



# Family involvement and outcome in adolescent wilderness treatment: A mixed-methods evaluation

NEVIN J. HARPER & KEITH C. RUSSELL

## Abstract

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Wilderness treatment programmes, like residential programmes, serve children and adolescents with serious emotional, behavioural and substance use issues. Wilderness treatment programmes have limited empirical support for their effectiveness relative to other treatment modalities and require critical examination to delineate themselves from unregulated wilderness programmes currently under increased scrutiny in the United States for malpractice and unethical 'treatment' of troubled teens. While demonstrating promise in adolescent treatment outcomes, the family, and related family outcomes have received limited attention. This paper describes the wilderness treatment model, reviews the role of family involvement in adolescent treatment and presents the results of a mixed-methods examination of family involvement. Implications for practice and research are discussed.

**Key Words:** wilderness treatment, family involvement, mixed-methods, outcomes

## Introduction

The prevalence of adolescents with mental health and substance use issues in the United States is significant. Treatment shortages have been reported for more than two decades (American Psychological Association, 1989; Surgeon General, 2001) and currently an estimated 2.7 million children experiences severe emotional or behavioral problems and not yet receiving appropriate treatment in the prior year (National Institute of Mental Health, 2005). Adolescents with mental health and substance use concerns that remain unaddressed exhibit problem behaviour in a variety of social environments, including the family. Family crises, often driven by self-destructive actions and behaviors of adolescents with emotional and behavioural problems leave parents in difficult situations of wanting desperately to help their child. Parents of these children often seek alternative treatment modalities when conventional practices are unsuccessful, not available or appropriate in meeting their child's or family's needs (e.g., services which adolescents are unlikely to continue until desired treatment has been achieved). While often receiving referral guidance from health, mental health and justice professionals in their home communities, parent's knowledge of adolescent residential treatment programme philosophies and practice are limited. Specific details of treatment are hard to ascertain through website reviews and phone call inquiries to often distant and remote programme locations, leaving parents with critical, and often uncomfortable decisions to make about

the care their child may receive. Further, concern for child safety in unregulated ‘treatment’ programmes is currently receiving heightened media attention due to allegations of abuse and child fatalities in treatment (ASTART, 2005; Behar, Friedman, Pinto, Katz-Leavy, & Jones, 2007).

Family involvement in adolescent treatment has been suggested to increase effectiveness over child-only interventions (Robinson, Kruzich, Friesen, Jivanjee, & Pullman, 2005) and is here reasoned to provide an additional protective factor against unethical treatment of children in treatment (Reese, Vera, Simon, & Ikeda, 2000). Participating parents can monitor the practices of the treatment programme their child is enrolled in, actively participate in the treatment process including establishing family system-based goals, monitor progress and better understand their role in the youth and family make preparations for post-treatment (Allison et al., 2003; Nickerson, Brooks, Colby, Rickert, & Salamone, 2006; Nock, Ferriter, & Holmberg, 2007; Robinson et al., 2005). This evaluation explores the wilderness treatment modality defined in the literature as “wilderness therapy” that offer families an alternative to more traditional residential treatment.

State licensed and nationally accredited wilderness treatment programmes are receiving growing attention for demonstrating promising outcomes with adolescents and there are now more than 100 such treatment programmes operating in the United States, providing mental health and substance abuse interventions to over 10,000 youth annually (Russell, 2003a). The wilderness treatment approach has only recently seen empirical explorations of effectiveness and articulation of programme and process theories (see Russell, 2001, 2003b, 2006a). While the majority of wilderness treatment research has focused primarily on adolescent treatment outcomes, researchers have begun to address the need to involve and evaluate family in the wilderness treatment process (Bandoroff & Scherer, 1994; Harper, Russell, Cooley, & Cupples, 2007; Wells et al., 2004). Although inconclusive on the role or ideal level of family involvement, previous studies have raised numerous questions to be addressed, methodological issues to be overcome, and are beginning to depict how wilderness treatment programmes can best involve families with consideration given to extensive logistical and cost prohibitiveness due to the often isolated and remote wilderness locations (Wells, Widmer, & McCoy, 2004).

This paper describes the wilderness treatment model, reviews the role of family involvement in adolescent treatment, and presents the results of an examination of family involvement and outcomes in wilderness treatment including parent’s perception of the ethical treatment their child received.

## **Wilderness vs. residential treatment**

Key factors are shared to assist in distinguishing wilderness treatment from conventional residential treatment. Additionally, wilderness treatment defined by a recently developed industry council to establish best-practice, assists in attempting to differentiate ethical and effective wilderness treatment programmes and practices from other ‘wilderness programmes.’ It is important for this comparison of practice to remind readers that residential treatment and wilderness treatment programmes serve similar populations; adolescents with serious emotional, behavioural and substance use issues. Adolescents entering wilderness treatment have not generally experienced success in previous outpatient, community-based or residential treatment settings. Wilderness treatment programmes then place adolescents in remote and challenging outdoor environments (Russell, 2001) adding to the real, and perceived, risk of managing the therapeutic process while benefiting from the theorised advantage of being in nature, free of modern distractions (see Maller, Townsend, Pryor, Brown, & St. Leger, 2005).

