**A closer look at involuntary treatment and the use of transport service in Outdoor Behavioral Healthcare (wilderness therapy)**

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

**Abstract**

Outdoor Behavioral Healthcare (OBH or ‘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, many involuntarily. About half of participants are transported by specialized services, used to deliver uncooperative youth to the program. Transportation has been dismissed by some researchers as having little impact on youth in treatment. In particular, Tucker and colleagues found little difference in outcomes between not transported/transported which was equated with voluntary/involuntary. There are ethical and empirical concerns about these findings. In this paper we addressed the empirical concern. Specifically, we examined the claim that clinical outcomes are no different for transported and non-transported youth and that transport has no bearing on client outcomes. We propose that the findings of no difference were random rather than systematic because they were constructed on a *post hoc* measure of perceived voluntariness. To demonstrate, we used data from OBH to construct five different measures of voluntary/involuntary, also *post hoc.* All five resulted in statistically significant differences across a variety of social and psychological outcomes.

**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 volume research of Outdoor Behavioral Healthcare (OBH), recognized in the United States as synonymous with wilderness therapy (WT), in the adolescent treatment literature has accelerated (Harper, 2017). This growth has been driven by an industry of economic and practical significance. WT in the United States includes approximately 150 programs serving 30,000 to 50,000 youth each year (Cooley, 2000; Russell, 2006; Russell et al., 2008), although numerous forms of WT exist internationally (e.g., Harper, Gabrielsen, & Carpenter, 2018). Further, a database maintained by the Outdoor Behavior Healthcare Center (www.obhcenter.org) provides outcome research for 17 OBH member programs (Young & Gass, 2008, 2010), and is comprised of thousands of cases.

Russell (2001) described WT as a range of therapeutic interventions utilizing remote tracts of land in which outdoor living and self-propelled travel are the primary day-to-day activities for groups of adolescents. It is a challenging field to study. Becker and Russell (2016) suggested that the diversity of WT programming and the lack of a common or manualized approach will prevent WT from being recognized as a bona-fide 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, Bettmann, Norton, and Comart (2015) suggested OBH programs are a treatment option on the spectrum of intervention “somewhere in between outpatient and residential treatment in terms of intensity and length” (p. 672). While an interesting framing of the approach, OBH is an out-of-home, often out-of-state intervention, with an average treatment length of 90 days, and in which youth live outdoors (Russell, Gillis, & Lewis, 2008; Gass et al., 2019). It is unreasonable to suggest OBH is anything less in intensity than residential treatment for adolescents with mental health issues, substance abuse, and disruptive behavioral problems (Harper, 2017; Harper & Russell, 2008; Russell et al., 2008; Williams, 2000). OBH intentionally isolates youth from normal day-to-day living as a clinical medium in controlled settings (Russell, 2006). Programs are 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 OBH themselves (Harper, 2007).

The reason given by families for enrolling their child in an OBH program is frequently the disruption of family life due to adolescent behaviours (Russell, 1999). Most adolescents leaving wilderness therapy programs transition to longer-term, residential therapeutic schools and programs upon discharge” (Bolt, 2016, p. 62). OBH literature refers to these residential schools and programs as “aftercare” even though they are actually describing types of out-of-home treatment (Bolt, 2016; Russell et al. 2008). Bettmann, Russell, and Parry (2013) found almost 77% of youth moved into ongoing residential treatment following one OBH program, while Bolt (2015) reported another OBH program recommending up to 95% of youth move on to further residential treatment. Mooney and Leighton’s (2019) qualitative study found participants in one residential therapeutic boarding school typically “ended up in a wilderness therapy program first” (p. 7). OBH researchers have claimed significant effectiveness of “almost three times larger” (DeMille et al., 2018, p. 245) and 60.4% more cost-effective than treatment as usual (Gass et al., 2019) leading us to question the reality of these claims given that less than 25% of youth return home following OBH (Bettmann et al., 2013). These are claims of superior outcomes made without any attempt to achieve scientific consensus among researchers and practitioners across WT and the broader treatment field (Goldfried, 2019). The OBH researchers make these claims of treatment success despite low family reintegration. This alone provides reason for concern and reason to take a closer look at OBH to reconcile this issue.

