**A closer look at involuntary treatment, transport and the concept of ‘effectiveness’ in adolescent wilderness therapy**

Harper, N. J., Magnuson, D., & Dobud, W.

For: *Research on Social Work Practice?*

**Abstract**

Wilderness therapy is an out-of-home adolescent treatment option in the United States serving tens of thousands of youth annually for behavioral, substance and mental health issues. Remote program locations, costs, and common practices lead to over half of these youth being transported to programs by third party providers. This paper responds to two previous outdoor behavioral healthcare studies of adolescent treatment in wilderness therapy related to youth transport services, the concept of involuntary, and transportation’s impact on outcomes (Tucker et al., 2015; Tucker et al., 2016). Specifically, we address (1) the assumption that being transported equates to being involuntary, and (2) the claims that client outcomes are no different for voluntary and involuntary youth, and therefore that transport has no bearing on outcomes. Data from Outdoor Behavioral Healthcare programs was examined utilizing five distinctly conceptualized models of voluntary/involuntary constructed from youth and parent report variables. All five models found statistically significant differences across a variety of random social and psychological outcomes suggesting the irrelevance of these types of analyses and the futility of trying to assume any measure of voluntariness. We also found low numbers of youth return home following wilderness therapy regardless of their voluntariness. Further, we suggest there are flaws in the use of the Youth Outcomes Questionnaire as a measure of treatment effectiveness, and propose a simple alternative. Recommendations for practice and further research are offered.

**Introduction**

Outdoor adventure activities, therapeutic camps and wilderness-based approaches are long-standing practices as child and youth care interventions in North America (Brendtro & Strother, 2006; Dimock & Hendry, 1939; Durkin, 1988; Redl & Wineman, 1957). In recent years, the prevalence of wilderness therapy (WT) research in the adolescent treatment literature has accelerated (Harper, 2017). This growth has been driven by an industry of economic and practical significance, primarily in the United States, which includes approximately 150 programs serving 30000-50000 youth each year (Cooley, 2000; Russell, 2006; Russell et al., 2008). Further, a database developed and maintained by the National Association of Therapeutic Schools and Programs (NATSAP) provides outcomes research for member programs including Outdoor Behavioral Healthcare (OBH) programs which are commonly referred to as WT (Young & Gass, 2008, 2010). This dataset has provided a significant resource for OBH research over the last decade..

WT has been described as various forms of therapeutic intervention practices utilizing remote tracts of land and in which outdoor living and travel are the primary day-to-day activity for groups (Russell, 2001). Becker and Russell (2016) proposed that the diversity of WT programming and the lack of a common or manualized approach will prolong or prevent the acceptance of WT as a definable therapeutic modality. In depicting the breadth of potential variables confounding treatment outcomes Harper (2009) stated:

…the extended and intensive time spent in the ‘field’ by clients and the clinical team allows for a highly integrated and holistic approach to the treatment process; improvement to clients’ daily nutritional intake, increased physical activity, completion of school curriculum, social and life skill development and other aspects comprise the wilderness treatment experience, suggesting difficulty in clearly defining an overarching theoretical approach to treatment. (p. 51)

Tucker and colleagues suggest WT programs are a treatment option on the spectrum of intervention “somewhere in between outpatient and residential treatment in terms of intensity and length” (Tucker, Bettmann, Norton, & Comart, 2015, p. 672). While an interesting framing of this approach, WT is an out-of-home and often out-of-state intervention with an average treatment length of two months or longer, in which youth live ‘rough’ outdoors for weeks on end (Russell, Gillis, & Lewis, 2008). WT has been described by others as a residential treatment approach for adolescents presenting with mental health issues, substance abuse and disruptive behavioral problems (Harper, 2017; Russell et al., 2008). While easy to describe how clients live and travel in the outdoors versus a brick and mortar residential facility, it is unreasonable to suggest WT is anything less in intensity than residential treatment for adolescents (Harper & Russell, 2008; Williams, 2000). WT intentionally isolates youth from normal day-to-day distractions in community and home settings as a clinical medium (Russell, 2006) and programs are often located away from populated centers, leading to increased difficulty for families to attend and participate in treatment, and increased barriers exist for parents to bring their children to WT themselves (Harper, 2007).

While not the focus of this research, it is important to note that WT literature continually claims “effectiveness” based on standardized measures such as the Youth Outcome Questionnaire (YOQ) (e.g., Magle-Haberek, Tucker, & Gass, 2012; Russell, 2003). This measure was designed as a clinical progress tool and is not recommended to be used as a determination of the need for treatment or treatment effectiveness in isolation but, rather, as a repeated measures of change, suggested for weekly clinical use, and its creators suggest that “standardized outcome instruments should never be used as a substitute for clinical judgment or without consideration of the person’s own desired path to recovery” (YOQ Clinical Manual, 2010, p. 6). As child and youth care and social work researchers, we suggest that for out-of-home treatment, the young person’s return home from residential treatment should be considered a primary indicator of out-of-home treatment and program success. Following WT, “most adolescents leaving wilderness therapy programs transition to longer-term, residential therapeutic schools and programs upon discharge” (Bolt, 2016, p. 62). Inappropriately, some WT literature refers to these residential facilities as “aftercare” yet they are describing other forms of out-of-home treatment (Bolt, 2016; Russel et al. 2008). Bettmann, Russell, and Parry (2013) reported almost 77% of youth moved into further residential treatment following one OBH WT program, while Bolt (2015) reported one WT program recommending up to 95% of youth move on to further residential treatment following WT. Pumariega (2006) reminded us that residential treatment, as a practice, has been criticized for “large-scale warehousing of youth in the name of therapeutic intervention” (p. 281). In this regard, we question the veracity of WT literature, as depicted in recent OBH research, where claims of significant effectiveness (i.e., “almost three times larger” than the comparison group, cited in DeMille et al., 2018, p. 245 or OBH providing “424% better treatment outcomes” than treatment as usual, cited in Gass et al., 2019, p. 1) are juxtaposed at the same time with low rates of youth returning home (i.e., less than 25% cited in Bettmann et al., 2013). These claims leave us wondering what the literature is missing? What is not clearly articulated that could reconcile these issues?

