JTSP

Journal of Therapeutic Schools & Programs

A Publication of the National Association of Therapeutic Schools and Programs

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The **JOURNAL OF THERAPEUTIC SCHOOLS AND PROGRAMS (JTSP)** is published by the National Association of Therapeutic Schools and Programs and publishes articles that assist readers in providing comprehensive care for adolescents, young adults, and families receiving services from residential and wilderness/outdoor behavioral healthcare treatment programs. The editors welcome manuscripts that are the original work of the author(s) and follow APA style as presented in the sixth edition of the Publication Manual of the American Psychological Association. Manuscripts may include, but are not limited to, case studies, topical clinical articles, overview articles, book reviews, and research. Topics of interest may identify and address diverse issues encompassing program enhancement and development, family issues, clinical innovations, young adults programs/services, and transition planning. Articles may address specific interventions for special populations or clients with special needs such as substance abuse dual diagnosis, developmental disorders, or adoption issues. Articles are encouraged that address issues of staff training and retention and general personnel management and leadership, as well as articles that address governmental/regulatory topics. Submissions are encouraged that relate relevant theory to clinical practice or provide original research relating to program or treatment effectiveness. All rights reserved.

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ABOUT THE NATIONAL ASSOCIATION OF THERAPEUTIC SCHOOLS AND PROGRAMS The National Association of Therapeutic Schools and Programs is a non-profit member organization of schools and programs from around the country and was formed to serve as a national resource for its members. Through a dynamic process, the National Association of Therapeutic Schools and Programs develops and advocates ethical and practice standards designed to protect consumers while improving the effectiveness of programming within member programs.

MEMBERSHIP Schools and Programs interested in membership the National Association of Therapeutic Schools and Programs are referred to their website, www.natsap.org or the Executive Director at (301) 986-8770.

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PREFACE
A Tipping Point

Ellen Behrens, Ph.D.
Westminster College

It is with great pleasure that I begin my tenure as Chief Editor for the *Journal of Therapeutic Schools and Programs* (JTSP). It is important, as I begin, to thank a few people who were instrumental in bringing the JTSP to this remarkable point. Malcolm Galdwell (2000) noted that a tipping point, or point of revolutionary change, typically comes after the steadfast effort of a gifted few with a rare and particular set of skills. This certainly holds true for the JTSP. Dr. Michael Gass served as the Chief Editor for nearly a decade and during that time edited a body of research that fundamentally shaped NATSAP services, clinicians, and programs. Dr. Gass inspired seasoned and novice researchers alike to ask challenging questions and design ambitious studies. As we move forward, the Editorial Board and I stand on Dr. Gass' shoulders and from that vantage point much is possible. The Editorial Board and I also owe thanks to the NATSAP Board of Directors who have consistently supported the mission of the JTSP. It's particularly important to thank Dr. Jared Balmer, board member liaison for research, for his remarkably dogged, yet ever gracious, advocacy on behalf of research in NATSAP. Together with Dr. John Santa and the NATSAP Research Committee, he created a Research Designated Program (RDP) distinction for NATSAP programs, which has been approved by the NATSAP Board and is introduced in a paper penned by Dr. Santa in this issue. The RDP distinction is likely to foster quality research for which the JTSP hopes to provide a scholarly outlet. Last, we thank Cliff Brownstein, NATSAP's Executive Director, and the NATSAP staff, who have published the JTSP with unmatched professionalism for nearly a decade, all the while juggling dozens of other projects. The work of these gifted few bring us to this tipping point and, I am certain, will carry us beyond.

In many ways, small and large, the JTSP is rapidly moving in a new direction. After years of publishing research about the efficacy of residential and wilderness programs, the papers in this issue demonstrate a new and broader focus on various stakeholders (e.g., line staff, academic staff, families), outcomes (e.g., family outcomes), measures (e.g., trauma), research methods (e.g., qualitative analysis, post-discharge methodology) and programs (e.g., public residential centers). In addition, advances in the JTSP strategic development plan have resulted in new and seemingly small, but nonetheless significant, elements in this issue. Readers will notice that the title page of the JTSP includes an ISSN. The ISSN is our newly assigned registration number with the Library of Congress. In addition, all papers in this issue have unique document object identifiers (DOI). By affixing a DOI to each article, we create an persistent online link that facilitates indexing and retrieval. The JTSP generates DOIs by virtue of our newly granted membership in the Publication International Linking Association.

Changes will continue moving forward. The Editorial Board has designated three Guest Editors who will each oversee an upcoming Special Issue of the JTSP. The Guest Editors and Special Issues are as follows: John Hall on Clinical Innovations, Dr. Sean Roberts on Young Adults, and Dr. John Santa on Impacts on Families. The three themes were selected based on feedback from recent NATSAP conference attendees as well as feedback from the NATSAP Board of Directors. The JTSP Editorial Board expects that this new journal format will inspire salient research on topics of interest to programs and providers. Each of the Guest Editors welcomes research of various types (e.g., survey, qualitative, case studies, quantitative) as well as literature reviews and theoretical papers. Each Special Issue will feature a critical mass of articles centered around the designated theme, but will also contain articles outside of the theme, so that the JTSP can remain a timely outlet for research. Look for a Call for Papers on the NATSAP website. I encourage readers to initiate a dialogue with me and the Guest Editors about the upcoming issues. We hope to make ourselves available to collaborate with you about the questions and challenges you face in your programs.

References

Gladwell, M. (2000). *The tipping point–How small things can make a big difference.* New York: Little Brown.

ISSN 2469-3030 online © 2016 Journal of Therapeutic Schools and Programs DOI: 10.19157/JTSP.issue.08.01Onc.01

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NATSAP Research Designated Program

John Santa, Ph.D.
Montana Academy
Chair NATSAP Research Committee

Abstract

This paper describes the NATSAP Board's new Research Designated Program (RDP) status, to be given to programs that apply and demonstrate they are involved in supplying data that is aimed at evaluating NATSAP program effectiveness and increasing the understanding of the impact of programs on youth and their families.

Keywords: Research, Residential Treatment, Outdoor Behavioral Healthcare, Wilderness Therapy

The Board of Directors of NATSAP has long realized that our profession has the responsibility of providing data that examines the impact and effectiveness of our programs. To this end NATSAP has sponsored an outcome research project in collaboration with Dr. Michael Gass at the University of New Hampshire for the past decade. This work has resulted in a permanent database and led to numerous conference presentations, as well as scholarly articles aimed at documenting the effectiveness of NATSAP programs. However, the database has relied in large part on a handful of programs who have contributed the majority of data to this effort.

The Board has decided it is now time to augment our efforts and express to consumers that not all programs are alike, and those who honestly examine their work, and contribute to the scholarly, professional, and practical understanding of the effects of our interventions deserve to be set apart and receive the proper recognition for their efforts. To this end, the Board of NATSAP has established the new status of Research Designated Program to be given to programs that apply and demonstrate they are involved in supplying data that is aimed at evaluating NATSAP program effectiveness and increasing the understanding of the impact of programs on youth and their families.

We strongly encourage all NATSAP programs to begin a systematic examination of their work, and join those programs who already are engaged in such efforts. The status of NATSAP RESEARCH DESIGNATED PROGRAM (RDP) was introduced at the NATSAP annual conference in 2016 and was described as follows:

The National Association of Therapeutic Schools and Programs (NATSAP) recognizes the need and responsibility to conduct appropriate research on its professional practices. In this vein, NATSAP has undertaken a major initiative to encourage all members to demonstrate that they examine their practice in a meaningful way. Programs that demonstrate this commitment are invited to apply, and receive upon examination by the NATSAP Research Committee, the status of a NATSAP RESEARCH DESIGNATED PROGRAM (RDP).

ISSN 2469-3030 online DOI: 10.19157/JTSP.issue.08.01.02

RDP programs will be given a special page on the NATSAP website and in the NATSAP Directory. They will also be able to include the term "RESEARCH DESIGNATED PROGRAM" and add the research designation logo in their marketing.

Programs can achieve the status of a NATSAP RDP in one of two ways. The first way to achieve this status is by joining the ongoing NATSAP Outcome Research Project. This project requires data to be submitted to the NATSAP Database housed at the University of New Hampshire and managed by Dr. Michael Gass. This submission is most easily accomplished by using Outcome Tools - a user-friendly, versatile, and intuitive addition to the BestNotes client record management system. The data collected include: demographic information at admission to the program; the Youth Outcome Questionnaire (YOQ), Parent Outcome Questionnaire (OQ), at enrollment, discharge, and one-year post discharge. In addition, the Research Committee is encouraging data collection at six months post discharge, and the use of the Family Assessment Device (FAD).

The second way to achieve the status of a NATSAP RDP is to demonstrate commitment and engagement in research using tools and methods other than those prescribed by the NATSAP Outcome Research Project. Programs choosing this option are required to utilize at least one standardized client outcome-oriented evaluation instrument (not simply a satisfaction survey). They must submit an application to the Research Committee describing their research protocol and tools. Finally, if programs are not using the NATSAP research protocol they must demonstrate that their process has been approved through an appropriate Ethics Review Board.

Programs who demonstrate collection of 70% of their enrollment data for a minimum of six months will, upon application to the Research Committee, become a NATSAP RDP. In order to maintain RDP status they will have to submit an annual report to the Research Committee verifying ongoing collection of 70% of their enrollment data, and 50% of their discharge data. Post discharge data is more difficult to obtain but the committee has set a target goal of collecting 20-50% of post discharge data. Programs who fall short of the target range for post discharge data may maintain their RDP status by submitting a review of their data collection efforts and a plan to increase the quality and sustainability of their research culture.

Programs wishing to receive the status of NATSAP RESEARCH DESIGNATED PROGRAM are required to fill out an initial application which is available on the NATSAP Website and a sample is included on page 94.

1. On the NATSAP Website, click on the RESEARCH Tab, and click on the Tab to download the application for NATSAP Research Designated Program status.
2. Fill out the application and email to Michael Gass, PhD at the University of New Hampshire Michael.Gass@unh.edu
3. A member of the Research committee will review your application within 30 days and let you know if you qualify for the RDP status, or if there is anything that needs further examination.
4. Once your program receives the RDP designation you will be allowed to include the RDP seal on your website and in promotional materials. Your program will also be added to the list of RDP programs on the NATSAP website, and in the Directory.

For All You Do, This Article is For You: Thoughts on Optimizing and Evolving Treatment Evaluation

Laura Mills
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Abstract

Outdoor Behavioral Health programs and Residential or Therapeutic Boarding School treatment approaches have made great inroads when it comes to measuring outcomes. The information from their efforts can foster accountability to clients, evaluation-informed treatment and program decisions, validation for the hard work of agency staff, and demonstration of value to governance and funders. This paper was written to celebrate the dedication shown by agencies to engage with client outcome-oriented research and also to provoke thought as to how staff, agencies, and multi-agency collaborative teams can optimize and strategically plan their evaluation efforts.