**Transportation and coercion**

Questions about coercion and deception by parents, lack of adolescent consent for treatment, use of hired transport services, and limits to family contact during treatment have previously been raised in the WT literature (Becker, 2010; Hardy, 2011; Harper, 2017; Scott & Duerson, 2010; Tucker et al., 2015). The secure transport of adolescents typically occurs early in the morning when an adolescent is asleep at their home (Colpitts, 2013). Two transport professionals, referred to as *escorts*, will wake the adolescent and transport them to the OBH program. For example, one transport service described their practice:

In the early morning of the day of the transport, it will be necessary to have parents lead us into the child’s bedroom, and after gently waking the child, introduce us. After a brief introduction and explanation of who are and where the child is going, the parents will be required to immediately leave the area. (Colpitts, 2013, para. 3)

Tucker et al. (2015) described that if an “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). Mooney and Leighton (2019) interviewed transported adolescents, some of whom found the experience “terrifying and violent” (p. 7). 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). The United Nations’ Human Rights Council (2018) called for the ban of coercive and involuntary hospitalization or institutionalization, and for mental health care services to be grounded in freedom of choice and informed consent.

In OBH, the transportation process frequently unfolds without the adolescent’s prior knowledge, let alone consent, 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). Even so, ‘mandated’ treatment has shown reasonable outcomes relative to voluntary approaches in some populations, such as adults in substance use and domestic violence programs (Snyder & Anderson, 2009). It is important to note that clients in those programs were most often court-ordered adults whose other option may have been prison and/or were directed by employers or agencies to attend, and were fully aware of the intent, duration and processes of the programs they attended.

Fifty to sixty-five percent of adolescents enter OBH via transport services (Russell, 2007; Tucker et al., 2018) and treatment completion rates in OBH have been reported at 93% and 94% (Gass et al., 2019; Russell & Harper, 2006). While treatment completion rates are a highly predictive factor in treatment outcomes, this completion rate is exceptionally high relative to other adolescent treatment modalities including outpatient and other residential models which average less than 50% completion (Neumann et al., 2010; Substance Abuse & Mental Health Services Administration, 2010). The difference between these rates is unexplained. Gass et al. (2019) do not acknowledge the adolescent’s lack of choice to engage or disengage from treatment. Additionally, it is unclear what is meant by OBH researcher’s use of the term “completion” when many participants in OBH are then referred to long-term residential programming.

Russell (2006b) identified three types of coercion present in OBH practice: (1) adolescents are not often involved in the decision-making process for treatment, (2) adolescents can be forcibly taken or deceived into entering the program, and (3) the program uses coercive techniques to maintain adolescents in the program (i.e., therapeutic holds and restraint). Russell (2006b) further noted that no measures of frequency or type/form of coercion were present in OBH 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).

Involuntary treatment and transportation service in OBH are of particular interest to us. However, the concepts and complexity of coercion and voluntariness make it difficult to measure and articulate. Many youth attend OBH without the need of private transport services, yet we assume most are under some level of coercion by their parents or guardians. 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). In another study, along with transport, “deception was the primary mode of arrival” (Mooney & Leighton, 2019, p. 7) to residential and WT programs. 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). In short, being transported or not is not a good measure of one’s voluntariness.

Transport is an event that occurs prior to treatment. Further, in OBH, transport is also often prior to client assessment and the collection of baseline clinical measures, such as the Youth Outcome Questionnaire (Y-OQ) (Gass, Foden, & Tucker, 2017). In this regard, transportation lies outside of the clinical intervention of WT, and while it may affect the adolescent’s mental and emotional state, it is not an element of OBH treatment.

**The transport studies in question**

Tucker and colleagues (2015; 2018) analyzed readiness to change and treatment measures (i.e., Y-OQ) of adolescents attending OBH and used the dichotomous variable transported/not transported to determine whether the use of transport service had any impact on outcomes. Their results found that “transporting youth to treatment does not appear to interfere with the treatment outcome” (Tucker et al., 2018, p. 438) and “transported youth were more likely to have larger decreases in mental health symptomatology than non-transported youth,” again suggesting that being transported did not negatively impact treatment outcomes (Tucker et al., 2015, p. 672). Both papers review literature on involuntary treatment and, while it is not stated explicitly, our interpretation is that transported youth are being equated to involuntary. At the same time, these papers indicate that youth attending OBH “rarely come to the programs voluntarily” (Tucker et al., 2018, p. 440) reinforcing the notion that most adolescents are under parent/guardian coercion to attend.