Wilderness treatment programmes, although variations exist, are generally comprised of administrative and therapeutic practices similar to those of licensed residential treatment programmes. They do, however, have one obvious and significant differentiating feature, treat-

ment occurs in wilderness or outdoor environments and not in a residential facility. Wilderness camps and outdoor programming have been widely used in North America and abroad in reaching educational and therapeutic objectives for more than 40 years. Positive gains in child and adolescent social and emotional well-being, increased resiliency, self-competence and locus of control have been identified as intentionally achieved outcomes common to outdoor and adventure-based interventions (Durkin, 1988; Hattie, Marsh, Neill, & Richards, 1998; Russell, 2003b; Ungar, 2005). Three key distinctions theorised between residential and wilderness treatment settings by Williams (2000) are helpful in further delineating the two modalities. Distinctions include (a) more effective use of transference issues, (b) the creation of a social microcosm, and (c) differences in type of group activities. Wilderness treatment environments allow for transference issues to be magnified, and subsequently worked through as the group, including staff, live and travel together while completing challenging outdoor activities and adjusting to the rigours of outdoor life. He suggests that transference is less likely to be successfully explored and resolved in a service-delivery model of shift-working staff (i.e., in residential facilities) where adolescents do not have the same opportunities to fully explore and work through those issues. The second distinction, a social microcosm, which Yalom (1995) described as *intensive group formation* occurs in wilderness treatment where individual behaviours are more easily identified and modified as individual actions constantly affect group dynamic and success. This is because peers live together 24/7 for weeks on expeditions, and the environment provides constant feedback and motivation for positive behaviour. Outdoor group living and travel does not allow for adolescents to 'opt' out of programming, or be elsewhere, such as their room or a common hall. The group spends almost every hour of every day, with the exception of sleeping and the solo experience, in close contact. The last aspect differentiating wilderness from residential treatment, different activities, may be the most critical in understanding adolescent adherence to treatment and explain alternate paths to exploring adolescent issues and problem behaviours. The types of activities in wilderness treatment are multi-faceted. They include physically challenging outdoor travel and living which increases in difficulty and building on previously learned skills; success determined by individual contributions to group success; reflective and solitary in natural settings; simplistic in routine to pare down daily concerns; intensive group living as a metaphoric family in which issues will arise and need to be worked through for the group to proceed.

A number of wilderness treatment programmes in the US have collectively formed a professional research and standards cooperative called the outdoor behavioral healthcare research cooperative (OBHRC). This movement toward a distinguishable professional group serves two main functions: (a) to identify and implement best-practice in wilderness treatment through research and evaluation, and (b) to establish recognisable standards of practice in professional literature to inform adolescent treatment providers who may utilise wilderness practices. A subsequent result of OBHRC's formation is an emulation or separation process where many wilderness programmes can monitor research outcomes and follow industry standards, or can be clearly identified as following different models of practice. One clear, and critical distinction between wilderness programmes in general and wilderness treatment programmes, is the stated claim to deliver therapy, and in the subsequently demonstrated intentional and professionally-facilitated therapeutic outcomes. While seemingly obvious, the claim of providing therapy comes with its professional standards of care, practice, and levels of training and supervision which should be easily distinguishable to the consumer. This is critical in a time when 'wilderness therapy' is being inaccurately portrayed in current media regarding the mal-treatment of children in 'treatment.' Wilderness treatment programmes meeting criteria for inclusion by OBHRC are grounded in a theoretical model, practice under professional associations by state-licensed therapists, accredited as treatment providers, and follow treatment plans identifying client diagnosis and expected outcomes, and assist in transition and aftercare planning (see Russell, 2001). Theories of change processes in wilderness treatment have received limited examination. Russell (2006a) recently presented the most coherent expression of how wilderness treatment may be responsible for successful mental health and substance

abuse interventions for adolescent clients. Table 1 depicts basic wilderness treatment processes and therapeutic approaches and highlights further activities and environmental differences between residential and wilderness modalities. For more complete treatment on programme process theory and impact theory, see Russell (2006a).

**Table 1**  
Wilderness treatment programme process theory and practise

Theoretical bases		Elements of practise
Program theory	Programme design	<ul style="list-style-type: none"> <li>• Integrate wilderness and treatment</li> <li>• Family systems</li> <li>• Alone time/reflection</li> <li>• Metaphor</li> <li>• Rites of passage</li> </ul>
	Client approach	<ul style="list-style-type: none"> <li>• Nurturing and empathy</li> <li>• Not force</li> <li>• Restructure client relationship</li> <li>• Time and patience</li> </ul>
Program process	Programme phases	<ul style="list-style-type: none"> <li>• Cleansing</li> <li>• Social and personal responsibility</li> <li>• Transition and aftercare</li> </ul>
	Therapeutic tools	<ul style="list-style-type: none"> <li>• Wilderness skills</li> <li>• Educational groups</li> <li>• Therapeutic groups</li> <li>• Letters to parents</li> <li>• Ceremony and ritual</li> <li>• Individual and group therapy</li> <li>• Solo reflection time</li> <li>• Nature</li> </ul>
	Treatment team	<ul style="list-style-type: none"> <li>• Assess client</li> <li>• Establish rapport</li> <li>• Patience and support</li> <li>• Challenge therapeutically</li> <li>• Individualise process</li> <li>• Communicate process</li> <li>• Prepare aftercare plan</li> </ul>

Note: Adapted from Russell (2006a)

## Descriptive analysis of family involvement in ten OBHRC member programmes

Harper (2005) conducted a survey of ten OBHRC member programmes to assess the format, duration, and type of family involvement during adolescent wilderness treatment. Results indicated that most programmes (a) expressed mandatory parental involvement, (b) assess and include family goals in treatment, (c) employ a counseling/supportive and psycho-educational approach with families, (d) utilise remote family contact with each family ranging from ten

hours up to thirty hours each week, and (e) use letter writing, therapist-parent phone calls and direct family participation in certain programme elements (generally at client admission and discharge). Additionally, family inclusion in programming includes some combination of whole family, separate or multi-family group formats. Programmes also collaborate with parents in planning aftercare and the post-treatment transition, and that follow-up effort with clients and families ranged from no contact to periodic contact for more than six months. While demonstrating some consistency in family-related practices, these ten OBHRC programmes do not, however, represent the philosophies or practices of all adolescent wilderness treatment programmes. The current study examined two of these OBHRC member programmes.

## Adolescent treatment and family involvement

Family therapy and family involvement in adolescent treatment has demonstrated increased positive benefits relative to treatment of the adolescent alone (Cottrell & Boston, 2002; Diamond, Serrano, Dickey & Sonis, 1996; Fauber & Long, 1991; Liddle et al., 2000). This shift from individual therapy to family-based interventions has been strongly influenced by family systems theory which is manifest in the integration of systems theory with psychotherapy (Becvar & Becvar, 1999; Beels, 2002). Recognising the family as a self-regulating system Wilcoxon (1985) stated "As with any system, attempts to alter one component [or member] in a family system will typically elicit resistance from other members until a new pattern is established by mutual adjustment" (p. 495). Watzlawick et al. (1974) recognised the need for these two patterns – persistence and change – to be considered together when working with families. The acceptance of the role of family in moderating child and adolescent emotional and behavioural health is shared across health, education and mental health service providers (Diamond et al., 1996).

Family-oriented interventions have become most prevalent in the fields of child psychotherapy, adolescent psychiatric treatment, delinquency prevention, child protection, and school-based counseling (Crampton, 2004; Fauber & Long, 1991; Kraus, 1998; Kumpfer, 1999; Vanderbleek, 2004). Specifically, current research demonstrates increased positive outcomes with family involvement in child and adolescent treatment of anorexia nervosa, bi-polar disorder, social phobia, challenging behaviour, substance abuse, depression, and anxiety disorders (Crampton, 2004; Diamond, Siqueland, & Diamond, 2003; Eisler et al., 2000; Hirshfeld-Becker & Biederman, 2002; Kashdan & Herbert, 2001; Kerr, Beck, Shattuck, Kattar, & Uriburu, 2003; Klein et al., 2003; Leitchman, Leitchman, Barber, & Neese, 2001; Lewis, Piercy, Sprenkle, & Trepple, 1990; Rea et al., 2003; Spence, Donovan, & Brechman-Toussaint, 2000). Family involvement has also shown to produce more favourable outcomes in preventative work with delinquent adolescents, adolescent substance abuse, education-related problems, and as a mediator of negative peer influence (Kerr et al., 2003; Kumpfer, 1999; Kumpfer, Alvarado, & Whiteside, 2003). In the case of high-risk population groups, working with adolescents alone and not involving the family, may even produce deteriorated negative behaviors (Dishion & Andrews, 1995). The overall benefit of family involvement in child and adolescent treatment for a wide range of issues has been well substantiated in reviews of family-therapy literature (Diamond et al., 2003; Kazdin & Whitley, 2003; Liddle, 1996) although only a few controlled studies have begun to shed light on how and when to most effectively involve families (e.g., Eisler et al., 2000; Robin, Siegal, & Moye, 1995). Adolescent treatment literature suggests family involvement is key to effective interventions recognising the family's contribution to mental health symptomatology of adolescents and the need to include them in the treatment process.