Keywords: youth treatment evaluation, research methods, evaluating youth therapy, outdoor behavioral health, residential treatment for youth.

There is a wealth of literature in which theoreticians, researchers, and practitioners articulate the need to evaluate therapeutic effectiveness (e.g., Beautler, 2001; Horowitz, Lambert, & Strupp, 1997; Kazdin, 1996; Lambert, Hansen & Finch, 2001). Possibly in response to this need, or maybe arising from the dedication to being accountable to clients, therapeutic outcome measurement is starting to permeate contemporary clinical practice. Evaluating the success of clients benefits everyone. Clients and their families benefit from evaluation-informed program improvements and treatment planning; staff can validate the hard work they engage in every day; and financial stakeholders can justify their considerable investment, be it in one client or in an entire program. That said, evaluation must be undertaken with careful thought, thoughtful planning, and plan-driven execution. In this paper, we celebrate the evaluation efforts championed by Outdoor Behavioral Healthcare (OBH) Council and National Association of Therapeutic Schools and Programs (NATSAP) and discuss considerations for continued evaluation efforts.

Careful Thought

Considering the myriad tools, research methods, and analytic processes available, it is a daunting task to begin the process of evaluating treatment effectiveness. Sometimes, research questions are driven by external researcher interest, existing protocols that are already utilized in a particular field, or even the contents of a measurement instrument. When these are the foundations for evaluation protocol, programs run the risk of gathering information that does not resonate with their therapeutic goals and objectives, their client's experience or presentations, or their programmatic outcomes.

On the other hand, when carefully planned research questions, determined by well-defined outcome goals drive evaluation efforts, programs can succeed in making continual, evidence-based improvements to better serve their consumers. By guiding evaluation efforts this way, the research protocol and findings can align with treatment intentions and inform specific areas of quality assurance and improvement. Some questions to ask of clients, families, staff, and other stakeholders are, *'In what ways do we think our clients change?'; 'How much do we think our clients will change?'; 'For how long do we expect changes to be sustained?' 'What are the overall goals and objectives of our programming?'* We highly recommend all programs engage in this intentional curiosity, for all of the reasons described above, as well as to foster

ISSN 2469-3030 online DOI: 10.19157/JTSP.issue.08.01.03

agency-wide buy-in and ownership of evaluation processes and results.

The OBH Council and NATSAP have done impressive work to overcome the daunting task of starting the evaluation process. They have championed initiatives that shepherd data collection for member programs within their outdoor behavioral healthcare and residential treatment / therapeutic boarding school (RTBS) approaches. Their efforts have resulted in selecting evaluation tools and liaising with relevant licensing agencies; sourcing infrastructure to member programs by way of on online data collection platform (i.e., Bestnotes CRM); providing support for programs to implement evaluation protocols (via the Remote Research Director Service of Petree Consulting Inc.); and providing resources to the OBH Center, housed at the University of New Hampshire, to securely house and manage data, support data analyses and dissemination findings, and examine the outcomes of member programs along with comparative cross-agency aggregate results.

The collaboration between industry affiliated scientists and OBH / RTBS practitioners represents an impressive merger. It allows for an empirical assessment of treatment outcomes such that programs can examine the quality and impact of their services while also identifying areas in need of improvement. This type of evaluation also validates treatment effectiveness to insurance, accreditation, and policy-making stakeholders, thereby sustaining the presence of OBH and RTBS approaches within the context of mental health service delivery

Thoughtful Planning

In order to draw valid inferences regarding such a complex phenomenon as youth's response to treatment, rigor is required in the design and the execution of the research. The science of research methodology involves decision-making at every step of the process to assure that ambiguity is minimized and conclusions are based on valid findings. It is important to consider all facets of the process, because seemingly trivial issues can have profound impacts on the conclusions of the research. For example, a close look at post-treatment contact time-points should spur such questions as, '*If we measure outcomes right at the end of therapy, will improvements be due to our intervention or because the youth is happy to have completed the program?*' and, '*How long after therapy can we still associate outcomes to our process?*' Without addressing such questions, scientists may draw erroneous conclusions from their findings. Further, research results are influenced by innumerable factors, including but not limited to the subtle variations in the data collection process (e.g., lack of standardization in how participants are contacted, enrolled, and consented into the study). Thus, methodological science instructs us to consider all facets of the study design so that when a particular finding is obtained, we can reach an unambiguous conclusion (Kazdin, 2003). Naturally, the process of developing these standard protocols would provide a platform for excellent dialogue at OBH and RTBS knowledge exchange events.

Plan-Driven Execution

When agencies or agency groups develop standard protocols that optimize accurate interpretation of evaluation results, their curiosity and strategy is likely to evolve. For example, program stakeholders may be interested in the specific mechanisms of treatment that foster success (e.g., treatment progression or completion, duration, specific treatment goals or skill development, etc.). These types of questions can only be answered in contexts of treatment and evaluation fidelity. One way to ensure treatment fidelity is to adopt an evidence-based therapeutic approach. Following the example of medicine (Institute of Medicine, 2001), academic psychologists have spearheaded the move towards evidence-based practice in psychology (EBPP; American Psychological Association, 2005). Indeed, policy mandates for EBPP exist in many settings. For example, agencies providing federal-, state-, or insurance-funded mental health services are required, in some states, to provide evidenced-based treatments as part of their service delivery (Office of Applied Studies, 2008). EBPP helps ensure that clients are provided with therapeutic services that are known to be effective. However, this should not preclude the need to examine agency-level treatment outcomes. In fact, EBPP is the perfect platform to foster evaluation leading to ever increasing quality service delivery and wellness of clients, along with material for expanding knowledge in the field.

Another way to evolve agency evaluation is through collaboration with researchers whose interests align with the agency evaluation needs. For example, an agency serving youths with eating disorders would benefit from identifying a research collaborator with expertise in this area. This individual would consult on the current knowledge base, work with the agency to choose appropriate measurement constructs and instrumentation decisions, and help isolate and measure specific outcomes or mechanisms of change. This type of collaboration should be developed and nurtured with a long-term relationship in mind as opposed to study-specific involvement. Well-aligned, ongoing relationships allow for in-house development of sophisticated research which includes planning, implementation, data analysis, interpretation, and reporting, but also provides multiple opportunities for dissemination of findings and knowledge advancement.

Different types of methodological designs are used to answer different questions and should include considerations of population of inquiry, state of knowledge, and hypothesized relationships among variables (to name a few). Each type of design allows the investigator to answer different questions with different levels of rigor, and all designs have their strengths and weaknesses. For example, research in which the investigator has tight control over most study parameters tends to be less generalizable to the general population, and conversely, designs with less experimenter control tend to study heterogeneous samples (i.e., the types of clients more often seen in real-world treatment agencies). Four main types of methodological designs, with relevant strengths and limitations, are briefly reviewed below.

Case Studies

Imagine. You have an interesting client and want to share what you learned over the course of working together. You write a paper depicting the client's clinical presentation, as well as your treatment approach, challenges, solutions, and insights.

Benefits. Case studies help us gain insight into the behavior of individuals. The clinical presentation of clients to OBH and RTBS settings is nothing if not complex, so it's likely that other treatment providers will benefit from exploring parallels between their typical clients and your case. That said, case studies also provide a unique opportunity to delve into clients that are distinct or present with atypical historical, developmental, or personality characteristics. This provides a platform to share knowledge or describe modifications to existing therapeutic interventions, perhaps that of stepping outside of usual or well-known treatment parameters. Further, case studies can be used to supplement and enliven treatment-relevant information gathered from a larger study group. Finally, case studies remind us that there are real people with real problems, who come to treatment providers with real hopes of feeling better.

Drawbacks. The primary shortcoming of case studies is that there is no way to determine if the treatment is responsible for changes in the client, as this approach relies heavily on anecdotal information. If the client's health and behavior improved, it may have happened without therapy, or due to other changes in their environment. Secondly, treatment providers can't assume that the approach taken for the case will have a similar effect on their clients, even if there are striking similarities between the two (referred to in the scientific community as a lack of replication). Finally, case studies tell a story from the perspective of the author which invites the possibility of bias, no matter how impartial the author attempts to be.

Quasi-Experimental Studies

Quasi-experiments describe research in which study participants *already exist* within a specific group that is being studied (Kazdin, 2003). Sexual assault victims, adults on the autism spectrum, or teenagers with substance use disorders are a few examples. Both single-site and multiple group studies, described below, fall in this category.

Single-Site Studies. Imagine. You have data on the health and behavior of your clients measured pre-treatment, post-treatment, and at one year follow-up. You have this information for most of your clients over the most recent three years and can see that there are decreases in problematic behavior and increases in health and prosocial behavior for the group as a whole. Your study can help you understand the relationship between time and your outcome(s) of interest, with the understanding that within that time, the client experienced therapy.

Benefits. Pretest-posttest designs are a great place to start evaluating the effectiveness of programs (Kazdin, 2003). Results help validate staff for their hard work and allow programs to identify areas for evaluation-informed program planning and improvement. Another benefit is that pretest-posttest designs tend to give us information about populations that interest us – namely, our clients. This type of work can also be used to communicate with clients and families the types of outcomes they can reasonably expect from the program. When agencies engage with this type of evaluation, it demonstrates a dedication to being accountable, both for the well-being of clients and for providing the highest quality and most effective therapeutic services.

Drawbacks. The primary drawback to single-site quasi-experimental studies conjures a phrase common to the field, *'correlation does not imply causation'*. In other words, we can measure change but cannot conclude that the treatment program or intervention caused the change (Kazdin, 2003). Also, in the absence of a comparison condition or control group, we cannot rule-out that other factors (e.g., historical effects, maturation, instrumentation, statistical regression) accounted for the pattern of findings in the study.

Comparison (Multiple Group) Studies

Imagine. You have a group of youths who completed your program over the span of two years. You also have a list of similar youths who applied to your program but never enrolled (comparison group). You administered health and behavior surveys to all participants at the time of application and at treatment completion (and a similar time frame for the no-treatment group). You can now compare whether symptomatic changes over time are different for the treatment versus the no-treatment group.

Benefits. Primarily with quasi-experiments, if the outcomes are different for the different groups, therapy is one of the factors that *may* be responsible for these differences (Kazdin, 2003). Another benefit is that participants in quasi-experiments often resemble the types of clients seen in the field, as they tend to have varied clinical presentations, histories, and needs. Quasi-experiments can be conducted in 'real world' treatment programs – a factor that benefits clients greatly. Quasi-experiments are also a great way for an agency with more than one program to compare programs and utilize outcomes for treatment planning, knowledge exchange, and quality improvement. In fact, with this type of design, one could compare different groups across any number of factors such as gender, age, treatment engagement, comorbid disorders, presenting problems, and a host of variables that might promise to foster change.