In the present study, we hypothesize that this single item measure, transported/not transported, is both an inaccurate conceptualization of voluntary/involuntary, sits outside of treatment process (i.e., not in the “black box”), and in fact, holds little importance as an indicator of treatment outcome. We are more interested in exploring the concept of voluntary/involuntary in OBH over whether youth were transported or not. As an example, an adolescent may accept their need for treatment and to use transport services because their parents are incapable of getting them to the program themselves (e.g., work schedule, distance). In this case, parental 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 still be driven to the OBH program via a ride in the family car. For example, Mooney and Leighton (2019) found adolescents reported not being “told anything” (p. 8) and “that their parents just took them” (p. 8) to the treatment program. The transported/not transported variable tells us little about coercion, voluntariness, and willingness or motivation to engage in therapy; all highly relevant factors influencing treatment outcomes (Gilmore et al., 2015).

In sum, we questioned the use of the single-item transport/not transported measure for such an important question as treatment outcomes. Further, we were interested in whether the operationalization of voluntary/involuntary makes a difference in outcome. We hypothesized, based on our discussion above, that the choice of measure relative to outcomes would likely lead to contradictory findings that seem plausible but are likely to be random. Last, we propose that returning home is a more valid and useful measure of success than completion of the program given so few participants return to their community. We ask whether treatment is in fact “completed” if clients are still referred to ongoing residential treatment post OBH. Therefore, we aimed to answer the following questions:

1. What are the differences in outcomes among different operationalizations of voluntary/involuntary, in addition to the transported/not transported variable?
2. What factors contribute to whether or not youth return home following OBH treatment?

**Methods**

Access to the OBH database was obtained in April 2018 from the University of New Hampshire and 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 were anonymous. The database includes 6417 participants attending OBH between April 2010 and April 2018 across 16 different programs. Here we used about 4000 of the 6417 because of missing data. The Tucker and colleagues’ studies we cite used data from one or a small number of programs, by comparison. We are using the same measures but not comparing the same data.

Our dataset included Youth Outcome (Y-OQ) data at intake, discharge, and two follow-up periods from the youth participants and the parents. Because participation in follow-up was low, we have not included follow-up analyses. The data also includes satisfaction, reports from the youth and parent about whether they were transported, reports from the parent about why they chose the program, and questions about adolescent experiences with transport service providers.

**Participants**

Of the 6417 participants 4376 are male and 1999 are female, with 17 missing values. No non-binary gender options for clients at intake were obtained. The majority are White—4484—with no other ethnic category having more than 100. The average family income is over $100,000. The median length of stay is 70 days, and the mean is 89 days. The median is likely more accurate because the data includes extreme scores, such as participants who left their program after one day (Gass et al., 2019).

**Measures**

*Youth Outcomes Questionnaire.* The Youth Outcome Questionnaire 2.01 (Y-OQ 2.01) and the Y-OQ Self-Report (Y-OQ SR) were the primary measures used in this dataset (Burlingame et al., 2005). 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. Included are subscales for interpersonal distress, somatic difficulties, interpersonal relationships, social problems, behavioral dysfunction, and critical items. Data was collected at intake and discharge. It is important to note that this popular 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 measure of change, suggested for weekly clinical use (Y-OQ Clinical Manual, 2010).

*Brought by Transport.* Participants were asked at intake and discharge, “Were you brought to the program by a transport service?” We used the intake score, and the answers were scored as “yes” or “no”. This is the question used by Tucker and colleagues (2015; 2018).

*Brought by Transport (Parent).* At intake, 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). Those who checked “1” or “2” were considered involuntary and those who checked “3”, “4”, or “5” were considered voluntary.

*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 above the line. Strongly Disagree was at zero, Disagree was about 40, Neutral was about 60, Agree was about 80, and Strongly Agree was at 100. Scores 80 and higher were considered voluntary.

*Transport Necessary*. At intake, participants were asked to rate themselves about the statement, “My transport was necessary for me to come to treatment” on a scale from 0 to 100, just like the “Makes sense to be in a therapeutic program” question. Scores 80 and higher were considered involuntary.