Lack of parent and family involvement, and even family isolation from the child, has been described as a common element in programmes where child maltreatment has occurred. Wilderness treatment primarily occurs in isolated wilderness settings and could be easily targeted

with accusations in mainstream media and related publications due to its seemingly unorthodox treatment setting. Recognising the best-practice of family involvement in adolescent treatment to maximise child and family outcomes, and the need for parent's to be informed of – and consent to – the treatment their child is receiving, a timely examination of family involvement in wilderness treatment and the impact the intervention had on family functioning was undertaken. Specifically, research objectives included (a) to articulate family involvement processes in wilderness treatment, (b) to qualitatively and quantitatively evaluate change in family functioning, and (c) articulate the findings considering of the aforementioned ethical issues of adolescent 'treatment' programmes.

## Methods

The purposes of this mixed-methods study were to qualitatively and quantitatively evaluate change in family functioning due to a wilderness treatment intervention. To accomplish this, a mixed-method approach utilising a concurrent triangulation strategy guided two phases: (a) a qualitative examination of family involvement processes and outcomes, and (b) a quantitative evaluation of family outcomes. The qualitative phase employed a case study design while the quantitative phase utilised a repeated-measures design (Creswell, 2003; Yin, 2003). The development and publication of theory and practice using mixed-method approaches is now an accepted method found in literature (see Creswell & Plano Clark, 2006; Hanson, Creswell, Clark, Petska, & Creswell, 2005; Tashakkori & Teddlie, 2003). Patton (2002) contends that mixed-methods is the pragmatic approach that “aims to supersede the one-sided paradigm allegiance by increasing the concrete and practical methodological options available to researchers and evaluators” (p. 71). A pragmatic approach was adopted for this evaluation.

The study was comprised of two phases. The qualitative phase engaged parents and adolescents in ways that allowed their stories to be told, thus providing alternate views of the wilderness treatment process including real-time perspectives, emotions, and insights of parents and adolescents. The quantitative phase evaluated family outcomes utilising a standardised measure of parent and child perceptions of their own, and their family's collective 'functioning'. Although the family was the primary unit of analysis (Patton, 2002), programme staff and administrators also participated in the qualitative phase to the extent that they furthered the goal of the research (i.e., to understand the experience and process of family involvement and intended outcomes in wilderness treatment programmes) and are considered embedded units of analysis.

Two wilderness treatment programmes evaluated in the current study were purposefully selected as member programmes of OBHRC that clearly identified family involvement in promotional material and espoused utilising a family systems theory approach in their treatment model. Both programmes, Aspen Achievement Academy (AAA) in Utah and Catherine Freer Wilderness Therapy Expeditions (CFWT) in Oregon are state licensed, accredited by the Joint Commission on Accreditation of Healthcare Organisations, and employ Master's-level therapists and wilderness field staff who receive guidance from a clinical director on treatment planning, interventions and case management. Programmes primarily use backpacking in a continuous expedition format in remote desert and forested areas. AAA client treatment length was between seven and nine weeks, while CFWT was three to eight weeks.

### *Qualitative Phase*

Specific research questions guiding the qualitative phase were to (a) elicit an understanding of parent decision-making processes regarding the enrollment of their child in wilderness treat-

ment, (b) examine family perceptions of their involvement and outcomes in treatment processes, and (c) assess parent concerns for the ethical treatment of their children. Fourteen case study families were identified based on pre-determined intake dates in the summer of 2006 and asked to participate in the qualitative phase of the study, eight from CFWT and six from AAA. The 14 families were interviewed pre-treatment, post-treatment and again at two-months post-treatment. Due mostly to programme logistics, interviews were primarily with one parent in person or on the phone, although each child of the 14 families was interviewed formally or informally either on the phone or in person at the wilderness treatment programme. Where possible intact families, or parent and child interviews were arranged. The three-interview format followed a history-experience-reflection model of data elicitation put forward by Seidman (1998). Interviews were between 45 and 75 minutes in length and guided by a semi-structured interview guide to maintain focus on research aims while allowing for emergent dialogue and parent and child insight. Interviews and researcher's field notes were transcribed; data were entered and analysed utilising NVivo software (QSR, 2002). The researcher utilised an inductive approach to identify emerging patterns, and become acquainted with the data to interpret the findings (Gray, 2004; Miles & Huberman, 1994). This process involved a three-step process: (a) reducing data through identifying what data are similar (e.g., coding and categorising), (b) seeking and describing patterns and relationships between codes and categories, (c) revisiting data to provide more intricate layers of understanding, linkages to elements described, and to source new or further understanding from the data (Patton, 2002), and concluded with the integration of researcher reflection and insight from field notes, adding further depth to the analysis (Gray, 2004).

## *Quantitative Phase*

The quantitative phase of the study utilised a longitudinal repeated measures design (pre-treatment, post-treatment) to assess change in family functioning. The Brief Family Assessment Measure (BFAM) was employed to assess perceptions of self and general family functioning of adolescents in treatment and their parents. The BFAM is a pencil and paper instrument providing a systemic look at family functioning and may be used by family members ten years of age and up. The measure consists of three subscales: (a) General Scale focusing on family-as-a-whole, (b) Dyadic Relationship Scale measuring relationships between pairs of family members, and (c) Self-rating scale to identifying the individual's perceptions of their level of functioning within the family. The full-length version, the FAM (i.e., not brief), has been described in the literature as a reliable ( $\alpha = .86$  to  $.95$  on all scales) and valid instrument with predictive and explanatory qualities (Skinner, Steinhauer, & Sitarenios, 2000). Although lacking the clinical detail of the FAM, the BFAM is appropriate for identifying change in family function through repeated measures over treatment duration (Skinner et al., 2000). The sample frame for this study was clients and family members at the two selected wilderness treatment programmes. All adolescent clients admitted between June 1st and September 15th 2006 and one respective parent per client was asked to participate in the quantitative phase. Of those, 184 adolescents entered wilderness treatment and 132 agreed to participate in the study, yielding an overall study participation rate of 72%. Eighty-five parents consented to enter the study representing 74% of the adolescent sample. Complete data sets collected from adolescents and parents were 50 (38%) and 35 (41%) respectively of the total sample due to incomplete measures and inaccurate data collection at programme sites. This attrition reduces the overall strength of the quantitative phase of the study, although still allows for statistical measure of family functioning pre- to post-treatment to consider relative to qualitative findings.

## Results

Treatment averaged 40.3 days. Adolescent clients were approximately two-thirds male, 95% Caucasian, with an average age of 15.8. These demographics reflect previous wilderness treatment study populations (Russell, 2003b, 2006b). No statistically significant differences were found between the clients from the two programmes on age or gender characteristics. Clients entered wilderness treatment with pre-assessed diagnoses or were diagnosed by criteria of the Diagnostic Statistical Manual for Mental Health Disorders 4th Ed. (American Psychiatric Association, 1994) by programme therapists. Most clients (99.1%) entered treatment with a primary diagnosis, 71.3% entered treatment with a primary and secondary diagnosis of which 34.8% were dual-diagnosed (i.e., defined by having both a substance use and mental health diagnosis) (see Castel, Rush, Urbanoski, & Toneatto, 2006).

### Qualitative Findings

Four major themes were identified in the qualitative phase when examining family functioning: (a) Family crisis abated, (b) Meaningful separation, (c) Mixed emotions, and (d) New beginnings/Not fixed. Pattern and descriptive codes comprising each theme are presented in Table 2 with supportive transcript excerpts to illustrate each finding.

**Table 2**  
Pattern and descriptive codes of family involvement in wilderness treatment

Pattern codes	Descriptive codes	Examples from transcripts
Family crisis abated	Extreme circumstance Ask for help Fear of the worst	"he started doing drugs, dropping out of school, being manipulative and defiant [at home]" (father of 16 yr. old son) "he was going downhill so rapidly that if something doesn't stop him then it will be the police, or something worse" (divorced father of 17 yr. old son)
Meaningful separation	Drawing the line Trust in programme Significant change Physical and emotional distance	"that was really the only thing I could do... it [the family] had completely fallen apart" (mother of 14 yr. old son) "it helped me realise how much grief I was putting up with... she really had control over me until I was given the peace" (single mother of 15 yr. old daughter)
Mixed emotions	Hope and fear Guilt and shame Anticipation and happiness	"I was worried he would hate us for life, he walked away thinking this was awesome" (mother of 17 yr. old son) "as a parent you just don't know what you are doing, it's very disconcerting to take that step" (father of adopted 16 yr. old son)
New beginnings/Not fixed	Stabilisation Reorganised family roles False environments Systems of support	"for the first time in a long time I saw the truth and essence of my son... for that small glimpse into what he could become, I am grateful" (single mother of 16 yr. old son) "we're still at a point where we are trying to find those roles on our family... that's the hardest time for us, when he first came back, I knew it would be tough" (mother of 17 yr. old son) "he's actually getting frustrated with us because we're not able to do it [communicate] in the manner that he is used to" (mother of 16 yr. old son)

### **Family crisis abated**

Most families considered their pre-treatment circumstances extremely unstable. The child's behavior had become the dominant concern in the household and parents believed they may lose their child to substance abuse, mental health issues, criminal or reckless behaviour. With previous failures in educational, community, legal and clinical interventions, many parents declared to be enrolling their children in wilderness treatment as a 'final option'. Parents came into contact with wilderness treatment programmes through their own research or recommendations from a local service provider/contracted educational consultant. Parents' asking for help was described as common by an admissions director, and as a key element in initiating parental engagement in the treatment process. She articulates this belief in the following passage:

They are at a point where they're willing to do whatever it takes to get their child some help...this is a last resort, they've tried outpatient, they have tried so many things and they're really just grasping for any kind of help, so they're pretty open to, you know, participating (admissions4, aaa).

While parents consistently reported significant reductions in their immediate concerns for their child upon enrollment in wilderness treatment, the process often created new stress and anxiety for the parents and siblings due to the significance of the intervention and the often immediate and negative reactions from the adolescent being 'enrolled'.

### **Meaningful separation**

The act of sending a child to wilderness treatment was reported as an empowering step for parents in regaining control of their family. This element of "drawing the line" was expressed by parents as being difficult yet pivotal; deemed necessary by most families. Although often conflicted by the decision to admit their child without the child's consent, most parents came to believe it was the correct action to take, here expressed in this parent's reflection that "maybe this implies we should have acted earlier... when do you make the judgments and how does this come to needing a transport service, well I don't know, but in our case it did" (father of 16 yr. old son). The most obvious facet of wilderness treatment identified is the physical distance separating adolescents from unhealthy and negative influences – environments, interpersonal dynamics, substances – and the emotional space afforded by the physical distance. While many parents referred to benefit of "physical location" and the "isolation" factor in their child's treatment, one parent clearly identified it as the key to his son's success when asked in retrospect what he felt the most beneficial programme element was for his family during treatment:

Oh, I think definitely the number one thing was, what you would call the separation from the environment...he had to get away from the situations that were enabling him to do this [use and deal drugs], and I guess that's no secret why they do the wilderness part of it (father of adopted 17 yr. old son).

Although physical distancing of the child has taken place, emotional distance allowed the adolescent and the rest of the family to reflect on their life circumstances and events that brought the family to this place. Some parents expressed the benefits to their marital relationship during their child's treatment allowing for a stronger family support system for their child post-treatment. With wilderness treatment therapists and staff as mediators, parents and children were seen communicating and engaging therapeutic processes separately and at times together, but with the absence of previous heightened and entrenched emotional responses. Last, parents, adolescents and programme staff described the natural environment as more nurturing and conducive to the therapeutic process. This rationale was often cited by parents

as significant in the decision to enroll their child in wilderness treatment rather than residential treatment.

### **Mixed emotions**

Many adolescents were observed entering wilderness treatment against their will and experiencing a very decisive parental decision in having been sent. Parents expressed a wide range of emotions regarding their decision to send their child to wilderness treatment, the process and desired outcomes. Fear of child resentment was commonly expressed by parents, and while rarely stated directly, guilt and shame over not being able to take care of their own family was often implied, more so by families that required external transport services to get their child to treatment. One programme administrator described his observations of parental concerns of being judged for sending their child away or their inadequacies as parents, in the following passage:

And we have, a lot of our parents come, and they say, you know, I've had no one to talk to about this, and some of them felt a lot of shame and a lot of guilt, and, um, we've had parents who've had, who've, completely hidden the fact, from their community that they sent their child to a wilderness programme (administrator2, aaa).

Family's hopes and fears of child anger and retribution at post-treatment was observed to generally shift to hope for a positive future, and fear of behavioural, emotional and substance use relapse. On one occasion, during a parent-child reunion following six to eight weeks of wilderness treatment at one programme, the researcher noted "an air of anticipation exists among parents, now nervous about seeing their children and being unsure of what to expect...reflective solitude and nervous laughter pervade." The physical "re-joining" of families following that observation was experienced by the researcher as an overwhelmingly powerful, and mostly positive experience, with smiles, laughter and tears.

### **New beginnings/Not fixed**

Most families recognised the stabilisation and reorganisation of family roles and responsibilities, and expressed their inspiration to take advantage of the "clean slate". They also identified the need for more "work". While parents do what they can to prepare for their child's eventual return home, the work requested by programme therapists and completed by parents was positively recognised by approximately half the adolescents, providing the appearance of a "fresh start", that their parents invested some time and energy and were not expecting them to change alone. Parents and their children identified the safety of the wilderness treatment group as a surrogate family – and conversely, a false environment. All recognised new knowledge and skills were yet to be tested in home and community settings. When back at home, many parents expressed that the family's sense of renewal was often challenged by temptations and old patterns. Parents depicted both positive and negative outcomes immediately following wilderness treatment as a period of adjustment occurred. The acquisition of new communication and conflict resolution skills was described as assisting in the maintenance of change within the family. Further, families recognised the level of support available to them during treatment, but were concerned that a comparable system of support was not available in their home communities to maintain and continue improving individual and family outcomes. The transition period post-treatment was an often-tumultuous time for parents as expressed by one father of a 17 yr. old adopted son who stated, "the first week home...it was like standing on the edge of a freeway, and trying to jump on without an on-ramp". A common understanding articulated by programme administrators, therapists, parents and children was that the wilderness treatment experience was stabilising, and not curative. Aftercare planning was undertaken with all participants as the need for further work and support was deemed necessary.

## Quantitative Results

Results of the quantitative phase of the study examining family functioning showed a trend toward improvement. Only one of four measures showed statistically significant change – child perception of general family functioning. The average pre-treatment parent scores at admission for the self-rating scale were 13.74 ( $SD = 3.8$ ), and 16.29 ( $SD = 4.7$ ) for the general scale and are presented in Table 3 (possible total scores between 0 and 42, higher scores indicate lower family functioning). Adolescent pre-treatment scores at admission were 20.96 ( $SD = 4.9$ ) for the self-rating scale, and 21.78 ( $SD = 6.3$ ) for the general scale. Pre-treatment scores on self-rating and general scales for family members provide a snapshot of how the family-as-a-whole perceives its functioning, thereby providing a baseline description of overall family functioning of this study population. Parent scores were in the 54th percentile for self-rating and 75th percentile for general family functioning pre-treatment. Adolescent scores were in the 79th and 82nd percentiles respectively.

**Table 3**

Child and parent pre-treatment to post-treatment BFAM self-rating and general scale scores of family function

	N	M <sub>pre</sub>	M <sub>post</sub>	M <sub>diff</sub>	t	p
<b>Child</b>						
Self	51	20.96	20.22	.745	1.09	.283
General	49	21.78	19.29	2.49	2.79	.008**
<b>Parent</b>						
Self	35	13.74	13.20	.54	.852	.400
General	35	16.29	15.17	1.1	1.41	.167

\*\* Significance at  $p < .01$

BFAM: Brief family assessment measure

The percentiles provide a direct comparison to normative data and represent, in this case, that 54-75% of “normal” families have fewer family function problems than perceived by participating parents at pre-treatment. Adolescent scores show higher problem perception on both self and general scales – they reported higher individual and family dysfunction within the family than reported by parents. Parent pre-treatment to post-treatment differences in mean scores were insignificant, and improvement indicated by the parent BFAM general scale showed scores moving from the 75th to 66th percentile, suggesting that they still have more problems than 66% of the normative group. Adolescent BFAM scores improved from 79th to 74th percentile on the self-scale, and from 82nd to 74th percentile on the general scales. Adolescent pre-treatment to post-treatment BFAM general scale scores showed statistically significant change ( $t(49) = 2.79, p < .01$ ) with a medium effect size of  $d = 0.4$ . While statistically significant, adolescent BFAM general scale percentiles suggest that family functioning perceived by these clients is still 74% more problematic than the normative group.

## Discussion

Parents describing programme practices did not question the ethical and clinical care of their children. Families had adequate information from programmes (note: a few parents would

have liked to communicate with their child more often and were not satisfied with the mail-only system between parent and child), and through their participation reported high degrees of confidence and trust in the programme's ability to address their child and family concerns. Parents enrolling children in wilderness treatment struggled with their decisions, consequently experienced fears and concerns regarding their choice, but were, for most qualitative phase study participants, relieved by the outcomes of the intervention. A common undertone in interviews with parents, adolescents, therapists and administrators alike was the belief that increased levels of family involvement was desired. For example, the two organisations utilised in this study have different types of family involvement; CFWT has multiple single-day family meetings throughout treatment while AAA has a four-day family segment at the end of treatment. Therapists from both programmes expressed strong interest in utilising the strategic advantage and merit of both approaches.

While qualitative findings suggest families experienced a stabilising effect and generally rewarding experience from the wilderness treatment process, quantitative results measuring family function in a larger sample of the study population showed significant improvement in only one of four possible results – the child-report of general family functioning. One limitation of the general scale, and the significance of this child self-reported finding, is the general scale's lack of specificity in identifying meaningful aspects of family functioning (Cook, 2005). Parent's perceptions of self and general family functioning, and child-report of self were non-significant although depicting a trend of improvement. These findings contribute to a current body of literature addressing family outcomes in wilderness treatment.

Bettman (2007) identified reduced child empathy toward parent's needs and less functional attachment relationships with parents' post-wilderness treatment. Additionally, Harper et al. (2007) found numerous positive family outcomes, however, a significant increase in family arguments was found two-months post-wilderness treatment. While possibly supporting Bettmann's findings, the increased conflict may be generated by adolescent's frustration over the state of the family, more specifically, their increased awareness of perceived dysfunction of the family system. A family therapist may interpret these results within the family context as positive relative to the family context. For example, if the family had previously avoided conflict, a noted increase in arguments may demonstrate movement toward communicating in a way that was not previously available to the family. Conversely, approximately half the adolescents in this study voiced disappointment in what they perceived as a limited amount of "work" their parents had completed during the treatment time relative to their own investment. An observed difference in specific communication skills was apparent when parents found themselves taking their child's lead in discussing family issues, as well as in managing conflict, and correcting miscommunication during times of family involvement. These findings bring into question whether or not adolescent client change in cognitive and emotional domains during wilderness treatment can be sustained in the family system when potentially reduced attachment toward parents, increased family arguments, and limited change in family function are perceived (Bettmann, 2007; Harper, 2007).

In context, wilderness treatment programmes have shown considerable positive gains across numerous social, emotional, behavioural and educational individual adolescent outcomes (Clark, Marmol, Cooley, & Gathercoal, 2004; Harper et al., 2007; Russell, 2003b). Can the intensive experience of wilderness treatment, and the primary focus on the child, be exacerbating, or generating new family dynamic problems by not therapeutically engaging change processes effectively with parents and the rest of the family? Offered as a preliminary hypothesis, practitioners of wilderness treatment may reconsider the balance of their treatment strategies between children and families. Families may be better served through increased contact and participation in treatment.

## Conclusions

Wilderness treatment programmes, due to remote locations and the inherent costs of family travel, may be hard-pressed to increase family involvement within their current infrastructures. The obvious recommendation would be to work with local populations, although wilderness treatment programmes are generally situated in less-developed rural areas and/or near accessible private or government wilderness lands. This local approach is probably not sustainable with the majority of clients currently traveling to wilderness treatment programmes from other parts of the country. From a cost-effectiveness perspective, the 40-day average treatment length of adolescents in this study may need to be explored relative to what number of days could be reduced to offset the costs of increasing effective family involvement. If for example, reducing child-only treatment – and associated costs – by ten days allowed parents to join their child in treatment for five days, could the wilderness intervention increase positive family functioning outcomes? Future research and programme designs may address this issue which literature clearly indicates the need for, increased family involvement in child and adolescent treatment to more directly address family-based problems.

An underlying assumption guiding the current examination of family involvement was that the child was in treatment, and that families were “involved” rather than engaged in family therapy; suggesting the child-as-client, rather than family-as-client. While programme therapists were observed encouraging families to engage therapeutically, the wilderness treatment model is promoted and generally seen as an adolescent treatment approach. The family’s perception of family-as-client may yet prove critical in achieving meaningful change at the family level. Bandoroff and Scherer (1994) found clinically successful results in family functioning in their wilderness family therapy programme utilising the family-as-client approach. Wilderness treatment programmes in this study engaged families in numerous psycho-educational processes including on line parenting workshops, communication with programme therapists, participation in programme at pre-determined times, and are strongly encouraged to engage a family or marriage therapist in their home communities to work in unison with their child’s treatment and planning for aftercare.

Both wilderness treatment programmes in this study believed that change in the family at home during the child’s time in treatment (i.e., recognised the family’s contribution to problem behavior) is often the strongest predictor of long-term success for the family. A family systems perspective strongly supports this assertion, although the ability of a treatment programme to influence family members who are not present in their treatment process – those who are assumed to be actively engaged remotely – could be reasoned a false hope. If parents accepted that the family is in therapy, rather than the child alone, the family-as-a-whole may have more intrinsic motivation and subsequent participation in the change process. Programmes may consider this recommendation through the lens of marketing or enrollment of adolescent clients in that wilderness treatment may shift the therapeutic focus from the adolescent to the family, although practice may still consist of separate, whole-family and multi-family formats. While actual programme practices need only shift minimally, the philosophical shift and approach by staff may increase family motivation and participation in actualising systemic family change.

While current reviews of accountability of adolescent ‘treatment’ programmes is underway in the US, it is timely for the development and professional recognition of alternative treatment modalities for families in crisis. The results of this study did not indicate family concerns regarding ethical treatment of children, although it was not the focused intent of to assess programme practices and philosophies. The wilderness treatment model requires further investigation to support its practices as clinically valid and ethically sound in practice. For example, the GAO report authored by Kutz and O’Connell (2007) clearly states that they could not find a standard definition for wilderness therapy, leaving the term open for marketing of a wide range of ‘treatment’ programmes, both privately and publicly funded. The report also recognises the role that residential treatment programmes serve in meeting the needs of children with serious problems who have not had success with community-based services. While alter-

native residential programmes for adolescents with significant emotional and behavioural problems are warranted, criticism has been lodged that an over-inflated perception of need exists in the United States, supporting a “troubled-teen” industry (see Szalavitz, 2006). This criticism loosely equates the troubled-teen industry to mainstream institutionalisation of difficult adolescence behaviour. In essence, this commentator suggested the actual need for ‘treatment’ programmes may be lower, begging the question “How does a parent come to believe they need the services of an *escort* to take their child to treatment from their bed in the middle of the night?” While many socio-political factors may create a culture that supports such action, many US states require evidence of “medical necessity” for involuntary treatment of their child to occur, often related to addiction issues in which coercive treatment is more readily accepted (Sullivan et al., 2008). With many questions needing to be addressed to assist in delineating ethical and effective practice across adolescent ‘treatment’ fields, it is incumbent upon service providers to ensure they are upholding the highest standards of care and practice to ensure the most effective service for children and families in need.

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### Authors notes

#### **Nevin J. Harper, Ph.D.**

Research Fellow  
School of Child and Youth Care  
University of Victoria  
Victoria  
British Columbia  
Canada

Author contact:  
PO Box 1700 STN CSC  
University of Victoria  
Victoria, BC  
V8W 2Y2  
Canada  
250-721-8048  
[njharper@uvic.ca](mailto:njharper@uvic.ca)

**Keith C. Russel, Ph.D.**  
*Associate Professor*  
College of Humanities and Social Sciences  
University of Western Washington  
Bellingham  
Washington  
United States of America