Drawbacks. One *cannot* conclude that treatment (or whichever comparative variable) was the main agent of change in a quasi-experiment. This is because groups may be fundamentally different (given the lack of random assignment to experimental conditions), and *that* difference may be the cornerstone of change. Using our example, if youths who applied but didn't enroll in your program declined treatment due to family financial status, socioeconomics may be the factor that accounted for differential outcomes between the treatment and the no-treatment groups. In other words, with this type of design, one cannot conclusively rule out alternative explanations for research findings. Researchers can, however, minimize potential confounds by using matched samples (where multiple groups are matched on relevant characteristics such as age, gender, psychiatric condition and severity, etc.), as well as the use of sophisticated statistical techniques (e.g., utilizing co-variates or structural modeling approaches). For example, there are procedures to minimize the possibility that income was the change factor, if income is a measured variable (Gaudiano, Dalrymple, Weinstock, & Lohr, 2015).

Experimental Research (Group designs)

Imagine. Two hundred youths want to attend your next treatment session. All youths are 16-17 years old and have experience with substance abuse, but no history of mental health issues, no behavioral or relationship problems, and no prior treatment. You measure substance use, health, and behavior of all 200 youths and then randomly assign each person either to the treatment or the no-treatment group. You again measure the health and behavior of all 200 youths at regular intervals.

In experimental research, the investigator is manipulating (controlling) the delivery of a procedure or treatment. A sample of people are selected from the general population and these individuals are *randomly* assigned to experimental conditions; thus, the groups are functionally equal. The population is similar across defined characteristics such as age, singular presenting problem, treatment-seeking behavior, etc. Random assignment gives confidence that any individual differences among participants is evenly dispersed across the groups. Now, the only difference between groups is the experimental delivery of a treatment intervention (versus a placebo or control group). One can now examine whether the treatment condition reliably results in changes in participants, and to what extent.

Benefits. Experimental designs are the only types of research where we can conclude that the manipulated variable (treatment) caused differences between groups on the measured outcome (Kazdin, 2003). This is because for these equal groups, treatment was the only functional difference, so it *must* have been the cause of different outcomes. One can even infer that those changes can be generalized to the relevant population.

Drawbacks. Limitations associated with RCTs include the prohibitive cost as they involve extensive training of staff, standardization across research conditions, and oversight by the primary investigator. Further, this type of design tends to require highly operationalized treatment and comparison control conditions, often specified in a manual. Treatment delivery is standardized and therapists are regularly assessed for their adherence to study treatment (fidelity to the therapeutic model). Second, RCT sample selection is based on carefully defined population characteristics and thus quite specific inclusion and exclusion criteria for the study. Because of this, the population tends to look different from clients seen in real-world settings. Although RCT results can be generalized, generalization only extends to the narrowly defined population. This means there may be little *external validity*, or in other words, we may not expect the findings of a RCT to apply to all clients in OBH and RTBS settings. Following our above example, the findings of the experiment would apply to youth, age 16-17 years old, with a history of a specific type of substance abuse, in conjunction with no mental health, behavioral, or relational problems, and no prior treatment. Third, the sample selection may not be possible based on the types of clients who present at OBH and RTBS programs. Lastly, and most importantly, there may be ethical problems in withholding treatment from some individuals for the sake of conducting research, particularly once it is clear that the intervention is effective and could improve the lives of clients.

Final Thoughts and Recommendations

The intent of this paper was threefold. First, we wanted to honor the strides taken in the OBH and RTBS fields: by agencies collecting the data, organizations facilitating this work, and the scientists turning this work into knowledge. Second, we hoped to raise awareness of ways to start or evolve current evaluation practices, with careful thought, thoughtful planning, and plan-driven execution. Third, we provided a brief overview of the types of studies that can be conducted such that stakeholders can consider the benefits and drawbacks to each when they are planning their own evaluation or learning from conference presentations, research papers, and popular media reports. To summarize, we provide four recommendations for research endeavors:

1. Ensure that your evaluation protocol resonates with your agency's mission-driven values and therapeutic objectives.
2. Pay careful attention to factors that can erroneously account for treatment outcomes and attempt to minimize alternative explanations.
3. Share learnings about the process and outcomes of evaluation endeavors at knowledge exchange events to foster a broad perspective of dialogue and learning.
4. Anticipate new questions and strategic partnerships that will foster ever-increasing sophistication of your evaluation, and thereby, the quality of service delivery within your agency.

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What Does It Take to Get Post-Discharge Data?

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Abstract

As the field of outdoor behavioral healthcare amplifies research efforts, reaching study participants post-discharge is essential. This paper analyzes follow-up efforts in an outcome study with 844 participants that achieved high 6-month follow-up response rates. The researcher coded each completed questionnaire to reflect the effort required to receive it. While 72% of parents responded after initial emails, 81% of adolescent and 61% of young adult responses required a moderate to high level of effort. This analysis found that an interactive process, collaboration with other treatment programs, and persistence are critical to a successful follow-up.

Keywords: outdoor behavioral healthcare, post-discharge data, methodology

Over the last decade, a wave of enthusiasm for research has hit the field of Outdoor Behavioral Healthcare (OBH). Many wilderness and residential treatment programs are implementing research and evaluation as their own independent initiative, or as a membership expectation and "best practice" in the National Association of Therapeutic Schools and Programs (NATSAP) and the Outdoor Behavioral Healthcare Research Cooperative (OBHRC). The OBHRC founded in 1999 to deliver an active, comprehensive research program for the field, can be largely credited for growing the literature base for OBH. Since its inception OBHRC has developed and evolved into the OBH Center at the University of New Hampshire. To date, researchers for OBHRC and the OBH Center have produced over 200 studies in the last 15 years. NATSAP Practice Research Network (PRN), established in 2007, was created to respond to the call for research on program effectiveness of private residential treatment centers (NATSAP, n.d.). These initiatives, as well as other independent projects, have created a research corpus that suggests that OBH is a promising treatment for adolescents (Behrens, Santa, & Gass, 2010; Gass, Gillis, Russell, 2012; Hoag, Savicki, & Burlingame, 2001; Lewis, 2007; Magle-Haberek, Tucker, & Gass, 2012; Russell, 2003, 2005).

OBH literature shows promising outcomes over the course of treatment. However, it is also riddled with problems of non-representative samples, inconsistent data collection, and a shortage of post-discharge data (Russell, 2007; Scott & Duerson, 2009; Tucker, Zelov, & Young, 2011). This paper speaks to the latter issue. While multiple studies provide strong data on positive change made over the course of treatment (Behrens et al., 2010; Magle-Haberek et al., 2012; Russell, 2003), quantitative data on clients after they leave programs is sparse (Behrens et al., 2010; Russell, 2003). As the OBH field grows and research efforts increase, it is essential to gather post-discharge data. Furthermore, in order to continue to advance OBH research there is a need to understand how to best collect post-discharge data.

Method

We invited adolescent clients and their parents to participate in an outcome study from May 2011 to July 2012 at four different wilderness therapy locations across the United States. Eighty-three percent of families entering the wilderness program voluntarily participated in the study (792 adolescents entered the program, 46 were excluded due not finishing the program, and 88 declined to participate). We invited young adult clients to participate from May 2011 to June 2012 at one wilderness therapy program in southern Utah; 77% of young adults participated (241 young adults entered the program, 27 were excluded due to not finishing the program, and 28 declined to participate). While in the wilderness therapy program, study participants completed the appropriate measures from the Outcome Questionnaire® (OQ®) Family of Instruments in addition to several measurements of life effectiveness, dysfunctional attitudes, alliance with therapist, and treatment expectancy. At six

ISSN 2469-3030 online © 2016 Journal of Therapeutic Schools and Programs DOI: 10.19157/JTSP.issue.08.01.04

months post-discharge, participants were asked to complete their respective OQ® again. Parents of adolescents completed the Youth Outcome Questionnaire-2.01 (Y-OQ® -2.01); adolescents completed the Youth Outcome Questionnaire–Self Report® (Y-OQ-SR®); and young adults completed the Outcome Questionnaire–45.2 (OQ®-45.2). Response rates at intake, discharge, and post-discharge are shown in Table 1.

Table 1

Sample size and response rates at intake, discharge, and 6-months post-discharge

	Intake: *n(%)*	Discharge: *n(%)*	6-months post: *n(%)*
Young adults	159 (85%)	131 (70%)	82 (44%)
Adolescents	619 (94%)	534 (81%)	363 (55%)
Parents of adolescents	501 (76%)	398 (60%)	452 (69%)

Participants

The mean age for adolescents was 15.8 with 32% reporting female, 17% were adopted, and 65% had parents who lived together. The mean age for young adults was 20.3, 18% reported female, 14% were adopted, and 73% had parents who lived together. The average length of stay for young adults and adolescents was 10 weeks. Seventy-eight percent of young adults and 83% of adolescents went to a residential treatment center, boarding school, or another type of aftercare (AC) program upon discharge. The most common primary diagnoses for both adolescents and young adults were Mood Disorders, followed by Substance-Related Disorders and Anxiety Disorders. For adolescents, Behavior Disorders tied with Anxiety Disorders as the third most common primary diagnosis.

Data collection

During the program, clients were given questionnaires in the field, while parents received their questionnaires through an automated email sent by Outcome Tools, an online research system (Outcome Tools, 2012). If a parent did not respond to the two automated emails at intake and discharge, the researcher sent the parent a personal email to make sure that the automated email was received.

For the 6-month follow-up, the researcher sent an email to parents with links to both the parent's and the adolescent's questionnaire. The parent was asked to forward their child's questionnaire to their child or to provide contact information so that the researcher could send it to the adolescent. If the questionnaires had not been completed after one week, the researcher sent a reminder email to the parent; if another week passed, the researcher called the parent. Parents often directed the researcher to their child's residential treatment program or AC program. In this case, the researcher contacted the program and gave up to two reminders. If there was no response from the parent, the researcher would contact an adolescent's AC program, given there was a release to do so.

Young adults' personal email addresses were collected upon discharge. At the 6-month follow-up, the researcher sent an email to the young adult. If the young adult did not have an email address or did not respond to the emails sent to their personal email address, the researcher emailed their parent(s). Parents often referred the researcher to the young adult's AC program, provided a current email address, or forwarded the message to their young adult child. If there was no response from the parent, the researcher would contact the young adult's AC program, given there was a release to do so.

Coding

The researcher utilized Excel spreadsheets to track the 6-month follow-up protocol, as well as emails with parents and clients. This tracking was used to determine the level of effort needed to obtain each response. Each completed questionnaire was given a code that reflected how many and what type of contacts were needed. The codes fell into three categories: low, moderate, and high effort. Those coded as low effort were questionnaires completed with two or less emails to the initial contact. Responses coded as moderate effort required more than two personal emails to the initial contact, or needed to be sent to a secondary contact. The secondary contact was most often being an AC program. High effort codes reflected responses requiring redirection to a secondary contact, and multiple emails and a phone call to the initial and/or the secondary contact.