*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 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**

Since we were interested in Tucker and colleagues’ use of a single-item for transport as an indicator of treatment outcomes as well as other possible indicators, we tested five different ways of operationalizing voluntary: (1) the youth report of being transported (yes or no), a single item measure; (2) the youth report that transport was necessary to come to treatment, a single-item measure; (3) the youth indicated that they were transported, the youth indicated that transport was necessary for them to come to treatment, and the parent had to indicate that being transported was necessary because the youth was not cooperative, a three-item measure; (4) the parent reported the youth was being transported, a single item measure; and (5) the youth’s report at intake about how they felt about being at the program and whether it makes sense for them to be in a therapeutic program, a two item measure. These five different operationalizations of voluntary/involuntary were used to compare both intake and outcome variables, in particular the Y-OQ. Because of the number of t-tests, we applied a Bonferroni correction to reduce the likelihood of false positive results (Sedgwick, 2012).

Next we ran several logistic regression models, using these same five ways of operationalizing voluntary and involuntary, predicting whether the youth returned home following the program, a dichotomous measure. We used as predictors the variables that were significant in the t-test comparisons. The logistic regression was run in the program R using the “mgcv” package (Wood, 2013). Certain subscales of the Y-OQ are problematic as a measure of treatment outcomes because they measure family and neighborhood environment constructs although OBH literature has made claims of “effectiveness” based on this measure (e.g., Magle-Haberek, Tucker, & Gass, 2012; Russell, 2003). Post-intervention ratings are collected from parents whose children have been away from home at an OBH program for 2-3 months, and are often still in some form of ongoing residential treatment. If the presenting problem is conflict between the parent and child at home (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 if the intervention was successful (Hyde & Kammerer, 2009).

**Results**

To examine the question of whether being voluntary or involuntary makes a difference to outcomes, we tested each of the five operationalizations of voluntary.

*Transported: Youth*

We tested the same idea utilised by Tucker et al. (2015; 2018) with youth participants indicating “yes” or “no” to being transported to OBH. Of course, we are doing simple comparisons while their model was complex. In our view it was overly complex for the question about whether transport makes a difference. There were 1780 participants who were ‘voluntary’ and 2296 who were ‘involuntary’ according to this construction. Table 1 shows that 19 intake and discharge variables are statistically different from each other.

Table 1

*Youth Report of Transport*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Limit** | **Upper Confidence**  **Limit** | **Adjusted p-value** |
| *Intake* |  |  |  |
| Interpersonal Distress Client | -1.79 | -.15 | .032 |
| Interpersonal Relationships Client | .21 | .91 | .003 |
| Social Problems Client | .69 | 1.41 | .000 |
| Behavioral Distress Client | -1.25 | .35 | .001 |
| Interpersonal Relationships Parent | 2.02 | 2.9 | .000 |
| Social Problems Parent | 2.4 | 3.17 | .000 |
| Behavioral Distress Parent | .51 | 1.52 | .000 |
| Total Score Parent | 5.41 | 9.42 | .000 |
| Feel About Being There | -.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 |
| Transport Was Necessary for Me to Be Here | 13.7 | 30.2 | .000 |
| *Discharge* |  |  |  |
| Satisfied with Treatment | -.15 | -.02 | .018 |
| Interpersonal Distress Client | 1.23 | 3.32 | .000 |
| Interpersonal Relationships Client | .97 | 2.12 | .000 |
| Social Problems Discharge Client | .42 | 1.15 | .000 |
| Behavioral Distress Client | .38 | 1.84 | .006 |
| Critical Items Client | .20 | .8 | .003 |
| Total Score Discharge Client | 3.45 | 9.36 | .000 |

*Was Transport Necessary?*

Presumably many youth would say that they would not have come to treatment without the use of secure transport. Of the transported youth, 611 reported that transport was necessary and 1378 indicated that it was not necessary. These numbers are lower because we are comparing transported youth to each other. Of the outcome variables only “Interpersonal Relationships” was significant at discharge. At intake, there were statistically significant differences in “Makes Sense to be in a Therapeutic Program” and “Wanting a Positive Change”.