**Transportation and coercion**

Questions of ethics have been asked in the WT literature: Parent coercion and deception, lack of adolescent consent for treatment, parental contracting of private transportation services and limits to family contact during treatment have previously been raised (Becker, 2010; Hardy, 2011; Harper, 2017; Scott & Duerson, 2010; Tucker, Bettman, Norton, & Comart, 2015). The secure transport of adolescents typically occurs early in the morning when an adolescent is asleep at their home. Two transport professionals, referred to as *escorts*, will wake the adolescent and transport them to the WT program. Tucker et al. (2015) described that if “adolescent physically resists, the transport staff may use physical force (i.e., therapeutic holds or physical restraints) to maintain the safety and completion of the transport” (p. 672). Becker (2010) identified the lack of informed consent and involuntary admission of adolescents into WT programs as compromising the values and professional code of ethics of therapists. As Szmukler (2008) stated, “there is probably no more unpleasant task for a clinician working in mental health than imposing treatment on an unwilling patient; and probably no experience for the patient is more humiliating” (p. 229). Taking involuntary treatment into account, the United Nations’ Human Rights Council (2018) called for all mental health care and services be “based on the free and informed consent of the individual concerns” (p. 46) and the repealing of “involuntary hospitalization and institutionalization” (p. 46). While not within the scope of this paper to address all of these ethical concerns, we are addressing the conceptualization of voluntary/involuntary in WT research as it relates to outcomes to counter claims based on, what we see as, a meaningless variable. Other questions of ethics equally deserve further inquiry and attention in practice.

Adolescents enter WT via transport services between 50-65% of the time (Russell, 2007; Tucker et al., 2016). Treatment completion rates in WT have been reported at 93% and 94% (Russell & Harper, 2006; Gass et al., 2019) which, while a highly predictive factor in treatment, is exceptionally high relative to other adolescent treatment modalities including outpatient and other residential models which average less than 50% completion rates (Substance Abuse & Mental Health Services Administration, 2010; Neumann et al., 2010). Some of these reports of treatment completion rates are concerning as publications, such as Gass et al. (2019), does not acknowledge the lack of choice to disengage from treatment awarded to adolescents. Russell (2006b) was explicit in defining three forms of coercion in WT: (1) the adolescent is often not involved in the decision-making process for treatment, (2) the adolescent can be forcibly taken or deceived into entering the program, and (3) the program uses coercive techniques to maintain the youth in the program. Russell (2006b) further identified that at the time, no measures of frequency or type/form of coercion were present in WT research, although OBH programs had started tracking critical incidents, injury, runaway, and ‘therapeutic holds’ and restraint data to better understand the frequencies and patterns of these events in practice (Javorski & Gass, 2013; Russell & Harper, 2006).

With high levels of involuntary attendance and programs operating in remote environments with limited access to outside communication, adolescents are in the vulnerable position of not being allowed to leave the program, limited in direct communication with parents or child representatives, and where family involvement is limited by distance and expense of travel to remote WT programs (Becker, 2010; Bettmann & Tucker, 2011; Harper, 2007; Harper & Russell, 2008). In residential treatment literature, suggestions of best practice include children being placed in out-of-home treatment only when local resources and options have been exhausted (Scott & Duerson, 2010; Reamer & Siegal, 2009). Placement should be close to home to promote meaningful family involvement in therapeutic processes (Bettmann & Jasperson, 2009; Harper, 2007). These practices also improve cost-effectiveness and accessibility for families (Klein, 2007).

Involuntary treatment and transportation services are of particular interest to us. However, these two factors do not clearly explicate the concepts and complexity of coercion. Many youth attend WT without the need of private transport services, but are surely under the coercion of parents. As one adolescent’s parent stated in an interview, “my son went willingly, he had some advanced notice, although he did not have an option” (Harper, 2007, p. 113). Most adolescents are in some way under parent or guardian coercion to attend treatment and that these decisions are similar for parents utilizing other forms of residential treatment. Russell (1999) stated, “The typical client enters wilderness therapy scared, frightened, and angry, with a deeply rooted resistance to authority. Clients deem the intervention as being a punishment, and are angry with their parents” (p. 241).