Results

Of the 363 adolescent questionnaires completed at the 6-month follow-up, AC programs administered 70.5% and parents administered 29.5%. Figure 1 shows the level of effort breakdown for adolescent clients. For the 452 parents who completed the YOQ-2.01, 49% completed it after the first email and another 28% after the second email. Only 23% of responding parents required multiple emails and/or phone calls.

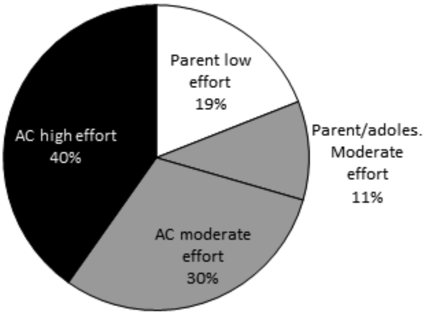

Figure 1. *Pie chart reflecting adolescent responses requiring low, moderate, and high effort, and how the questionnaire was delivered at the 6-month follow-up.*

Of the 82 young adult clients that responded, 40% did so after just two emails to the initial, or original, contact. We obtained 61% of the young adult responses with help from secondary sources - parents and AC programs (Figure 2). Parental help included reminding young adults to complete the questionnaire and providing correct or alternative contact information. This category ranged from a moderate to a high level of effort. Since the process was to first contact the young adults and then their parents, questionnaires that were obtained through an AC program generally reflected a long line of efforts.

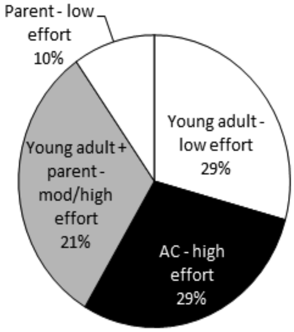

Figure 2. *Pie chart reflecting young adult responses requiring low, moderate, or high effort, and how the questionnaire was delivered at the 6-month follow-up.*

Discussion

This paper analyzes the effort required to obtain post-discharge responses and what strategies were most effective in following up with OBH study participants. We conducted an outcome evaluation and enrolled participants for one year, investing heavily in a 6-month post-discharge follow-up. As a result, response rates for clients and parents were high.

This analysis found that follow-up from a wilderness therapy program (post-discharge) is an interactive process requiring investigative and persistent efforts. Following up with parents of adolescent clients is simpler and more straightforward. With 72% of parents responding to the initial emails, parent participation is the "low hanging fruit" in post-discharge follow-up. Conversely 81% of adolescent responses and 61% of young adult responses required more than two emails after the initial contact. While parents were invaluable in connecting the researcher to clients, relying on parents to deliver a client's questionnaire was not sufficient as most clients were living away from the parent's home. We saw success in offering to direct our message to another party who could more easily deliver the questionnaire to the client. This analysis provides several recommendations for OBH programs specifically Wilderness and Residential programs. When conducting a 6-month post-discharge follow-up, integrating technology and personal interaction, collaborating with other treatment programs, collecting young adult email addresses, and being persistent could ensure greater response rates.

An interactive follow-up process that includes various forms of contact methods was effective in this study. Being able to redirect messages to another email address, call a parent or AC program, and respond to questions yielded high response rates. This study's follow-up did not use any automated emails; however, automated emails could have minimized administrative time and, in theory, reached those in the low effort category with less effort. For parents of adolescents, this could have been a significant portion of the respondents. Technology, and specifically automated online data collection service, such as Outcome Tools, has changed the way the field of OBH collects data and has made the process easier and more reliable. This is an enormous advantage as it decreases administrative work and makes participation easier. It does not remove all of the tedious work that comes with follow-up though. It is possible that relying entirely on technology or an automated system will not yield representative client samples.

Collecting young adults' personal email addresses and collaborating with AC programs proved to be effective strategies. Young adults proved to be the hardest group of participants to reach and had the lowest response rate, though 51% of young adults who responded were successfully reached through their personal email address. This method was not as effective for reaching adolescent participants. As most OBH clients go on to another level of treatment, collaborating and coordinating with other programs in data collection was critical, especially with adolescents. Staff at AC programs administered 71% of adolescent questionnaires and 29% of young adult questionnaires. This difference between adolescents and young adults may be due to adolescents attending AC programs for longer periods of time and having placements that are more restrictive. In addition, parents of adolescents were more likely to direct the researcher to an AC program, while parents of young adults were more likely to provide the young adult's personal contact information. These implications may be limited to a 6-month follow-up, as clients at a 12-month or longer follow-up are likely to have different circumstances. The clear message is that without engaging aftercare programs and parents of young adults, a significant proportion of participants would have been missed.

From this analysis we learned the value of developing a follow-up process that balances technology and persistent personal interaction. While parents of adolescents responded easily to initial emails, young adult and adolescent clients did not. The majority of client questionnaires were not returned after the initial emails, and secondary contacts that helped deliver questionnaires often needed multiple reminders. Several other keys to success were utilizing young adults' personal contact information, engaging parents of young adults, and collaborating with other treatment programs.

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Outdoor Behavioral Healthcare: Its Impact on Family Functioning

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Abstract

The use of Outdoor Behavioral Healthcare (OBH) as a viable treatment modality for adolescents with behavioral, emotional, and substance use issues has been gaining increased attention. This research builds upon the literature by utilizing a longitudinal study to explore clinical changes, measured using the Youth Outcome Questionnaire (YOQ), and changes in family functioning as measured by the general functioning scale of the Family Assessment Device (FAD). Both clinically and statistically significant positive results with youth, mothers, and fathers at points of intake, discharge, and six months post discharge were found; however, parent and youth reports differed especially at six months post discharge. In addition, regression analyses showed that mothers and youth were more aligned than fathers in their perceptions of changes in family functioning post OBH treatment. This research fills a gap in the behavioral healthcare literature concerning the outcomes of using wilderness therapy and their association with family involvement in maintaining clinical change and improved family functioning.

Keywords: Outdoor Behavioral Healthcare, family involvement, family therapy, wilderness therapy

Approximately 10,000 youth annually participate in wilderness therapy, also referred to as Outdoor Behavioral Healthcare (OBH) (Russell, 2003). OBH is considered a type of intervention in the larger field of Adventure Therapy (Tucker, 2009). According to Gass, Gillis, and Russell (2012), adventure therapy is "the prescriptive use of adventure experiences provided by mental health professionals, often conducted in natural settings that kinesthetically engage clients on cognitive, affective, and behavioral levels" (p. 1). As a subset of adventure therapy, OBH is as an alternative option for youth with emotional, behavioral, and/or substance abuse problems (Russell, 2001; 2003). OBH programs provide an intermediate level of care where clients engage in intentional adventure and wilderness experiences in a small group setting, and typically live for extended periods of time either in the outdoors or on expedition (Magle-Haberek, Tucker, & Gass, 2011; Russell & Gillis, 2010). In addition, OBH programs provide individual, group, and family therapy with participants in an effort to meet clinical goals set for clients based on their individual set of therapeutic needs (Gass et al., 2012).

Although research continues to grow supporting OBH as effective in decreasing levels of clinical dysfunction in adolescent participants (Bettmann, Russell, & Parry, 2012; Lewis, 2013; Tucker, Zelov & Young, 2011), much of this research has been limited due to the exclusive reliance on adolescent

ISSN 2469-3030 online DOI: 10.19157/JTSP.issue.08.01.05

self-report (Magle-Haberek, Tucker, & Gass, 2102; Tucker, Smith & Gass, 2014; Tucker, DeMille, Norton, & Hobson, 2015) and/or single program evaluations (Bettmann et al., 2012; Lewis, 2013). In addition, there is limited data looking at if these changes are maintained once youth leave OBH programs (Zelov, Tucker, & Javorski, 2013). Finally, it is also unclear what role OBH plays in the change of functioning in family systems even though data has been collected from parents reporting on the changes they see in their children (Bettmann et al., 2012; Zelov et al., 2013). Evidence supports including families in the traditional treatment process of adolescents as it can increase effectiveness compared to adolescent-only interventions (Diamond & Siqueland, 2003; Harper & Russell, 2008). With this in mind, many OBH programs incorporate the family in multiple ways during the OBH treatment process (Bandoroff & Scherer, 1994; Faddis & Bettmann, 2006); however, little research has been done to understand how or why family involvement in OBH treatment contributes to and supports positive clinical change in OBH participants and family functioning.

With the large number of adolescent participants who attend OBH programs and the recently noted successes in treatment (Bettmann et al., 2012; Lewis, 2013; Zelov et al., 2013) more information is needed looking at the longer term impact of OBH on participants both in terms of mental health and family functioning to better inform OBH programming and practices. In addition, since access to OBH can be expensive and often not covered by insurance, more research is needed to further develop and substantiate the field as an Evidence Based Practice (Zelov et al., 2013), with the hope of increasing accessibility for families and youth in need. In reviewing the OBH literature, little information on the connection between adolescent outcomes and the impact on family functioning exists. To better understand the relationship of family functioning and treatment outcomes, research from traditional therapeutic programs that included family therapy was considered.

Impact of Family Involvement

Families are a system built of many distinct members. If one member goes through a change in isolation, when reintegrated, the rest of the system will go through a period of adaptation (Wilcoxon, 1985). Wilcoxon (1985) described this process as eliciting resistance by the family system until new patterns are developed by shared adjustment. This notion highlights the idea that it may be beneficial from the start, to work with the entire family to stimulate systematic change. As an adolescent makes clinical improvements, it is highly likely to have an impact on the family system.

In fact, the importance of engaging the family is supported by the literature on traditional adolescent treatment outcomes. For example, research comparing Multidimensional Family Therapy (MDFT) with Cognitive Behavioral Therapy (CBT) and peer group therapy for adolescents in drug treatment found MDFT demonstrated higher effectiveness over 12-month follow-up in reducing substance use compared to the other forms of treatment (Liddle, Rowe, Dakof, Ungaro, & Henderson, 2009). In a similar study comparing CBT to MDFT, adolescents in the MDFT group were also more effective in maintaining changes over time in substance use problem severity, other drug use, and abstinence (Liddle, Dakof, Turner, Henderson & Greenbaum, 2008). In both studies, the MDFT group focused the intervention on family relationships as compared to changes in individual functioning obtained through the peer group work or CBT, hence addressing the system from which the negative behavior originated and/or are sustained is important.

In addition to these studies, Attachment-Based Family Therapy (ABFT) has been highlighted as another family therapy model effective in treating adolescents with mental health issues. Diamond et al. (2010) found that in a randomized controlled study of 66 adolescents, 12-17 years old, identified in primary care and emergency departments with suicidal ideation, ABFT was more successful than enhanced usual care in reducing suicidal ideation and depressive symptoms in adolescents. Siqueland, Rynn & Diamond (2005) found in a randomized study of 11 adolescents assigned to either CBT or CBT/ABFT groups, significant decreases in anxiety and depressive symptoms were reported by both the clinical evaluator and the adolescent with no significant differences by treatment. However, in the CBT/ABFT group, decreases in psychological control were found, whereas adolescents in CBT report increases in this factor. This may indicate that changes in the adolescents are better assimilated when the family participates in treatment as well; larger sample sizes are required to further validate these findings. Overall positive change was sustained through these integrated family approaches in these studies (Diamond et al., 2010; Liddle et al., 2008; Liddle et al., 2009; Siqueland et al., 2005). Based on these findings, the importance of family involvement in adolescent treatment is clear. Approaching the problem from a family systems perspective could also be applied in an OBH setting as a way of eliciting and sustaining adolescent clinical change within the system from where they come.

Although the research on family involvement in OBH is not prevalent, there are a few examples that shed light on this important aspect of treatment with adolescents in this setting. For example, both Aspen Achievement Academy (AAA) and a Midwest Community Mental Health Center (CMHC) have offered an auxiliary OBH family program in conjunction with standard care. Both program participant groups showed significant improvements on levels of family functioning from pretest to scores taken six weeks post discharge (Bandoroff & Scherer, 1994; McLendon, McLendon, Petr, Kapp & Mooradian, 2009). The 27 and 25 self-selecting participant families from AAA and the CMHC, respectively, showed greater improvements in family functioning than their informal comparison groups, who chose not to participate in the auxiliary portion of care (Bandoroff & Scherer, 1994; McLendon et al., 2009).

Harper and Russell (2008) conducted a mixed methods study with families who had an adolescent participate in one of two OBH programs that had components of family participation. The quantitative portion of the study with 132 adolescents and 85 parents found a trend toward improved family function in these programs. Congruent findings were also reported from families in the CMHC group that participated in auxiliary family work (McLendon et al., 2009). All groups reported learning new skills to effectively communicate when problems arose leading to their ability to maintain positive changes within the home (Bandoroff & Scherer, 1994; Harper & Russell, 2008; McLendon et al., 2009).

With these new skills of how to approach conflict by negotiating and expressing feelings, Harper and Russell (2008) pointed out that possible future family crisis could be averted. Specifically, non-participant families expressed a measurable amount of apprehension concerning the transition period and future of the family due to not having the skills to support their adolescent's changes (Bandoroff & Scherer, 1994). One of the four major themes found in Harper and Russell's (2008) research was that OBH provided a new beginning for the adolescent and their family, yet they were aware that more work still needed to be done. Harper and Russell (2008) concluded that after OBH experiences, adolescents were able to better recognize and understand family dysfunction. In the past, families may have circumvented argument with new skills; however adolescents were raising conversations that may be difficult for families to tackle if they were not also involved in treatment.

Despite these findings, most of the research on the impact of OBH on the family has included smaller samples from single program evaluations, and many were qualitative in nature. No research has specifically looked at quantitatively measuring how OBH impacts family functioning overall. In addition, little research has looked at the impact of OBH beyond functioning at discharge (Zelov et al., 2013). With evidence supporting the inclusion of families in the traditional treatment process of adolescents as an approach to increasing effectiveness when compared to adolescent-only interventions (Diamond & Siqueland, 2003; Kazdin & Whitley, 2003; Harper & Russell, 2008), it is important to establish further understanding of OBH's impact on family functioning and mental health functioning of youth across time. This study aimed to fill this gap in the literature by answering the following research questions:

1. How does mental health functioning, as measured by the Youth Outcomes Questionnaire (Y-OQ) and family functioning as measured by the Family Assessment Device (FAD), change for OBH youth participants from intake to discharge to six months post-discharge as reported by youth and their parents?
2. Are there differences across gender in changes in the Y-OQ and FAD over time as reported by youth and their parents?
3. Is there a relationship between youth's perception of change in Y-OQ and youth's perception of change in FAD?
4. Is there a relationship between parent's perception of youth change in Y-OQ and parent's perception of change in FAD?

OBH: THE IMPACT ON FAMILY FUNCTIONING

Methods

NATSAP PRN

For this study, client data was gathered from 17 participating wilderness therapy programs. The data collection originally started in 2007 from an initiative started by the National Association of Therapeutic Schools and Programs (NATSAP) in partnership with the University of New Hampshire (Young & Gass, 2008). This initiative is known as the NATSAP Practice Research Network (PRN) database. Zelov et al. (2013) describe the PRN as a cost-effective tool that provides outcome data used to indicate the successes and limitations of NATSAP programs as an industry group. Individual programs are also able to utilize the outcomes in order to receive credible and confidential feedback on the effectiveness of that particular program relative to other programs. The NATSAP PRN currently employs the Outcome Questionnaire Family of Instruments (OQ) (Burlingame et al., 2005; OQ Measures, 2011; Wells, Burlingame, & Rose, 2003).

Initially, programs were given the choice of administering either the Youth Outcomes Questionnaire (Y-OQ) 2.0 or the Y-OQ 30. Unlike the Y-OQ 2.0, the Y-OQ 30 does not have a differentiation of subscales but is a briefer version that provides a global index score of youth's behavioral and emotional distress (Burlingame et al., 2005; Wells et al., 2003). In July of 2010 all OBH programs transitioned to using only the Y-OQ 2.0 as it gives clinicians a more detailed picture of the clients clinical disposition across six domains of functioning including: interpersonal distress; somatic; interpersonal relations; critical items; social problems; and behavioral dysfunction (Burlingame et al., 2005). In 2012, the PRN decided to add the McMaster Family Assessment Device (FAD) as an additional measure to the current battery of measures.

Measures Used

The PRN gathers information from multiple sources and uses the Outcome Questionnaire Family of Instruments (OQ Measures, 2013). In this study, youth ages 11 to 19 and their mother and/or father filled out the Youth Outcomes Questionnaire (Y-OQ) 2.0 at intake, discharge and six months post-discharge to measure clinical dysfunction. The Y-OQ has been documented as an established valid and reliable measure (Holloway, 2004; Jones, 2004; Wells et al., 2003). Measuring a variety of behavioral and emotional issues, the Y-OQ 2.0 includes six subscales measuring: critical items, behavioral dysfunction, social problems, interpersonal relations, somatic distress, and interpersonal distress. In addition, a total score was calculated for each participant representing overall functioning. A Total Y-OQ score of 47 or higher represents marked dysfunction and is the clinical cut-off of the measure. In addition, decreases in Total scores of 18 or more can be considered reliable levels of clinical change [referred to as the Reliability Change Index (RCI) (OQ Measures, 2013)]. Similarly, clinical cutoffs and reliable change indices also exist for all six subscales.

In addition to using the YOQ 2.0, participants' and parents' perceptions of family functioning were evaluated using the FAD General Functioning (GF) scale at intake, discharge and six months post-discharge (Epstein, Baldwin, & Bishop, 1983). The FAD GF scale is a 12-item self-report questionnaire based on the McMaster Model of Family Functioning (MMFF). The GF scale is a representation of the entire 60-item questionnaire of the FAD and measures the overall level of family functioning. Kabacoff, Miller, Bishop, Epstein & Keitner (1990) noted that the FAD GF scale is highly correlated with other items, supporting it as a single index of family functioning. The FAD GF scale uses a four-point Likert-type response format (strongly agree, agree, disagree, and strongly disagree). According to Ryan, Epstein, Keitner, Miller, & Bishop (2005) a score of 2.00 or above indicates problematic family functioning with higher scores suggesting lower family functioning.

Sample

At intake, data were collected from 1389 youth entering into OBH programs participating in the NATSAP study. The majority of participants were male (*n* = 933, 67.8%) with the rest female (*n* = 433, 32.2%). The average age of participants was 16.3 years (*sd* = 1.2) ranging in age from 12 to 18 years. In terms of length of treatment, stays ranged from 6 days to 298 days with an average length of stay 71.6 days (*sd* = 26.2); however, less than 5% of the participants were in treatment for 40 days or less with most (90%) staying between 41 and 120 days. Limited ethnicity data were collected, but of the data known (*n* = 777), the majority of participants were Caucasian (*n* = 644, 82.9.2%). Thirty-two participants reported as Hispanic (4.1%), 21 as Asian (2.7%), 20 as African American (2.6%), 25 as Multi-Ethnic (3.2%) and 10 as Native American (1.3%). The rest reported as Mixed or Other races (3%). In terms of presenting issues, as with ethnicity, data were not reported on all 1389 youth; however, available data on the top three presenting issues reported at intake are presented in Table 1. As shown, the most common issues facing youth were alcohol and substance abuse issues (63.0%), depression and/or mood disorders (57.0%), oppositional issues (40.1%) and anxiety (37.8%) with most youth presenting with two or more predominant issues.

Table 1

Presenting Issues of Wilderness Participants (*N* = 865)*

Issue	*n*	%
Alcohol and Substance Abuse	545	63.0
Depression/Mood Disorder	493	57.0
Oppositional Defiant Disorder/ Conduct Disorder (ODD/CD)	347	40.1
Anxiety	323	37.3
Attention Issues (ADHD/ADD)	188	21.7
Trauma	143	16.5
Learning Disabilities	46	5.3
Autism	18	2.1
Other	430	49.7

* NOTE: 92.1% of participants had 2 or more presenting issues, 77.0% had 3 or more

Results

Changes in Y-OQ and FAD from Intake to 6 Months Post

To answer this study's first two research questions, a series of repeated measures ANOVA analyses were completed.

All youth data. Table 2 shows pre, post, and six months post discharge mean changes from youth self-reports on both the Y-OQ and FAD. On average, youth reported functioning above the Y-OQ clinical cut-offs suggesting significant dysfunction across all subscales and the Total Score at intake. At discharge and six months post-discharge, youth self-reported to be functioning below the clinical cut offs for Total Score and all subscales. In terms of the FAD at intake, on average all youth reported family functioning above 2.0 which reflects significant family distress; however, these means decreased at discharge and remained below 2.0 at six months post discharge. One way repeated measures ANOVA analyses revealed significant overall mean differences between intake, discharge and six months post –discharge for all youth as measured by the Y-OQ and the FAD ($p < .001$) with post hoc analyses that found significant mean differences between Y-OQ Total score, the Y-OQ subscale scores, and the FAD scores at intake and discharge. Post-hoc analyses also revealed significant mean differences between scores at intake and six month post-discharge; however, for all scores except the Intrapersonal Distress and Interpersonal Relations, no significant mean differences were found between discharge and six month post discharge, suggesting that these scores remained stable from discharge to six months post, with the expectation of Intrapersonal Distress and Interpersonal Relations. Despite the statistically significant increase from discharge to six months post discharge for Intrapersonal Distress and Interpersonal Relations, the mean at six months post discharge was still below the clinical cutoff of 17 points and 3 points respectively. As shown by the partial eta^2 values, 16.0% to 30.0% of the variance explained between the means is accounted for by time (See Table 2).

Youth data by gender. To investigate the role of gender in changes over time in youth self-report data, additional one way repeated measures ANOVA analyses were conducted for both males and females separately. As shown in Table 2, males in OBH programs, for the most part, reported Y-OQ intake scores above the clinical cut-offs, which then fell below these cut-offs at discharge and remain around those levels at six months post-discharge. Males reported FAD scores above 2.0 at intake,

Table 2
Youth Self Report Mean Scores at Admission, Discharge and Six Months Post Discharge

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	$M_{6mthpost}$(SD)	F	Partial Eta^2
Y-OQ 2.0 All Youth Self Report ($N = 148$)					
Total Score	**64.61** (34.6) ^{a,b}	33.28 (30.2) ^{a}	38.26 (33.2) ^{b}	61.84***	.30$^{\#}$
Critical Items	**8.18** (6.1) ^{a,b}	5.29 (5.1) ^{a}	4.98 (4.6) ^{b}	27.21***	.16$^{\#}$
Behavioral Dysfunction	**13.64** (7.4) ^{a,b}	8.72 (6.9) ^{a}	9.59 (7.3) ^{b}	33.89***	.19$^{\#}$
Social Problems	**7.17** (6.2) ^{a,b}	2.64 (4.9) ^{a}	2.71 (4.7) ^{b}	52.52***	.26$^{\#}$
Interpersonal Relations	**4.82** (5.8) ^{a,b}	0.76 (4.8) ^{a,c}	1.67 (5.4) ^{b,c}	33.91***	.19$^{\#}$
Somatic	**7.43** (5.1) ^{a,b}	4.45 (3.8) ^{a}	4.43 (4.3) ^{b}	43.88***	.23
Intrapersonal Distress	**23.36** (12.9) ^{a,b}	11.43 (10.4) ^{a,c}	14.89 (12.3) ^{b,c}	61.01***	.29$^{\#}$
FAD All Youth Self Report ($N = 84$)	2.41 (0.6) ^{a,b}	1.93 (0.5) ^{a}	1.98 (0.6) ^{b}	26.15***	.24
Y-OQ 2.0 Males Self Report ($n = 96$)					
Total Score	**57.83** (31.1) ^{a,b}	34.96 (31.2) ^{a}	37.07 (32.6) ^{b}	23.92***	.21$^{\#}$
Critical Items	**6.81** (5.4) ^{a,b}	5.10 (5.1) ^{a}	4.57 (4.6) ^{b}	8.18**	.08$^{\#}$
Behavioral Dysfunction	**12.56** (6.9) ^{a,b}	9.17 (7.2) ^{a}	9.81 (7.1) ^{b}	10.81***	.10
Social Problems	**7.01** (5.9) ^{a,b}	**3.24** (5.2) ^{a}	**3.01** (4.8) ^{b}	26.21***	.22
Interpersonal Relations	**4.16** (5.4) ^{a,b}	1.20 (5.1) ^{a}	1.85 (5.5) ^{b}	12.47***	.12
Somatic	**6.75** (4.6) ^{a,b}	4.49 (3.9) ^{a}	3.98 (3.8) ^{b}	22.63***	.19$^{\#}$
Intrapersonal Distress	**20.54** (11.7) ^{a,b}	11.76 (10.3) ^{a}	13.84 (12.0) ^{b}	22.28***	.19$^{\#}$
FAD Males Self report ($n = 55$)	2.28 (.55) ^{a,b}	2.01 (.54) ^{a}	1.99 (.56) ^{b}	8.02**	.13
Y-OQ 2.0 Females Self Report ($n = 51$)					
Total Score	**78.43** (36.6) ^{a,b}	30.63 (28.4) ^{a,c}	41.06 (33.3) ^{b,c}	48.62***	.49
Critical Items	**10.82** (6.6) ^{a,b}	5.67 (5.1) ^{a}	5.84 (4.6) ^{b}	25.88***	.34
Behavioral Dysfunction	**15.76** (7.8) ^{a,b}	7.90 (6.5) ^{a}	9.14 (7.7) ^{b}	30.64***	.38$^{\#}$
Social Problems	**7.65** (6.7) ^{a,b}	1.59 (4.1) ^{a}	2.20 (4.6) ^{b}	28.94***	.37
Interpersonal Relations	**6.25** (6.2) ^{a,b}	-0.04 (4.1) ^{a}	1.39 (5.3) ^{b}	26.88***	.35
Somatic	**8.80** (5.6) ^{a,b}	4.45 (3.7) ^{a}	5.33 (5.0) ^{b}	24.02***	.32
Intrapersonal Distress	**29.14** (13.1) ^{a,b}	11.06 (10.7) ^{a,c}	**17.16** (12.6) ^{b,c}	53.3***	.52
FAD Females Self report ($n = 29$)	2.67 (.61) ^{a,b}	1.76 (.48) ^{a}	1.97 (.74) ^{b}	24.67***	.47

$^{**}p < .01$, $^{***}p < .001$, $^{a\text{-}c}$ significant pairwise mean differences ($p < .05$)
Bold scores represent scores above the clinical cut-off as normed by Y-OQ instrument developers
# Indicates that sphericity was violated and that a Greenhouse-Geisser correction was used.

which decreased significantly at discharge, but remained above 2.0 and continued to fall at six months post-discharge (1.99). With-in subject ANOVA analyses for time revealed significant differences over time with 8.0 to 21.0% of the variances in means explained by time. The exception is in terms of Social Problems, males reported mean scores at discharge as well as six months post-charge above the clinical cut-off of 3.0; however they were still only at half the level of acuity as they were at intake. Pair wise post hoc comparisons showed significant differences between intake and discharge means for all Y-OQ scores and the FAD, as well as between intake and six months discharge. However, there were no significant mean differences between discharge and six months post discharge, suggesting changes remained stable from discharge to six months post discharge (See Table 2).

Similarly, as shown on Table 2 most females in OBH reported Y-OQ means above the clinical cut-offs at intake. It is important to note that females on average reported higher levels of dysfunction across all the Y-OQ scores compared to males. These scores then fell on average below the cut-offs at discharge with ANOVA analyses showing means changes over time considered statistically significant. Female YOQ scores remained fairly stable at six months post discharge with the exceptions of Total Score and Intrapersonal Distress changes. Although females reported significant improvements at discharge, their overall mental health functioning (Total Score) and Intrapersonal Distress was significantly higher at six months post discharge as shown by post-hoc comparisons. Despite this increase, Total scores were below the clinical cut off of 47 at discharge and at six months post discharge. Levels of Intrapersonal Distress did increase to be above the cut-off of 17; however, they were still over 10 points less than their level of acuity at intake. FAD scores for females were above 2.0 at intake suggesting problematic family dysfunction, but decreased at discharge and remained below 2.0 at six months post discharge as well. Post hoc analysis revealed that significant changes in FAD scores were only found between intake to discharge, and intake to six months follow up, that FAD scores, as reported by females, remained stable and below the level of significant family dysfunction.

Mother data for all youth. Mothers' reported mean scores for their youth across time are shown in Table 3. Repeated measures ANOVAs revealed significant differences between means across time for all measures. Similar to youth data, mothers reported their youth to have high levels of clinical dysfunction above the clinical cut-offs at intake as measured by the Y-OQ, which significantly decreased to levels below the clinical cut-offs at discharge; however, mothers reported across all Y-OQ measures that these changes did not remain at six months post-discharge with all Y-OQ means scores increasing to above the clinical cut-offs. Pair wise post hoc analyses revealed significant differences between intake and discharge and intake and six months post discharge, but also significant differences between discharge and six months post-discharge. It is important to note that intake scores were two times larger than six months post discharge scores. FAD improvements were also found and unlike the Y-OQ, these changes remained across time. According to the mothers' perspectives, however, signs of family dysfunction persisted across time with FAD scores remaining above 2.0. As shown by the partial eta^2 values, 36.0% to 58.0% of the variance explained between the means is accounted for by time for YOQ Total Scores and Sub Scales, and 11.0% for FAD (See Table 3).

Mother reports across gender. Mother reports for male and female youth were similar to their report for all youths in terms of Y-OQ changes. As shown in Table 3, both males and females were above the clinical cut-offs at intake, dropped below this level at discharge, and for the most part were considered by their mothers to be above the clinical cut-offs at the six month post discharge. Post hoc comparisons showed significant mean mental health functioning improvements between intake and discharge, and intake and six months post discharge but significant mean increases in scores from discharge to six months post. In the area of Critical Items and Somatic for males, mothers' reports indicated that these means significantly increase, though to levels still below the clinical cut-off.

FAD scores as reported by mothers showed high levels of family dysfunction at intake for both males and females, with improvements at discharge; however, the scores remained above 2.0. For mothers with female youth, the repeated measures ANOVA found no significant differences across time. For mothers with male youth, these differences across time were significant with pair wise post hoc comparisons showing significant mean differences between intake and discharge and intake and six months post-discharge.

Father data for all youth. Table 4 shows father reported means for scores across time for all youth as well as for male and female youth. Unlike mother reports, fathers did not report significant post six month regression across all means. For all youth, fathers reported significant mean decreases at discharge for all Y-OQ scores as shown by post hoc analyses, though youth's average Interpersonal Relations subscale score was still above the clinical cut off of 4.0 at discharge. At six months post-discharge, means for Total Score, Behavioral Dysfunction and Social Problems had significantly increased, though only Social Problems mean scores were above the clinical cut off at six months post-discharge, and all means were significantly decreased from intake mean scores. Intrapersonal Distress, Interpersonal Relations, Critical Items, and Somatic subscale means did not get significantly

Table 3
Mother Report Mean Scores at Admission, Discharge and 6 Months Post Discharge

	$M_{Admission}$ *(SD)*	$M_{Discharge}$ *(SD)*	$M_{6mthpost}$*(SD)*	*F*	*Partial Eta*^{2}
Y-OQ 2.0 Mother Report for All Youth (*N* = 203)					
Total	**97.76** (28.4) ^{a,b}	32.81 (32.2) ^{a,c}	**49.70** (37.7) ^{b,c}	277.29***	.58
Critical Items	**8.50** (5.1) ^{a,b}	3.27 (3.5) ^{a,c}	**4.76** (4.5) ^{b,c}	112.84***	.36#
Behavioral Dysfunction	**22.15** (7.1) ^{a,b}	8.58 (8.4) ^{a,c}	**12.85** (8.9) ^{b,c}	230.76***	.53
Social Problems	**12.27** (5.8) ^{a,b}	1.96 (4.2) ^{a,c}	**4.69** (5.6) ^{b,c}	237.81***	.54
Interpersonal Relations	**15.06** (5.9) ^{a,b}	3.14 (6.3) ^{a,c}	**5.86** (7.5) ^{b,c}	245.29***	.55
Somatic	**7.92** (4.9) ^{a,b}	3.00 (3.5) ^{a,c}	4.09 (4.0) ^{b,c}	130.88***	.39
Intrapersonal Distress	**31.86** (10.4) ^{a,b}	12.87 (11.7) ^{a,c}	**17.46** (12.9) ^{b,c}	198.19***	.50
FAD Mother Report for All Youth (*N* = 110)	2.28 (.44) ^{a,b}	2.09 (.47) ^{a}	2.08 (.52) ^{b}	13.42***	.11
Y-OQ 2.0 Mother Report for Males (*n* = 156)					
Total Score	**95.23** (26.4) ^{a,b}	33.46 (31.9) ^{a,c}	**48.63** (36.08) ^{b,c}	205.81***	.57
Critical Items	**8.02** (4.8) ^{a,b}	3.30(3.6) ^{a,c}	4.58 (4.5) ^{b,c}	73.64***	.32#
Behavioral Dysfunction	**22.06**(6.9) ^{a,b}	9.03 (8.3) ^{a,c}	**12.86** (8.8) ^{b,c}	173.29***	.52
Social Problems	**11.95** (5.6) ^{a,b}	2.09 (4.2) ^{a,c}	**4.77** (5.6) ^{b,c}	170.49***	.52
Interpersonal Relations	**14.69** (5.4) ^{a,b}	3.34 (6.3) ^{a,c}	**5.83** (7.4) ^{b,c}	178.28***	.54
Somatic	**7.29** (4.6) ^{a,b}	2.72 (3.4) ^{a,c}	3.66 (3.6) ^{b,c}	89.31***	.37
Intrapersonal Distress	**31.22** (10.3) ^{a,b}	12.98 (11.8) ^{a,c}	**16.94** (12.5) ^{b,c}	143.44***	.48
FAD Mother Report with Male Child (*n* = 87)	2.28 (.44) ^{a,b}	2.09 (.45) ^{a}	2.05 (.51) ^{b}	14.19**	.14
Y-OQ 2.0 Mother Report for Females (*n* = 44)					
Total Score	**107.82** (33.8) ^{a,b}	29.91 (34.21) ^{a,c}	**53.95** (44.22) ^{b,c}	69.99***	.62
Critical Items	**10.48** (5.8) ^{a,b}	3.16 (3.1) ^{a,c}	**5.57** (5.0) ^{b,c}	43.24***	.50
Behavioral Dysfunction	**22.59** (7.8) ^{a,b}	6.75 (8.9) ^{a,c}	**12.82** (9.7) ^{b,c}	55.56***	.56
Social Problems	**13.36** (6.7) ^{a,b}	1.52 (4.6) ^{a,c}	**4.66** (5.9) ^{b,c}	63.58***	.60
Interpersonal Relations	**16.43** (7.7) ^{a,b}	2.25 (6.3) ^{a,c}	**5.95** (8.4) ^{b,c}	63.40***	.60
Somatic	**10.36** (5.2) ^{a,b}	4.02 (4.3) ^{a,c}	**5.73** (4.8) ^{b,c}	43.30***	.50
Intrapersonal Distress	**34.59** (10.4) ^{a,b}	12.20 (11.5) ^{a,c}	**19.23** (14.6) ^{b,c}	55.22***	.56
FAD Mother Report with Female Child (*n* = 23)	2.29 (.47)	2.01 (.56)	2.20 (.61)	2.36	.11

$^{**}p < .01$, $^{***}p < .001$, $^{a\text{-}c}$ significant pairwise mean differences ($p < .05$)
Bold scores represent scores above the clinical cut-off as normed by instrument developers
# Indicates that sphericity was violated and that a Greenhouse-Geisser correction was used.

worse from discharge to six months post-discharge; however, Intrapersonal Distress and Interpersonal Relations subscale mean scores increased above the clinical cut-off.

Fathers reported no significant improvements in family functioning on the FAD from intake to discharge. At six months post discharge, there was significant improvements in family functioning compared to both intake and discharge scores as shown by post hoc analyses. The total FAD score still remained above 2.0, suggesting continuing family dysfunction as perceived by fathers. As shown by the partial eta^2 values, 32.0% to 51.0% of the variance explained between the means is accounted for by time for YOQ Total Scores and Sub Scales, and 13% to 37% for FAD (See Table 4).

Table 4

Father Report Mean Scores at Admission, Discharge and 6 Months Post Discharge

	$M_{Admission}$ (*SD*)	$M_{Discharge}$ (*SD*)	$M_{6mthpost}$(*SD*)	*F*	*Partial Eta*^{2}
Y-OQ 2.0 Father Report for All Youth (*N* = 85)					
Total Score	**89.59** (30.0) ^{a,b}	39.07 (32.4) ^{a,c}	46.36 (36.8) ^{b,c}	88.60***	.51$^{\#}$
Critical Items	**7.53** (3.9) ^{a,b}	3.91 (3.3) ^{a}	4.44 (4.0) ^{b}	39.20***	.32$^{\#}$
Behavioral Dysfunction	**20.64** (7.7) ^{a,b}	9.62 (8.5) ^{a,c}	11.60 (8.8) ^{b,c}	79.49***	.49$^{\#}$
Social Problems	**11.28** (5.6) ^{a,b}	2.93 (5.7) ^{a,c}	**4.26** (5.9) ^{b,c}	73.53***	.47$^{\#}$
Interpersonal Relations	**13.18** (6.6) ^{a,b}	**4.29** (6.4) ^{a}	**5.05** (7.3) ^{b}	70.34***	.46$^{\#}$
Somatic	**6.92** (4.4) ^{a,b}	3.67 (3.4) ^{a}	3.89 (3.5) ^{b}	39.60***	.32$^{\#}$
Intrapersonal Distress	**30.05** (10.4) ^{a,b}	14.65 (11.0) ^{a}	**17.13** (12.2) ^{b}	66.23***	.44$^{\#}$
FAD Father Report (*N* = 50)	2.15 (0.4) ^{b}	2.16 (0.5) ^{c}	2.01 (0.5) ^{b,c}	3.01*	.06
Y-OQ 2.0 Father Report for Males (*n* = 66)					
Total Score	**89.38** (27.6) ^{a,b}	35.88 (31.6) ^{a,c}	43.48 (36.3) ^{b,c}	86.04***	.57$^{\#}$
Critical Items	**7.24** (4.0) ^{a,b}	3.48 (3.1) ^{a}	3.88 (3.5) ^{b}	37.15***	.36$^{\#}$
Behavioral Dysfunction	**20.83** (7.2) ^{a,b}	9.06 (8.4) ^{a,c}	11.56 (9.1) ^{b,c}	72.68***	.53$^{\#}$
Social Problems	**11.65** (5.1) ^{a,b}	2.47 (4.2) ^{a,c}	**3.95** (5.9) ^{b,c}	75.21***	..54$^{\#}$
Interpersonal Relations	**13.39** (5.8) ^{a,b}	3.94 (6.3) ^{a}	**4.71** (7.4) ^{b}	69.06***	.52$^{\#}$
Somatic	**6.59** (4.4) ^{a,b}	3.02 (3.0) ^{a}	3.47 (2.9) ^{b}	41.78***	.39$^{\#}$
Intrapersonal Distress	**29.67** (10.2) ^{a,b}	13.91 (11.0) ^{a}	15.91 (12.2) ^{b}	58.76***	.48$^{\#}$
FAD Father Report with Male Child (*n* = 44)	2.17 (0.4) ^{b}	2.17 (0.5) ^{c}	1.99 (0.5) ^{b,c}	3.98*	.09
Y-OQ 2.0 Father Report for Females (*n* = 19)					
Total Score	**89.11** (39.1) ^{a,b}	**49.06** (34.0) ^{a}	**52.39** (34.7) ^{b}	9.10**	.35
Critical Items	**8.22** (3.7) $^{a, b}$	5.00 (3.3) ^{a}	**5.67** (4.3) ^{b}	4.80*	.22
Behavioral Dysfunction	**19.72** (9.9) ^{a,b}	11.72 (9.2) ^{a}	11.28 (7.9) ^{b}	9.23**	.35
Social Problems	**10.22** (7.2) ^{a,b}	**4.78** (5.9) $^{a.}$	**5.06** (6.1) ^{b,}	5.94**	.26
Interpersonal Relations	**12.11** (9.2) ^{a,b}	**5.61** (7.3) ^{a}	**5.61** (6.6) ^{b}	6.44**	.72
Somatic	**7.83** (4.3) ^{b}	**5.44** (3.2)	4.78 (4.2) ^{b}	4.28*	.20
Intrapersonal Distress	**31.00** (11.4) ^{a,b}	**16.50** (10.6) ^{a}	**20.00** (10.1) ^{b}	9.44**	.36
FAD Father Report with Female Child (*n* = 6)	1.97 (0.4) ^{a,b}	2.10 (0.4) ^{a}	2.17 (0.5) ^{b}	1.91	.28

$*p < .05, **p < .01, ***p < .001$, $^{a\text{-}c}$ significant pairwise mean differences ($p < .05$)

Bold scores represent scores above the clinical cut-off as normed by instrument developers

\# Indicates that sphericity was violated and that a Greenhouse-Geisser correction was used.

Father data across genders. Also as shown on Table 4, father reports for their male and female children show some notable differences. According to fathers' reports for females, Total Y-OQ scores, and subscales of Interpersonal Relations, Intrapersonal Distress, and Social Problems decreased significantly at discharge and did not get significantly worse at six months post-discharge, but remained above the clinical cut-off throughout the study. Despite female youth's scores remaining above the clinical cut-off as reported by fathers, the decrease in mean scores from intake to discharge was significant for Y-OQ total score as well as all subscales except Somatic, and for total score and all subscales from intake to six months post-discharge. Fathers did not report any significant mean increases from discharge to six months post-discharge.

For male children, fathers reported that youth significantly improved at discharge to levels below the clinical cut offs in Total Y-OQ score and all subscales, yet unlike the father reports for female youth, these scores were significantly higher six months post discharge for the Total score, Behavioral Dysfunction, and Social Problems subscales with a level of Social Problems that was back above the clinical cut off at six months post discharge. Interpersonal Relations also regressed above the clinical cutoff from discharge to six months post discharge, but post hoc analysis did not find this change to be significant.

Differences between male and female FAD scores as reported by fathers are interesting in that for female youth, father's reported more significantly higher mean family dysfunction at discharge, than at intake, and increased dysfunction at six months post discharge that was also significantly different from intake as shown by post hoc analyses. In contrast, for male youth, fathers report no significant mean difference in FAD scores from intake to discharge, but significant improvements in terms of family functioning at six months post discharge. With the exception of mean FAD score for males at six months post discharge (1.99), and female mean FAD score at intake (1.97), all means are above the clinical cut-off of 2.0 as reported by fathers.

Predictors of Changes in Family Functioning

To answer the last two research questions, linear regression analyses were performed. Yet, before running the regression analyses, correlation analyses were performed to explore the relationships between the variables and inspect for issues of multicollinearity. As shown in Table 5, there were several significant correlations between the variables. Age was significantly negatively correlated with lengths of treatment. Gender was positively significantly correlated with Youth Y-OQ Total change, Youth FAD change, and Mother YOQ Total reported change suggesting that females had larger changes than males. Y-OQ Total youth change was also significantly positively correlated with Youth FAD change and Mother Y-OQ Total score reported changes, hence as YOQ improvements increased so did family functioning and mother's perceptions of youth functioning. Youth FAD change was significantly positively correlated with Mother Y-OQ total change, Mother FAD change, Father Y-OQ Total reported change and Father FAD Change. Similarly Mother FAD change was significantly correlated with Mother Y-OQ Total reported change, Father Y-OQ change and Father FAD change. Father FAD change was also significantly positively correlated with Father Y-OQ Total reported change. It is worth highlighting that mother YOQ total change score and mother FAD change score, father YOQ total change score and father FAD change score, and youth YOQ total change and FAD change score are each positively correlated ($p < .001$) indicating that as perceived functioning of the youth in treatment increases, family functioning as perceived by that individual; whether youth, mother, or father; also increases.

Multiple regression analyses were performed looking at how improvements in youth functioning impacted family functioning as measured by the FAD. Table 6 shows predictors of FAD improvement as reported by youth. In Table 6 Model 1 includes only youth data and according to youth, both length of treatment and YOQ Total change were predictors of FAD improvement. Shorter treatment lengths predicted larger FAD improvements, as did larger YOQ improvements. Model 2 looks at youth and mother data and finds that in addition to youth Y-OQ total score change, both mother Y-OQ total score change and mother reported FAD change were significant predictors of FAD change as reported by the youth; however in Model 3 neither Father's report of Y-OQ change in the youth or father's perception of change in family functioning were related to youth's reported FAD change. In addition, across the models less than 15% of the variance in FAD change as reported by youth can be accounted for by the independent variables as reflected by the Adjusted R^2 statistics (See Table 6).

Table 5
Correlations Table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
(1) Age	1								
(2) Gender (Male = 0)	-.04	1							
(3) Length of Treatment	-.12***	-.04	1						
(4)Youth YOQ Total Change	.05	.14***	-.04	1					
(5)Youth FAD Change	.03	.16***	-.08*	.35***	1				
(6) Mother YOQ Total Change	-.01	.13**	.01	.19***	.22***	1			
(7) Mother FAD Change	-.06	.05	-.08	.03	.21***	.32***	1		
(8) Father YOQ Total Change	-.05	.06	-.04	.12	.22**	.48***	.27**	1	
(9) Father FAD Change	-.05	.01	.06	-.01	.19**	.18	.34**	.37***	1

**p* < .05, ***p* < .01, ****p* < .001

Table 6
Predictors of FAD Improvement as Reported by Youth

Independent Variables	Model 1 β (*N* = 1014)	Model 2 β (*N* = 384)	Model 3 β (*N* = 196)
Gender (Male = 0)	.106	.014	-.011
Age	.011	.030	-.033
Length of Treatment	-.071*	.025	.044
YOQ Total Score Change Youth	.332***	.306***	.305***
YOQ Total Score Change Mother		.107*	
FAD Change Mother		.163**	
YOQ Total Score Change Father			.139
FAD Change Father			.127
R^2 (adjusted R^2)	.140 (.137)	.158 (.145)	.148 (.121)
F	41.17***	11.80***	5.47***

**p* < .05, ***p* < .01, ****p* < .001

The study was also interested in what predicted mothers' and fathers' perceptions of changes in family functioning as measured by the FAD. Table 7 looks at the mother data and shows that mothers' reported mean change in Y-OQ total scores for youth predicted their reported FAD changes. As youth improved as reported through their Y-OQ reports, so did family functioning. In addition, youth self-reported Y-OQ total score change was a significant predictor of mothers' mean change in FAD. Specifically, as youth reported improvement in the Y-OQ, mothers' perceptions of family functioning also increased. Table 8, shows the predictors of changes in family functioning as reported by fathers in the study. The only significant predictor of FAD change was fathers' mean Y-OQ total change in youth. Despite these findings in both Table 7 and Table 8, less than 12% of the variance in FAD change as reported by parents can be accounted for by the independent variables as shown by the Adjusted R^2 scores.

Table 7
Predictors of FAD Improvement as Reported by Mothers

Independent Variables	**Model 1** β **(N = 486)**	**Model 2** β **(N = 384)**
Gender (Male = 0)	.008	.023
Age	-.064	-.058
Length of Treatment	.058	.076
YOQ Total Score Change Mother	.271***	.288***
YOQ Total Score Change Youth		.168**
FAD Change Youth		-.099
R^2 (adjusted R^2)	.082 (.074)	.131 (.118)
F	10.78***	9.51***

**p <.01, ***p < .001

Table 8
Predictors of FAD Improvement as Reported by Fathers

Independent Variables	**Model 1** β **(N = 250)**	**Model 2** β **(N =196)**
Gender (Male = 0)	.004	-.007
Age	.032	-.012
Length of Treatment	.022	.068
YOQ Total Score Change Father	.340***	.339***
YOQ Total Score Change Youth		.127
FAD Change Youth		-.084
R^2 (adjusted R^2)	.116 (.101)	.148 (.121)
F	7.99***	5.49***

**p <.01, ***p < .001

Discussion

Before discussing the findings from this study, it is important to highlight one of its major limitations. While this is the first study to look at the impact of OBH programming on overall psychological functioning as well as family functioning with a longitudinal design using data from the NATSAP PRN, this longitudinal approach greatly reduced the sample size due to a shortage of follow up data. Consequently, participant and parent attrition at six months post discharge significantly limits the ability to generalize outcomes at six months post discharge. While 1,014 youth had pre and post matched pairs of data, only 14.6% of those pairs had data for six months post discharge. Therefore, caution should be taken in considering these findings as representative of the larger population of OBH participants and their parents since the attrition was over 85%.

Y-OQ Changes over Time

The first research question asked how mental health functioning and family functioning changed for OBH adolescent participants from intake, to discharge, to six months post-discharge as reported by youth and their parents. In addition, a second research question was interested in whether there were differences by gender in changes across time.

Youth Y-OQ changes over time. In terms of the Y-OQ changes, youth self-reported overall improvements across all the Y-OQ scores, which were below the clinical cut-offs at discharge and remained at levels below the clinical cut-off or within the normative range of functioning at six months discharge. This is similar to previous findings, which showed youth in OBH programs reporting sustained changes after discharge (Bettmann et al., 2012; Lewis, 2012; Zelov et al., 2013). Lewis (2012) looked at the impact of OBH programs on disruptive behavior disorder symptoms as well as substance abuse and dependence symptoms in 166 youth and found that youth reported significant improvements at discharge, changes that were maintained both at three months and twelve months post discharge. Previous studies have also used the Y-OQ and found similarly that youth at discharge self-reported significant improvements with scores below the clinical cut-offs, which were maintained at six months post discharge (Bettmann et al., 2013; Zelov et al., 2013). Both of these studies however had smaller sample sizes (41 and 98, respectively) than this current study, hence this study builds upon this previous literature suggesting that OBH positively impacts the overall functioning as reported by youth in this study and that these changes were maintained over time.

In terms of gender differences across time as measured by the Y-OQ, female youth self-report higher levels of dysfunction at intake in comparison to their male peers across all of the Y-OQ scores. However, at discharge, female and male youth report functioning at a similar levels. Tucker et al. (2011) similarly found females to be more acute at intake, and then reported similar levels of psychological functioning as males at discharge, as measured by the Y-OQ. Similar to Zelov et al. (2013), on average change was maintained at six months post discharge as reported by youth except in two areas. In this study, females at six months post discharge had significantly larger scores for Intrapersonal Distress since discharge, and males seem to still report levels of possible concern in Social Problems at six months post discharge, which did improve since discharge (See Table 2). However, the score for males' Social Problems and females' Intrapersonal Distress were not far above but essentially at the clinical cut-off level of 3 for Social Problems and 17 for Intrapersonal Distress. It is also important to note however, that these levels are far below the levels at which youth entered OBH treatment; hence these scores do not show regression to baseline functioning in the youth in this study. From the perspective of youth in this study, on average, youth maintained positive healthy functioning six months after treatment.

Mother and father Y-OQ changes over time. As seen in Tables 3 and 4, as compared to youth Y-OQ self-reports, mothers and fathers perceived their children as more dysfunctional at intake with mothers reporting females more acute than males. While fathers reported higher levels of dysfunction at intake compared to youth reports, their reports did not show any gender differences at intake in that level of dysfunction. This finding is consistent with other studies exploring differences between youth and parental reports of mental health functioning at intake and discharge. Tucker et al. (2011) and Russell (2003) found that parents reported higher levels of dysfunction than youth at intake, as measured by YOQ. "Based on this, it appears common for parents to see youth as more acute than they view themselves. This was not surprising considering in many instances parents played a key role in youth attending these programs, due to their concern for their child and their behaviors" (Tucker et al., 2011, p. 22). Many times youth who attend OBH programs are transported to the program against their will or without knowledge as to where they are going. These findings build upon other research suggesting how acute these youth are in their parents' eyes which helps to understand why parents may feel that transport is the last viable option (Tucker, Bettmann, Norton, & Comart, 2015).

At discharge, youth and their mothers seem to be aligned regardless of gender, yet it seems that fathers reported less improvement in their youth at discharge. However when looking more in depth at gender differences, these differences in fathers' reports seem to stem from their poorer ratings of females. Fathers of female clients report their daughters to be functioning not below the clinical cut off like mother and youth reports, but above the clinical cut off levels at discharge for four out of the six Y-OQ measures (see Table 4). This was not the same for fathers of male participants who reported similar improvements for their sons compared to mother and youth reports.

At six months post discharge, this pattern changed. While mothers reported significant improvements for youth at discharge regardless of gender, at six months post-discharge mothers with male children as well as mothers with female children reported regression as measured in the Y-OQ. Mothers of female youth reported significant regression in functioning across all the Y-OQ measures and mothers of males across five of the seven Y-OQ measures. Fathers of females did not report significant

regression at six month post discharge, but maintained levels from discharge to post discharge. Still their daughters were functioning at clinical levels above the cut-offs in five out of seven areas. Hence mothers and fathers are more aligned at post-discharge in their views of their daughters.
Fathers of male participants however, did differ from mothers of male participants in their post-discharge reports. According to father reports, sons were functioning in the healthy range in all areas except Social Problems and Interpersonal Relations. Scores above the clinical cutoff suggest that fathers perceive youth to exhibit relational difficulties with family, adults and/or peers (cooperativeness, defiance, communication with others, etc.) as well as "breaking social morals" such as running away from home, truancy, substance use, sexual problems, and somatic symptoms (Burlingame, Wells, Lambert & Cox, 2004, p. 240). On the contrary, mothers with male participants only reported two areas (Critical Items, