The Psychotherapeutic Process

The interaction between the six elements determines a well-focused transformational experience. Recall the diaphragm where the blades function independently from one another but have a full range of movement from completely retracted through partially positioned to fully extended. Blades move together within the lens, while elements interact co-dependently in the psychotherapeutic experience.

The psychotherapeutic process involves clients talking or conversing with a therapist for the purpose of changing their habitual emotions, thoughts or behaviors (Weiss, 1993). Psychotherapy can be group or individually oriented and operates mostly in the cognitive domain to achieve change in the affective and behavioral domains resulting in positive treatment outcomes (Kiesler, 2017). One strength of adventure therapy is that it comes alive in all three domains for change in all three domains (Gass et al., 2020).

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Positive treatment outcomes have been consistently linked to the mediating power of an alliance between therapist and clients during the process regardless of the modality applied (Baier et al, 2020). A positive therapeutic alliance between therapist and client has long been at the forefront of predictive outcomes and benefits for psychotherapy (Horvath, 2001). The same is true for adventure therapy, where much longer durations (compared with one-hour office sessions) strengthen that alliance (Gass et al., 2020). In adventure therapy, the therapist is positioned as a facilitator, rather than an expert advisor, and this helps build rapport and a therapeutic alliance between therapist and client (Javorski, 2023).

In psychotherapy, the therapeutic alliance can sometimes result in synchronicity between the therapist and the client. A study comparing the electrocardiograms and respiration recordings of clients and therapists engaged in therapy sessions demonstrated physiological synchrony in heart rate (a gauge of sympathetic response), heart rate variability (a measure of parasympathetic response), and breathing patterns, especially for those pairs with a strong therapeutic alliance (Tschacher & Meier, 2020). Researchers concluded that sympathetic and parasympathetic responses were connected for these pairs of therapist and client.

In adventure therapy, a healthy relationship between the leader and the clients is necessary for the critical development of a therapeutic alliance (Harper, 2009). Attachment theory is at the heart of forming healthy alliances (Bettmann & Jasperson, 2008) and clients' attachment history and relationship security (with families, gangs, and other social structures) are likely moderating factors in their abilities to form attachments and thus develop therapeutic alliances (Bickman et al., 2004; Zack et al., 2015).

The “Black Box” Process

The Outward Bound process was a first effort to explain the sequence of adventure events that resulted in beneficial outcomes (Walsh & Golins, 1976). In this process, the “learner is placed into [a] unique physical environment and into [a] unique social environment, then given a characteristic set of problem-solving tasks [creating a] state of adaptive dissonance to which [the learner] adapts by mastery, which reorganizes the meaning and direction of the learner's experience” (Walsh & Golins, 1976, p. 16). This process lacked mention of reflection (not identified as important until a decade later, Kolb, 1984).

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Despite this first effort, a “black box” was identified, where we knew adventure worked, but we did not know how or why (Ewert, 1983). The term “black box” referred to unknown, unexplained, or mysterious procedures taking place between input and output in science and engineering (Bunge, 1963). In adventure therapy, the inputs are the outdoor activities and natural settings, while the outputs are changes in feeling, thinking, behaving, and resisting associated with physical, mental, emotional, social, and spiritual health (Gass et al., 2020). The “black box” contents remained elusive in the past century.

Authors began listing elements of the “black box” such as activities, physical environment, instructors, the group, and service (McKenzie, 2003) and others such as activities, real-life learning, goal-directed challenges, wilderness setting, cooperative group living, activity participation, trained leaders, and specific pre-planned goals (Baldwin et al., 2004). Recent realist syntheses have identified important factors and grouped these into three categories labeled as wilderness, physical self, and social self (Russell & Farnum 2004); wilderness, the physical self, and the psychosocial self (Ferneer et al., 2017; Ferneer et al., 2019); and nature, the individual self, and the social self (Masterton et al., 2020). An initial black box explanation of the process was proposed to include the learner experiencing a state of adaptive dissonance based on the activities, and physical and social environments. Mastery was attempted to regain a state of equilibrium and overcome dissonance, followed by reflection leading to learning. Other moderating factors included the program instructors and service projects (McKenzie, 2003).

From consideration of the six elements presented here and past literature, a clearer “black box” process is now appearing as shown in Figure 2. At least four pathways (enduring exercise, nature immersion, taking perceived risks, resolving group conflicts) lead into the process and create cognitive dissonance, while the leader shares responsibility with the clients for the activity, its safety, and environmental protection. The dissonance is resolved by mastery attempts and a leader can exert influence through competence effectance gatekeeping over both steps so that clients view the outcomes of their practice tries as successful or temporary setbacks (not failures, but worthy of another try). This is followed by reflection leading to learning and the leader can exert influence over these two steps by the use of various facilitation techniques. Leaders also rely on the use of metaphor to facilitate learning to change in daily living and provide ongoing support for those beneficial changes. The health outcomes can be physical,

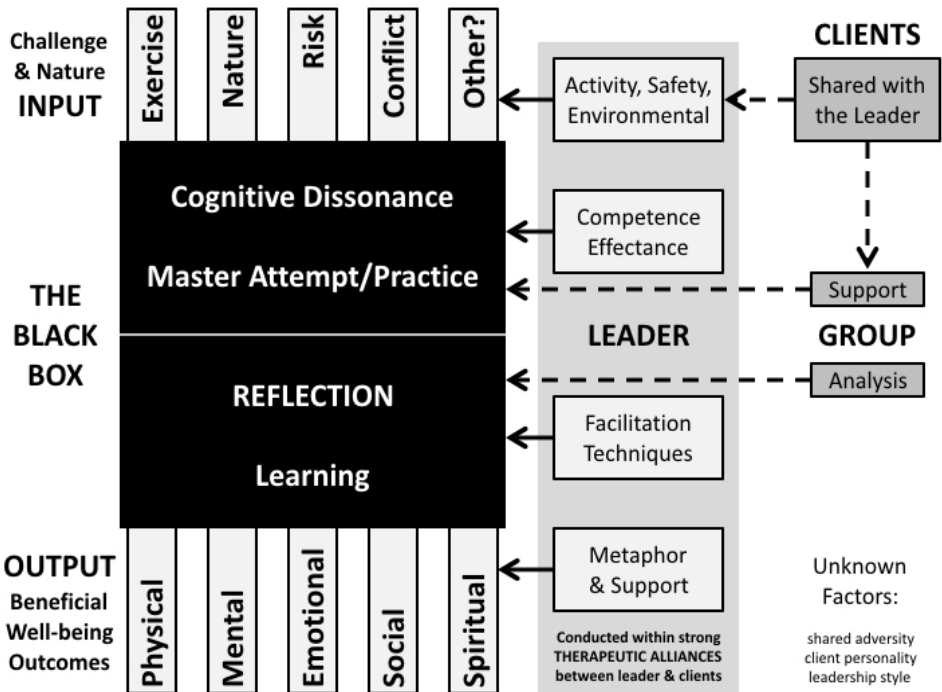
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mental, emotional (intrapersonal), social (interpersonal), and spiritual. The fifth pathway leading to spiritual outcomes has yet to be identified since research and literature on this is sorely lacking. It could be service learning in isolation or as an interaction of the other pathways (Louie-Badua & Wolf, 2008).

For the above to be effective, a strong therapeutic alliance must exist between the leader and the client group. Clients share responsibilities for activities, safety, and environmental protection. They are also accountable for partially determining their own treatment in adventure therapy (Hill, 2005). The group plays two roles: supporting the individual clients engaged with dissonance or mastery and contributing to the analysis of learning through reflection. Many unknown factors remain to sort out as mediators or moderators. A few examples include the roles of shared adversity, client personality or leadership style.

Figure 2

One Interpretation of the “Black Box” Process for Adventure Therapy



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Conclusion

Adventurous outdoor learning in general and adventure therapy specifically have been marginalized by the disciplines of education and psychology, because we have been unable to explain what we do and how/why it works. Until we can make such an explanation in language these disciplines understand, we will never gain their mainstream acceptance. This “black box” model is a first step toward shared understanding. While we might not be able to explain it to our parents, we can make a convincing case for educators and mental health professionals. The model needs improving and substantiating by future research.

Future research ought to examine how the process proceeds within the “black box” by isolating one input (exercise, nature, risk, or conflict), while controlling the others and quantitatively measuring the outcomes as the single input is varied in intensity. Qualitative methods should be used to track progress through the process for clients with particular attention paid to thoughts of dissonance, behavioral mastery for new skills, and feelings associated with learning and change. Additional research may strive to investigate unknown factors that can moderate or mediate the process. Eventually, adventure therapy must get to a place where a customized treatment of mixed dosages of four or more inputs can be uniquely prepared and facilitated for each specific client diagnosis. For example, mood disorders might receive a blend high in nature immersion, social disorders might experience resolving more interpersonal conflicts, and behavioral disorders might engage in additional exercise and risk-taking.

Declaration of interest

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