Table 2

*Youth Report that Transport was Necessary*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Limit** | **Upper Confidence**  **Limit** | **Adjusted p-value** |
| *Intake* |  |  |  |
| Makes Sense to be in a Therapeutic Program | 4.1 | 9.56 | .000 |
| I Want a Positive Change | 1.69 | 5.61 | .003 |
| *Discharge* |  |  |  |
| Interpersonal Relationships | .26 | 1.34 | .032 |

*Youth and Parent Indicated that Transport was Necessary*

Youth indicated that they were transported, that transport was necessary for them to come to treatment, and parents indicated that transport was necessary because the youth was not cooperative. Only 251 participants met these criteria, with 3472 who did not. Nine variables were significant at intake, and “Interpersonal Relationships” was significant at discharge.

Table 3

*Youth Report of Transport and Parent Reported as Necessary*

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

Parent Report of Transport

As we noted, parents were also asked whether their child was transported. In this case 2077 said “yes” and 2033 said “no,” with 12 differences at intake and 7 differences at discharge.

Table 4

*Parent Report that Transport was Necessary*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Limit** | **Upper Confidence**  **Limit** | **Adjusted p-value** |
| *Intake* |  |  |  |
| Interpersonal Relationships Client | .06 | .78 | .04 |
| Social Problems Intake Client | .9 | 1.6 | .000 |
| Behavioral Distress Client | -1.44 | -.4 | .000 |
| Critical Items Client | -.9 | -.2 | .01 |
| Interpersonal Distress Parent | .5 | 1.8 | .001 |
| Interpersonal Relationships Parent | 2 | 2.7 | .000 |
| Social Problems Parent | 2.5 | 3.2 | .000 |
| Behavioral Distress Parent | .5 | 1.5 | .000 |
| Critical Items Parent | .2 | .7 | .003 |
| Feel About Being There Client | -.6 | -.5 | .000 |
| Makes Sense to be in a Therapeutic program | -12.4 | -8.6 | .000 |
| I Want a Positive Change | -4.8 | -1.9 | .000 |
| *Discharge* |  |  |  |
| Satisfaction | -.2 | -.03 | .008 |
| Somatic Problems Client | -.8 | -.2 | .006 |
| Social Problems Client | .5 | 1.2 | .000 |
| Interpersonal Distress Parent | .9 | 3 | .001 |
| Interpersonal Relationships Parent | .6 | 1.8 | .000 |
| Social Problems Parent | .4 | 1.2 | .001 |
| Total Score Relative | 1.6 | 7.5 | .005 |

*Youth Attitude Toward Program*

Here we combined the intake questions, “How I feel About Being in the Program” and “Being in a Therapeutic Program Makes Sense.” There were 718 who were positive about being at the program and 3304 who were negative. Ten intake variables were significant, and seven discharge variables were significant.

Table 5

*Youth Attitude*

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Lower Confidence**  **Limit** | **Upper Confidence**  **Limit** | **Adjusted p-value** |
| *Intake* |  |  |  |
| Interpersonal Distress Client | 1 | 3.2 | .001 |
| Interpersonal Relationships Client | -1.3 | -.4 | .000 |
| Social Problems Client | -1.2 | -.3 | .003 |
| Behavioral Distress Client | .8 | 2 | .000 |
| Critical Items Client | .4 | 1.3 | .001 |
| Interpersonal Relationships Parent | -2.4 | -1.2 | .000 |
| Social Problems Parent | -2.1 | -1 | .000 |
| Critical Items Parent | .2 | 1.1 | .006 |
| I Want a Positive Change | 14.7 | 17 | .000 |
| Transport Necessary-Client | 4.16 | 14.07 | .001 |
| Discharge |  |  |  |
| Satisfied with Treatment | .1 | .3 | .000 |
| Social Problems Client | -1.5 | -.5 | .000 |
| Interpersonal Relationships Client | -1.3 | -.4 | .001 |
| Interpersonal Distress Parent | -3.3 | -.6 | .01 |
| Interpersonal Relationships Parent | -2 | -.5 | .002 |
| Social Problems Parent | -1.3 | .2 | .013 |
| Total Score Parent | -8.5 | -.8 | .028 |

In sum, we have explored five operationalizations of voluntary. Each may have something to do with voluntary and involuntary, but no question in the survey asked directly. When tested against the Y-OQ and other variables, each option shows differences in outcomes and a unique sample size. That is, the number of participants classified as voluntary or involuntary changes greatly. While we questioned the alignment of transport with the construct of involuntary treatment, we suggest that all of these choices are random rather than systematic. In Tucker and colleagues’ analyses and in ours, we are left not knowing what level of voluntariness nor what level of coercion is present in OBH.

**Do youth return home?**

We ran logistic regressions predicting outcome, as measured by where the youth were living immediately after discharge, a dichotomous variable: Living at home or not. Specifically, we are testing which of the five operationalizations of voluntary predicts whether the participants went home or not, in combination with the Y-OQ scores. We utilized the same five operationalizations of voluntary/involuntary as above. These are shown in Table 6, where we have included the variables that were statistically significant.

Table 6

*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 |

The size of the effects in Table 7 below show the proportions who returned home following OBH for each operationalization; only 2-16% for those considered involuntary and 22-42% for voluntary. The size of the differences for each model are significant, especially for numbers 3, 4, and 5. That is, each operationalization found a statistically significant contribution of voluntary/involuntary to the categorization of who went home. We are not sure what to make of this, since we have argued that (a) each of these operationalizations is *post hoc*, but (b) as good or better than the single measure of being transported, and (c) differences between them are likely random rather than intentional. Still, if they were random, we would expect one or two of these to have effects that go the other direction. Numbers three and four suggest that the parent may be a good judge of what is voluntary or not. Further, while neither question that makes up number five asks directly about whether they are in the program voluntarily, they allude to whether the participant thinks it is a good idea to be in the program. There may be a contribution of being voluntary to whether a participant goes home.

Still, there were huge differences in the frequencies, that is, in the coding of who is voluntary and who is not that result from the different operationalizations. They are large enough to suggest that none of these operationalizations are trustworthy. Additionally, it is also clear that in no case do the majority of participants return home after the program.

Table 7

|  |  |
| --- | --- |
|  | **Proportion Returning Home** |
| 1 | Voluntary .26  Involuntary .16 |
| 2 | Voluntary .22  Involuntary .11 |
| 3 | Voluntary .41  Involuntary .02 |
| 4 | Voluntary .39  Involuntary .04 |
| 5 | Voluntary .42  Involuntary .08 |

**Discussion**

We proposed that Tucker and colleagues’ (2015; 2018) use of the transport question was an inadequate measure of voluntariness, and we have tried that and other operationalizations. The results seem to be random rather than organized and systematic. We do not think any of these ought to be used as a proxy for voluntary.

There are other concerns. First, adolescents arriving to OBH programs by secure transport typically do not complete the Y-OQ until after the transport has completed and they have been admitted to the program (Gass et al., 2017). In this case, the transport experience rests outside of the treatment ‘black box’ and these findings do not capture the impact of the transport in relation to treatment outcome (See Baldwin, Persing, & Magnuson, 2004; Fernee, Gabrielsen, Andersen, & Mesel, 2017). If anything, the intake score may be affected *by* the transport experience depending on the young person’s cognitive and emotional response to it. Tucker and colleagues’ (2015; 2018) findings of no difference in outcomes, in this case, is not surprising as it rests outside of the black box and given the lack of difference in outcomes given specific ingredients in treatment (Dobud & Harper, 2018).

A second interpretation takes issue with the notion of involuntary and voluntary and how they were originally conceptualized in the two studies of interest. Russell (2006b) stated that removing the right for an adolescent to discharge from treatment forms the basis for coercion. Studies claiming 94% treatment completion rates as a basis for treatment success without acknowledging involuntary treatment are problematic (i.e., Gass et al., 2019). The question remains whether or not an adolescent who arrives voluntarily remains voluntary irrespective of circumstances. Did the adolescent who arrived voluntarily then consent to being strip searched, or to complete a *cleansing phase*, where they would be instructed not to engage with the other participants in the group (Russell, 1999)? Did they arrive knowing they were not to be discharged until the therapist decided they were ready to be (DeMille & Montgomery, 2016)? Further, did the adolescent, and the parent(s), know the likely end result of OBH is a referral to ongoing residential treatment (Bolt, 2016)?

Coercion is often experienced by youth 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 residential treatment and transportation services (Hardy, 2011). Szmulker (2008) suggested 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 treatment practices.

The notion of involuntary/voluntary is a complex idea and one which 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. From a clinical and practical perspective, significant concerns about transportation remain and we suggest OBH program practices require additional inquiry related to client care, outcomes, and concern for the reunification of the youth with their family. This is especially important when claims of cost effectiveness and enhanced treatment success in OBH are reported without full disclosure of coercive treatment conditions leading to high completion rates (DeMille et al., 2018; Gass et al., 2019). Further, our results show small percentages of youth returning home, again, in light of claims of effective and completed treatment (DeMille et al., 2018; Magle-Haberek et al., 2012). This apparent contradiction needs further unpacking as OBH is an intensive out-of-home practice claimed as a ‘last resort’ for parents. It seems only common-sense that if OBH does produce such significant outcomes, that a return home would be the ideal outcome.

Our final interpretation relates to the randomness of our findings. When adding contextual variables, such as whether or not the child/parent felt transport was necessary or if it felt appropriate to be in a treatment program, significant but random findings emerged. Debates on the significance of specific treatment factors (i.e., specific interventions) or those more contextual (i.e., how the client feels about treatment) have occurred throughout the history of psychotherapy (Dobud & Harper, 2018). The notion that specific interventions, such as whether or not an adolescent is transported to a program, are easier to study than context. This streetlight effect (Stiles, 2002)leads us to asking repetitive, elegant, and arguable simple research questions that do not lead us toward improving outcomes or client experiences in care.

Before complex statistical analysis is used it will be necessary to think through these issues and to collect data relevant to these questions rather than conducting *post hoc* interpretations—in our and other studies. Our report suggests that these analyses are flawed. There are some further limitations to our work. Though we are criticizing others’ work, we have access to a different data set. Both analyses may be true, though our results make us skeptical that either is accurate. Second, there is nothing in our data to suggest that there were systematic differences in the group with missing values, and there were a lot of missing values. Third, we have raised questions about the validity of the data collection procedures, the use of the measurement instruments, and the analysis applied by other researchers. These same criticisms could be directed toward our analysis. We think this proves our point, but others may disagree.

**Conclusion**

We asked how voluntary attendance in WT relates to treatment outcomes, as Tucker and colleagues had before. We doubted the validity of the variable transported/not transported as providing any clinical and practical meaning and raised this due to our concerns about the ethics of OBH practice regarding clinical best practices, child rights, and in concern for clinicians who may be contravening their professional codes of ethics (Becker, 2010).

Further, we were troubled by research (see Gass et al., 2019), which to us, may be misleading clinicians, program administrators, insurance companies, policy makers, and parents to continue on with practices which are highly intrusive and potentially trauma-inducing (Watson, Thorburn, Everett, & Fisher, 2014). Our bottom-line is the primacy of ‘care’ for young people through ethical and clinical best-practice in residential treatment. Adolescents placed in WT need our attention as researchers and practitioners; this is a vulnerable population made increasingly vulnerable through their loss of autonomy and choice when placed in treatment against their will, and potentially through the use of physical force by transport services as described by Tucker et al. (2015; 2018). 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), protect the core values of a profession (Mattingly, 1995), and ideally see children reunited with their families following treatment (Norcross & Wampold, 2011). As O’Donoghue et al. (2014) stated, “It needs to be ensured that if any service user, whether voluntary or involuntary, experiences treatment pressures or coercion, that there is sufficient oversight of the practice to ensure that individual's rights are respected” (p. 120). We do not assume that youth in OBH 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). An OBH program’s responsibility is to the families that contracted them—to provide safe and ethical treatment services to their children so they can, ideally, return home and avoid further institutionalization.

As a field of practice working with vulnerable populations, ethical practice is paramount (Graham, Powell, & Taylor, 2015) and may challenge practitioner beliefs through questioning current practices. The ultimate mandate should be to ensure OBH is not doing harm. It is “the organized and systematic articulation of child and youth care values and their application to the issues encountered in practice” (Mattingly, 1995, p. 380) that protect clients from harm; “doing ethics” is an active process and a process that involves practitioners, policy makers, advocates, researchers, and the clients and families themselves.

**References**

Baldwin, C., Persing, J., & Magnuson, D. (2004). The role of theory, research, and evaluation in

adventure education. *Journal of Experiential Education*, *26*(3), 167-183. [doi.org/10.1177/105382590402600307](https://doi.org/10.1177%2F105382590402600307)

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), 2-6.

Burlingame, G. M., Wells, M. G., Cox, J. C., Lambert, M. J., Latkowski, M., & Justice, D. (2005). Administration and scoring manual for the Y-OQ. Wharton, NJ: American Professional Credentialing Service.

Colpitts, L. (2013). *Transports*. Retrieved from <http://safeandsoundtransportation.com>

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. M., & Montgomery, M. (2016). Integrating narrative family therapy in an outdoor behavioral healthcare program: A case study. *Contemporary Family Therapy*, *38*, 3-13. doi.org/10.1007/s10591-015-9362-6

DeMille, S. M., 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)

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

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

*character education*. New York: Association Press.

Dobud, W. W., & Harper, N. J. (2018). Of Dodo birds and common factors: A scoping review of direct comparison trials in adventure therapy. *Complementary Therapies in Clinical Practice*, *31*, 16-24. [doi.org/10.1016/j.ctcp.2018.01.005](https://doi.org/10.1016/j.ctcp.2018.01.005)

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)

Fernee, C. R., Gabrielsen, L. E., Andersen, A. J., & Mesel, T. (2017). Unpacking the black box

of wilderness therapy: A realist synthesis. *Qualitative Health Research*, *27*(1), 114-129. [doi.org/10.1177/1049732316655776](https://doi.org/10.1177%2F1049732316655776)

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.

Goldfried, M. R. (2019). Obtaining consensus in psychotherapy: What holds us back? *American Psychologist, 74*(4), 484-496. [doi.org/10.1037/amp0000365](https://psycnet.apa.org/doi/10.1037/amp0000365)

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*. Unpublished 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., Gabrielsen, L. E., & Carpenter, C. (2018). A cross-cultural exploration of ‘wild’ in

wilderness therapy: Canada, Norway and Australia. Journal of Adventure Education and Outdoor Learning, 18(2), 148-164. [doi.org/10.1080/14729679.2017.1384743](https://doi.org/10.1080/14729679.2017.1384743)

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

Mooney, H., & Leighton, P. (2019). Troubled affluent youth’s experiences in a therapeutic boarding school: The elite arm of the youth control complex and its implications for youth justice. *Critical Criminology*, 1-16. doi.org/10.1007/s10612-019-09466-4

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)

Norcross, J. C., & Wampold, B. E. (2011). Evidence-based therapy relationships: Research

conclusions and clinical practices. *Psychotherapy*, *48*(1), 98. [doi.org/10.1037/a0022161](https://psycnet.apa.org/doi/10.1037/a0022161)

O'Donoghue, B., Roche, E., Shannon, S., Lyne, J., Madigan, K., & Feeney, L. (2014). Perceived coercion in voluntary hospital admission. *Psychiatry Research*, *215*(1), 120-126.

[doi.org/10.1016/j.psychres.2013.10.016](https://doi.org/10.1016/j.psychres.2013.10.016)

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

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

Sedgwick, P. (2012). Multiple significance tests: the Bonferroni correction. *BMJ*, *344*, e509.

[doi.org/10.1136/bmj.e509](https://doi.org/10.1136/bmj.e509)

Snyder, C. M., & Anderson, S. A. (2009). An examination of mandated versus voluntary referral as a determinant of clinical outcome. *Journal of Marital and Family Therapy*, *35*(3), 278- 292. [doi.org/10.1111/j.1752-0606.2009.00118.x](https://doi.org/10.1111/j.1752-0606.2009.00118.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)

Stiles, W. B. (2002). Future directions in research on humanistic psychotherapy. In D. J. Cain

(Ed.), *Humanistic psychotherapies: Handbook of research and practice* (pp. 605–616). Washington, DC: American Psychological Association. doi.org/10.1037/10439-020

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.

(2018). 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)

United Nations. (2018). Mental health and human rights. Report of the United Nations High Commissioner for Human Rights (Advanced edited version). Retrieved from: <https://www.ohchr.org/Documents/Issues/MentalHealth/A_HRC_39_36_EN.pdf>

Watson, S., Thorburn, K., Everett, M., & Fisher, K. R. (2014). Care without coercion–mental health rights, personal recovery and trauma‐informed care. *Australian Journal of Social Issues*, *49*(4), 529-549. [doi.org/10.1002/j.1839-4655.2014.tb00327.x](https://doi.org/10.1002/j.1839-4655.2014.tb00327.x)

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)

Wood, S. N. (2013). On p-values for smooth components of an extended generalized additive model. *Biometrika, 100,* 221-228.

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.