Involuntary attendance is not uncommon in residential care and treatment, and is not an issue in WT alone, however, many adolescents enter WT through the potentially traumatic experience of being physically ‘taken’ against their will (Becker, 2010; Tucker et al., 2015) and adolescents have been found to “enter treatment with clinically significant levels of behavioral and emotional dysfunction” (Combs, Hoag, Roberts, & Javorski, 2015). Of interest to these claims of heightened distress upon intake is that Gass, Foden, and Tucker (2017) identified that adolescents may receive assessment and diagnoses *after* arriving at the WT program. It stands to reason then, that if transported, involuntarily (Tucker et al., 2016), these YOQ scores could be elevated due to the transport experience, and not represent a true day-to-day state of social and emotional functioning in the adolescent’s life (Harper, 2017). That said, it also evidence that most adolescents are externally motivated, if not coerced, to enter therapeutic treatment (Duncan, Miller, & Sparks, 2007). The transportation process often unfolds without the adolescent’s prior knowledge, and with decisions often based on parent communications with the program admissions staff, and without inclusion of a clinical assessment or recommendation from a physician, therapist or judge (Gass et al., 2017; Hardy, 2011; Tucker et al., 2015).

Bettman and Tucker (2011) conducted research on one WT program with “mostly” involuntary clients and found adolescents reported a reduced confidence in the availability and responsiveness of parents, and reduced empathy toward their parents’ feelings. Overall, this study showed a deterioration of scores of parent-child attachment relationship following WT. The researchers theorized this failing attachment was a result of the parent(s) decision to admit youth into WT involuntarily and with the use of transport services. In a study of family involvement in WT, parents reported significant struggles in deciding to have their children admitted to WT without their consent (Harper, 2007). Parents expressed guilt for their inability to handle their own family issues, and feared rejection from their children and potential shame among their friends and community for sending their child away against their will. Harper (2007) also found parents believed their children would be safer in WT than they were at home in their pre-treatment state of crisis, and that the separation was meaningful. Still, there is much to be questioned about the use of transport services, its impact on adolescents, and the ethical use in residential treatment (Becker, 2010; Tucker et al., 2015, 2016).

**The studies in question**

Tucker and colleagues (2015, 2016) analyzed readiness to change and treatment outcomes (YOQ) of adolescents attending WT and centered their inquiry on the variable ‘transported/not transported’ for both studies. Our issue with this analysis is basic; the variable chosen, voluntary/not voluntary, lacks significant clinical or practical meaning. An adolescent accepting of their need for treatment may use transport services because their parents are incapable of getting them to the program themselves (e.g., work schedule, distance). In this case, coercion may be low and a level of voluntariness present. Conversely, an adolescent who does not want to attend, does not recognize their own behavioural or substance use issues, may be under significant coercion from their parents to attend, and yet could be driven to the WT program via a ride in the family car. The transported/not transported variable tells us little about coercion, voluntariness, and willingness or motivation to engage in therapy; all highly relevant factors in treatment outcome literature (Gilmore et al., 2015). Further, the full impact of the use of transport on treatment outcomes and the youth’s mental health are in question.

In sum, we wonder about the use of the single-item measure for such an important question, and were interested in what other available questions or variables might approximate voluntariness. Second, we were interested in whether the operationalization of voluntary/involuntary makes a difference in outcome. We hypothesized that the choice of measure and the outcomes are random, at least with this data. That said, we acknowledge that the finding of no difference in outcomes among transported/non-transported adolescents not to be surprising in the two studies of question. Historically, psychotherapy research’s most replicated finding is this same no different in outcomes when comparisons are made between specific interventions or supposed active ingredients (Wampold & Imel, 2015; Miller, Hubble, Chow, & Seidel, 2013).

We also propose a different measure of success, that of returning home to family after treatment, and we ran several simple models predicting whether participants returned home or not.

**Methods**

Access to the OBH data from the NATSAP repository was obtained in April 2018 from the University of New Hampshire, and was approved for research by their Institutional Review Board (#3984) and additionally by the first and second author’s Institutional Review Board (#18-169) at the University of Victoria. All data was anonymous, and no issues of confidentiality were present.

Participants

The full data set includes 6417 participants, and of these 4376 are male and 1999 are female, with 17 missing values. Of the participants, 4484 are White with no other ethnic category having more than 100. The average family income is over $100,000. The median length of stay is about 70 days, and the mean is 89 days. The median is likely more accurate because the data includes extreme scores. Because of missing values, we used a smaller portion of the dataset for each analysis, that is, less than 3000 participants. Below is a list of the measures and variables under review for this inquiry.

Measures

*Youth Outcomes Questionnaire.* The Youth Outcome Questionnaire 2.01 (Y-OQ 2.01) and the Y-OQ1–Self-Report (Y-OQ-SR) were the primary measures used. The 64-item Y-OQ 2.01 is completed by the parent/guardian, and the 64-item Y-OQ-SR is completed by the youth. High scores reflect perceived severity. The clinical cut-off for Y-OQ-SR total score is 47 and for Y-OQ 2.01 parent report total score is 46. There are also scales for interpersonal distress (ID), somatic difficulties (SD), interpersonal relationships (IR), social problems (SP), behavioral dysfunction (BD), and critical items (CI). Data was collected and compared at intake and discharge.

*Satisfaction with Treatment.* The participants and parents were asked at discharge, “Currently, how satisfied are you with the quality of treatment you received at the program?” The answers were scored on a Likert scale from 1 (very dissatisfied) to 5 (very satisfied).

*Brought by Transport.* Participants were asked at intake and discharge, “Were you brought to the program by a transport service?” The answers were scored as “yes” or   
“no.” This is the question used by Tucker (2015, 2016), and we repeated this as well for one model.

*Brought by Transport (Parent).* At discharge, parents were also asked if their child was transported and, if yes, they were asked a follow-up question: “What was your primary reason for choosing a transport service?” The options were: My child refused to go to treatment; To reduce the chance my child would run away on the way to the program; The possibility my child would fight, be violent, or be self-injurious after finding out they were going to treatment; It was inconvenient or impossible to bring my child to treatment myself; transport was suggested by the treatment program, and other. The first three we assumed were indications of being involuntary.

*Feel about Being at the Program.* At intake, participants were asked “How do you feel about being at the program?” Answers were scored on a Likert scale from 1 (very negative) to 5 (very positive).

*Makes Sense to be in a Therapeutic Program.* At intake, participants were asked to rate their feeling about the statement, “It makes sense for me to be in a therapeutic program.” They were asked to rate themselves on a scale from 1 to 100, with the Likert categories written in. Strongly Disagree was about zero, Disagree was about 40, Neutral was about 60, Agree was about 80, and Strongly Agree was at 100.

*Want Positive Change in My Life.* At intake, participants were asked to rate their feeling about the statement “I would like to make positive change in my life.” Answers were scored with the same scale as *Makes Sense to be in a Therapeutic Program* above.

*Compared to When You Came Here, How Bad are Your Problems?* At discharge, participants were asked, “Compared to when you began the program, how would you describe your problems?” Answers were scored on a Likert scale from 1 (much worse) to 5 (much better). Parents were asked the same question, with the language modified to refer to “your child.”

*Transport Necessary*. At intake, participants were asked to rate themselves about the statement, “My transport was necessary for me to come to treatment.” The answers were scored the same way as Makes Sense to be in a Therapeutic Program.

*Location.* At discharge, parents were asked, “Following discharge, with whom is your child going to live.” The choices were presented in a list: Mother, Father, Both parents, Other legal guardian, Other family member, With roommate, On their own, Residential treatment center, therapeutic boarding school, boarding school, and Other. The latter had space for writing in the location. This list was used to distinguish between with nuclear family members (options 1 to 4) or not, and it was used as the outcome variable for the analysis predicting where the child would live.

**Analysis**

We tested a variety of models in attempt to distinguish between voluntary and involuntary and to confirm or dispel our assumption of the randomness of these measurements. We established and tested five distinct models: (1) the youth report of being transported (yes or no), (2) the youth report of transport was necessary for me to come to treatment, with the voluntary group being those who scored less than 80, (3) a more strict definition, in which both the youth and the parent had to indicate that they were transported and the parent had to indicate that being transported was necessary because the youth was not cooperative, (4) the parent reported the youth was being transported, and (5) a combination of the youth’s report about their attitude,, scoring higher than 3 on How I feel about Being at the Program?, and scoring higher than 80 on Being in a Therapeutic Program Makes Sense. These variables were used to compare those who were “voluntary” to those who were “involuntary,” using a t-test, on the YOQ variables and the others listed above. Because of the number of t-tests, we applied a Bonferronni correction to reduce the likelihood of false positive results.

Because of what we perceive to be problems with the use of the YOQ, e.g., (1) post-intervention ratings from parents who have not seen their children in 89 days, and (2) a measure used at intake about the family and neighborhood environment is used again at discharge when youth have been away from home the whole time. Instead, we used youth location immediately following discharge as the outcome variable in several regressions using the same five models for voluntary and involuntary as above. If the presenting problem is that the parents and youth do not get along (e.g., unmanageable behaviors, substance use, etc.) and cannot live together (i.e., parents chose to send youth into treatment), it makes sense to us to use location at discharge as the outcome variable. Movement home from residential treatment should be considered the highest aim for families and care providers to best serve the long-term interests of the adolescent (Hyde & Kammerer, 2009). For each of these regressions, we used the voluntary/involuntary variable, and we tried in the models to use the same variables we used above.

**Results**

To examine the question of whether being voluntary or involuntary makes a difference on outcomes, we tested each of the five conceptions of voluntary to explore potential differences between scores existed on the variables.

Model 1

Model 1 represents the same model used by Tucker (2015, 2016) with youth participants indicating “yes” or “no” to being transported to WT. Table 1 shows that 20 variables are statistically different from each other. Because we have questions about the meaningfulness of this single-item measure (and others) as an indicator of voluntary, we hypothesized that these differences are meaningful.

Table 1

*Youth Report of Transport*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Interval** | **Upper Confidence**  **Interval** | **Adjusted p-value** |
| Interpersonal Distress Client Intake | -1.79 | -.15 | .032 |
| Interpersonal Relationships Client Intake | .21 | .91 | .003 |
| Social Problems Client Intake | .69 | 1.41 | .000 |
| Behavioral Distress Client Intake | -1.25 | .35 | .001 |
| Interpersonal Relationships Parent Intake | 2.02 | 2.9 | .000 |
| Social Problems Parent Intake | 2.4 | 3.17 | .000 |
| Behavioral Distress Parent Intake | .51 | 1.52 | .000 |
| Total Score | 5.41 | 9.42 | .000 |
| Feel About Being There, Intake | -.61 | -.46 | .000 |
| Makes Sense to be in a Therapeutic Program | -12.1 | -8.7 | .000 |
| I Want a Positive Change | -4.7 | -2.21 | .000 |
| Transported-Client Intake | -.56 | -.52 | .000 |
| Transport Was Necessary for Me to Be Here | 13.7 | 30.2 | .000 |
| Satisfied with Treatment | -.15 | -.02 | .018 |
| Interpersonal Distress Discharge | 1.23 | 3.32 | .000 |
| Interpersonal Relationships Discharge | .97 | 2.12 | .000 |
| Social Problems Discharge | .42 | 1.15 | .000 |
| Behavioral Distress Discharge | .38 | 1.84 | .006 |
| Critical Items Discharge | .20 | .8 | .003 |
| Total Score | 3.45 | 9.36 | .000 |

Model 2

In addition to the question of whether they were transported, youth indicated whether the transport was “necessary,” with the idea of necessary being unexplained. Two variables were significant here, “It makes sense to be in a therapeutic program,” and “I want to make a positive change.”

Table 2

Model 2: *Youth Report that Transport was Necessary*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Interval** | **Upper Confidence**  **Interval** | **Adjusted p-value** |
| Makes Sense to be in a Therapeutic Program intake | 4.1 | 9.56 | .000 |
| I Want a Positive Change | 1.69 | 5.61 | .003 |
| Transport Was Necessary For Me to Be Here | 13.73 | 30.24 | .000 |
| Interpersonal Relationships Client Discharge | .26 | 1.34 | .032 |

Model 3

Youth and parents both had to answer "yes" to "used a transport service," and the parent had to select one of the first three choices on the primary reason why. Only 251 participants met these criteria. Ten of eleven variables that were significant were from intake, and interpersonal relationships was significant from discharge.

Table 3

Model 3: *Youth and Parent Agreement on Attendance?*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Interval** | **Upper Confidence**  **Interval** | **Adjusted p-value** |
| Interpersonal Relationships Client Intake | 1.02 | 2.49 | .000 |
| Social Problems Client Intake | 1.18 | 2.7 | .000 |
| Interpersonal Distress Parent Intake | .46 | 3.21 | .032 |
| Interpersonal Relationships Parent Intake | 1.93 | 3.43 | .000 |
| Social Problems Parent Intake | 2.56 | 3.99 | .000 |
| Behavioral Distress Parent Intake | .54 | 2.31 | .007 |
| Total Score Parent Intake | 6.12 | 13.24 | .000 |
| Feel About Being There, Intake | -.7 | -.37 | .000 |
| Transported-Client Intake | -.56 | -.53 | 000 |
| Transport Necessary Client | 44.8 | 48.3 | .000 |
| Interpersonal Relationships Client Discharge | .2 | 1.64 | .042 |

Model 4

Next we distinguished between participants based on whether their parent reported that transport was necessary and whether the primary reason was worry about resistance. One variable sig..Transport client??

Table 4

Model 4: *Parent Report that Transport was Necessary*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Interval** | **Upper Confidence**  **Interval** | **Adjusted p-value** |
| Behavior Distress Parent Intake | -1.5 | -.37 | 013 |
| Total Score Parent Intake | -5.84 | -1.47 | .013 |
| Transport-Client Intake | -.44 | -.38 | .000 |
| Behavioral Disorders | -1.67 | -.31 | .038 |

Model 5

Finally, this measure of voluntary combined the questions, How I feel about being in the program? and Being in a therapeutic program makes sense. Ten intake variables were significant, and seven discharge variables were significant, including several YOQ variables.

Table 5

*Model 5: Youth Attitude*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Interval** | **Upper Confidence**  **Interval** | **Adjusted p-value** |
| Interpersonal Relationships Client Intake | -1.84 | -.87 | .000 |
| Social Problems Client Intake | -1.49 | -.46 | .001 |
| Behavioral Distress Client Intake | .19 | 1.53 | .028 |
| Interpersonal Relationships Parent Intake | -2.61 | -1.26 | .000 |
| Social Problems Parent Intake | -2.07 | -.86 | .000 |
| Feel About Being There, Intake | 1.66 | 1.77 | .000 |
| Makes Sense to be in a Therapeutic Program Intake | 40.85 | 42.85 | .000 |
| I Want a Positive Change Intake | 15.17 | 17.49 | .000 |
| Transported-Client Intake | .22 | .3 | .000 |
| Transport Necessary-Client Intake | 4.16 | 14.07 | .001 |
| Satisfied with Treatment-Client | .12 | .28 | .000 |
| Problems at Discharge-Client | .06 | .22 | .003 |
| Interpersonal Distress Client Discharge | -2.42 | -.31 | .028 |
| Interpersonal Relationships Client Discharge | -1.41 | -.43 | .001 |
| Social Problems Client Discharge | -1.59 | -.59 | .000 |
| Total Score Client Discharge | -6.73 | -.77 | .030 |
| Interpersonal Relationships Parent Discharge | -1.78 | -.18 | .033 |

These results appear to be random and are dependent on which method of defining “voluntariness” is used. Each model was conceptualized as a way of representing voluntary and involuntary participation in WT. Each model, when analyzed, produced differing sample sizes, displayed in Table 6. Some models show higher involuntary clients, and others more voluntary, further suggesting the randomness of these results and of previous attempts to define and measure the complex idea of voluntariness in adolescent WT.

Table 6

                                                    Involuntary                Voluntary

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model 1 |  |  | Youth Attitude | ​561 | ​3557 |
| Model 2 |  |  | ​Strict Model | ​251 | ​3472 |
| Model 3 |  |  | ​Parent Necessary | ​726 | ​5691 |
| Model 4 |  |  | ​Youth Transport | ​2296 | ​1780 |
| Model 5 |  |  | ​Transport Necessary | ​2296 | ​1780 |

Do Youth Return Home?

We also ran logistic regressions predicting outcome, as measured by where the youth were living immediately after discharge, using the same models as above. The regressions are testing whether the model predicts where youth will live. These are shown in Table 7, where we have also included the variables that were statistically significant.

Table 7

*Summary of Models Predicting Living at Home*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model** | **Variables** | **b** | **SE b** | ***p*** |
| 1 | Youth Transport  Relative Behavioral Distress, Discharge  Client Total Score, Discharge  Client Behavioral Distress, Discharge  Client Interpersonal Relationships, Discharge | -1.49  .034  .61  .07  .08 | .44  .16  .18  .02  .02 | .001  .000  .001  .02  .000 |
| 2 | Transport Necessary, Youth  Client Behavioral Distress, Discharge  Client Total Score, Discharge | -.11  .04  .69 | .26  .02  .26 | .78  .034  .006 |
| 3 | Strict Definition of Voluntary  Relative Behavioral Distress, Discharge  Client Total Score, Discharge  Client Behavioral Distress, Discharge  Client Interpersonal Relationships, Discharge | -1.33  .034  .77  .06  -.06 | .4  .01  .18  .02  .02 | .001  .000  .000  .000  .002 |
| 4 | Parent Report of Voluntary  Relative Behavioral Distress, Discharge  Client Total Score, Discharge  Client Behavioral Distress, Discharge  Client Interpersonal Relationships, Discharge | -.71  .03  .69  .04  -.05 | .2  .01  .15  .01  .02 | .001  .001 .000  .002  .01 |
| 5 | Youth Attitude  Relative Behavioral Distress, Discharge  Client Total Score, Discharge  Client Behavioral Distress, Discharge  Client Interpersonal Relationships, Discharge | .45  .04  .7  .05  -.06 | .2  .01  .17  .02  .02 | .02  .000  .000  .000  .01 |

Four out of five of these models have a primary predictor that is significant, so there is reason to believe that the two groups are different. The size of the effects is shown in Table 8. These are the proportions of participants, in each model, who return home. Each of the effects is sizeable, but it is also clear that in no case do the majority of participants return home after the program.

Table 8

|  |  |
| --- | --- |
|  | **Effect Size** |
| Model 1 | Voluntary .26  Involuntary .16 |
| Model 2 | Voluntary .22  Involuntary .11 |
| Model 3 | Voluntary .41  Involuntary .02 |
| Model 4 | Voluntary .39  Involuntary .04 |
| Model 5 | Voluntary .42  Involuntary .08 |

There is a large effect of these different methods of measuring voluntary and involuntary, even though we have doubts about the validity of all of them. First, these results suggest that there is in fact a difference between those participants who are voluntary and involuntary, however it is measured. Second, these models also suggest that the decision about how to distinguish between voluntary and involuntary is probably arbitrary and needs far more work. The context of how an adolescent becomes engaged in WT and their perceptions of coercion seem significant to outcomes. Third, we want to know more about how programs that claim success can have so few participants returning home.

**Discussion**

Involuntary treatment and coercion

Coercion is often experienced by youth from their parents in day-to-day life. Efforts toward individuation and normal adolescent development include levels of youth-parent conflict as a normal course of growth in this stage (Steinberg & Morris, 2001). Substance use and behavioral issues sometimes lead parents to seek support outside of home, and in the case where parents perceive no options remain, resources employed may include the use of transportation services (Hardy, 2011). Szmulker (2008) suggests that procedural justice—official processes to support the decision for involuntary treatment such as recommendations from a doctor or judge—can reduce parental coercion, and increase the accountability for the decision between parents, program admissions and with other professionals, and increase the likelihood of meaningful, ethical practices.

The use of transport being equated to involuntary made little sense to us. A youth may be willing, but his parents may not be able to get him to WT, so transport is hired—voluntarily. In contrast, a youth unwilling to attend WT is convinced by her parents they are going on a ski trip to Utah, but the car stops in parking lot in a small town where WT program staff come out of the building to meet the youth and ‘admit’ her to the program. Being intentionally contradictory, these examples show transport with a voluntary youth, and a parental escort as involuntary. While not likely the norm in practice, we felt the need to contest the conception of voluntary tested by Tucker and colleagues (2015, 2016) as misleading in their assertions that transport equals involuntary. The notion of involuntary/voluntary is a complex idea and no single item (e.g., transported) could possibly capture it meaningfully. We showed that regardless of the model of ‘involuntary’ constructed from OBH data, significant differences were found across a variety of variables, thereby assigning little importance to the construct of involuntary. That said, and from a clinical and practical perspective, significant concerns about transportation remain and suggest WT program practices and associated research outcomes require additional inquiry, especially so when advocated claim better cost effectiveness of OBH due to involuntary treatment completion rates (Gass et al., 2019). Further, our results showed small percentages of youth returning home, similar to that of other WT research and in light of claims of effective treatment (DeMille et al., 2018). This apparent contradiction needs further unpacking as WT is an intensive out-of-home practice claimed as a ‘last resort’ for parents. It seems only common-sense that if WT produces such significant outcomes, that a return home would be in order????

Randomness of findings

Will: Study showed randomness across models suggesting we don’t really know about voluntary or transport effects…clinical outcomes are often random too, as you were saying... Can you tackle this discussion with the therapy literature? A brief ‘discussion’ of randomness?

**Conclusion**

We raise the questions regarding the ethics of practice and related research findings with adolescents placed in WT; a vulnerable population made increasingly vulnerable through their loss of autonomy and choice from being placed in treatment against their will, and potentially through the use of physical force by transport services as described by Tucker et al. (2015). These youth are then dependent on the integrity of the service providers to care for them in a manner that prevents maltreatment (de Valk, Kuiper, van der Helm, Maas, & Stams, 2016), protects the core values of a profession (Mattingly, 1995), and ideally sees children reunited with their families (REF). We do not assume that youth in WT are protected from maltreatment simply because governmental regulations or accrediting bodies have a planned system of policies and measures to ensure safety for clients (Klein, 2007; Whittaker et al., 2016). WT program responsibility is to the families that contracted them—to provide safe ethical treatment services to their children so they can, ideally, return home.

It is “the organized and systematic articulation of child and youth care values and their application to the issues encountered in practice” that protects clients from harm; “doing ethics” is an active process (Mattingly, 1995, p. 380) and a process that involves practitioners, policy makers, advocates, researchers, and the clients and families themselves. Of the issues discussed in this paper, it may be a challenge to advocates and practitioners of WT to hear or accept alternative views on ethical practice. These views may cause discomfort for those who hold them; doing ethics, including as researchers with vulnerable populations is called for (Graham, Powell, & Taylor, 2015) and may confront pre-existing beliefs and practices with the ultimate mandate to ensure WT is not doing harm.

**References**

Bettmann, J. E., & Jasperson, R. A. (2009). Adolescents in residential and inpatient treatment: A review of the outcome literature. *Child & Youth Care Forum*, *38*(4), 161-183. doi.org/10.1007/s10566-009-9073-y

Bettmann, J. E., & Tucker, A. R. (2011). Shifts in attachment relationships: A study of adolescents in wilderness treatment. *Child & Youth Care Forum*, *40*(6), 499-519. [doi.org/10.1007/s10566-011-9146-6](https://doi.org/10.1007/s10566-011-9146-6)

Bettmann, J. E., Russell, K. C., & Parry, K. J. (2013). How substance abuse recovery skills, readiness to change and symptom reduction impact change processes in wilderness therapy participants. Journal of Child and Family Studies, 22(8), 1039-1050. doi.org/10.1007/s10826-012-9665-2

Bolt, K. L. (2016). Descending from the summit: Aftercare planning for adolescents in wilderness therapy. *Contemporary Family Therapy*, *38*(1), 62-74. doi.org/10.1007/s10591-016-9375-9

Brendtro, L. K., & Strother, M. A. (2007). Back to basics through challenge and adventure. *Reclaiming Children and Youth*, *16*(1), 2.

de Valk, S., Kuiper, C., van der Helm, G. H. P., Maas, A. J. J. A., & Stams, G. J. J. M. (2016). Repression in residential youth care: A scoping review. *Adolescent Research Review*, *1*(3), 195-216. doi.org/10.1007/s40894-016-0029-9

Combs, K. M., Hoag, M. J., Roberts, S. D., & Javorski, S. (2016). A multilevel model to examine adolescent outcomes in Outdoor Behavioral Healthcare: The parent perspective. *Child & Youth Care Forum*, *45*(3), 353-365. doi.org/10.1007/s10566-015-9331-0

Cooley, R. (2000). How big is the risk in wilderness treatment of adolescents? *International*

*Journal of Wilderness, 6*(1), 22-27.

DeMille, S., Tucker, A. R., Gass, M. A., Javorski, S., VanKanegan, C., Talbot, B., & Karoff, M. (2018). 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. *Children and Youth Services Review*, *88*, 241-248. [doi.org/10.1016/j.childyouth.2018.03.015](https://doi.org/10.1016/j.childyouth.2018.03.015)

Dimock, H. S., & Hendry, C. E. (1939). *Camping and character: A camp experiment in character education*. Association Press.

Durkin, R. (1988). A competency-oriented summer camp and year-round program for troubled teenagers and their families. *Residential Treatment for Children & Youth*, *6*(1), 63-85. [doi.org/10.1300/J007v06n01\_07](https://doi.org/10.1300/J007v06n01_07)

Gass, M., Foden, G. E., & Tucker, A. (2017). Program evaluation for health and human service programs: How to tell the right story successfully. In J. D. Christenson & A. N. Merritts (eds.) *Family therapy with adolescents in residential treatment: Focused issues in family therapy*, (pp. 425-441). Switzerland: Springer International Publishing.

Gilmore, R., King, G., Law, M., Pollock, N., Meredith, P., Kirby, A., ... & Kolehmainen, N. (2015). *Goal setting and motivation in therapy: engaging children and parents*. Jessica Kingsley Publishers.

Hardy, C. (2011). Adolescent treatment coercion. *Journal of Therapeutic Schools and Programs*, *5*(1), 88-95.

Harper, N. J. (2007). *A mixed methods examination of family involvement in adolescent wilderness therapy* (Doctoral dissertation, University of Minnesota).

Harper, N. J. (2017). Wilderness therapy, therapeutic camping and adventure education in child and youth care literature: A scoping review. *Children and Youth Services Review*, *83*, 68-79. [doi.org/10.1016/j.childyouth.2017.10.030](https://doi.org/10.1016/j.childyouth.2017.10.030)

Harper, N. J., & Russell, K. C. (2008). Family involvement and outcome in adolescent wilderness treatment: A mixed-methods evaluation. *International Journal of Child & Family Welfare*, *1*, 19-36.

Hyde, J., & Kammerer, N. (2009). Adolescents' perspectives on placement moves and congregate settings: Complex and cumulative instabilities in out-of-home care. *Children and Youth Services Review, 2*, 265-273.

Javorski, S. E., & Gass, M. A. (2013). 10-Year Incident Monitoring Trends in Outdoor Behavioral Healthcare: Lessons learned and future directions. *Journal of Therapeutic Schools & Programs*, *6*, 112-128.

Klein, A. (2007). GAO cites abuses at residential programs for teens. *Education Week*, *27*(8), 20.

Magle-Haberek, N. A., Tucker, A. R., & Gass, M. A. (2012). Effects of program differences with wilderness therapy and residential treatment center (RTC) programs. *Residential Treatment for Children & Youth*, *29*(3), 202-218.

Mattingly, M. A. (1995). Developing professional ethics for child and youth care work: Assuming responsibility for the quality of care. *Child and Youth Care Forum*, 24(6), 379-391. doi.org/10.1007/BF02128529

Neumann, A., Ojong, T. N., Yanes, P. K., Tumiel-Berhalter, L., Daigler, G. E., & Blondell, R. D. (2010). Differences between adolescents who complete and fail to complete residential substance abuse treatment. *Journal of Addictive Diseases*, *29*(4), 427-435. [doi.org/10.1080/10550887.2010.509276](https://doi.org/10.1080/10550887.2010.509276)

Redl, F., & Wineman., D. (1957). *The aggressive child*. New York: Free Press.

Pumariega, A. J. (2007). Residential treatment for children and youth: Time for reconsideration and reform. *American Journal of Orthopsychiatry*, *77*(3), 343-345. [doi.org/10.1037/0002-9432.77.3.343](https://doi.org/10.1037/0002-9432.77.3.343)

Russell, K. C. (1999). *Theoretical basis, process, and reported outcomes of wilderness therapy as an intervention and treatment for problem behavior in adolescents.* Unpublished Doctoral dissertation, University of Idaho.

Russell, K. C. (2006a). Brat camp, boot camp, or……..? Exploring wilderness therapy program theory. *Journal of Adventure Education & Outdoor Learning*, *6*(1), 51-67. [doi.org/10.1080/14729670685200741](https://doi.org/10.1080/14729670685200741)

Russell, K. C. (2006b*). Examining substance use frequency and depressive symptom outcome in a sample of outdoor behavioral healthcare participants*. Outdoor Behavioral Healthcare Research Cooperative, Minneapolis, MN: University of Minnesota.

Russell, K. C. (2007). *Summary of research from 1999–2006 and update to 2000 survey of outdoor behavioral healthcare programs in North America*. *Outdoor Behavioral Healthcare Research Cooperative,* Minneapolis, MN: University of Minnesota.

Russell, K. C., & Harper, N. (2006). Incident monitoring in outdoor behavioral healthcare programs: A four-year summary of restraint, runaway, injury, and illness rates. *Journal of Therapeutic Schools and Programs*, *1*(1), 70-90.

Scott, D. A., & Duerson, L. M. (2010). Continuing the discussion: A commentary on “Wilderness therapy: Ethical considerations for mental health professionals.” *Child & Youth Care Forum*, *39*(1), 63-68. doi.org/10.1007/s10566-009-9090-x

Steinberg, L., & Morris, A. S. (2001). Adolescent development. *Annual Review of Psychology, 52*(1), 83-110. [doi.org/10.1146/annurev.psych.52.1.83](https://doi.org/10.1146/annurev.psych.52.1.83)

Substance Abuse and Mental Health Administration. (2010). Office of applied statistics. Retrieved December 3, 2018 from <http://oas.samhsa.gov/>

Szmukler, G. (2008). Treatment pressures, coercion and compulsion in mental health care. *Journal of Mental Health, 17*(3), 229-231. [doi.org/10.1080/09638230802156731](https://doi.org/10.1080/09638230802156731)

Tucker, A. R., Bettmann, J. E., Norton, C. L., & Comart, C. (2015). The role of transport use in adolescent wilderness treatment: Its relationship to readiness to change and outcomes. *Child & Youth Care Forum*, *44*(5), 671-686. [doi.org/10.1007/s10566-015-9301-6](https://doi.org/10.1007/s10566-015-9301-6)

Tucker, A. R., Combs, K. M., Bettmann, J. E., Chang, T. H., Graham, S., Hoag, M., & Tatum, C. (2016). Longitudinal outcomes for youth transported to wilderness therapy programs. *Research on Social Work Practice*, *28*(4), 438-451. [doi.org/10.1177/1049731516647486](https://doi.org/10.1177%2F1049731516647486)

Whittaker, J. K., Holmes, L., del Valle, J. F., Ainsworth, F., Andreassen, T., Anglin, J., ... & Courtney, M. (2016). Therapeutic residential care for children and youth: A consensus statement of the international work group on therapeutic residential care. *Residential Treatment for Children & Youth, 33*(2), 89-106. [doi.org/10.1080/0886571X.2016.1215755](https://doi.org/10.1080/0886571X.2016.1215755)

Y-OQ® Clinician Manual. (2010). Maine Clinician Manual for implementation of the Y‐OQ® Instruments. Version 2.1. OQ MEASURES LLC. Salt Lake City, UT.

Young, M., & Gass, M. A. (2008). Current descriptions of National Association of Therapeutic Schools and Programs (NATSAP) members. *Journal of Therapeutic Schools and Programs, 3*(1), 162-186.

Young, M., & Gass, M. A. (2010). Preliminary data from the NATSAP Research and Evaluation Network: Client characteristics at admission. *Journal of Therapeutic Schools and Programs, 4*(1), 85-111.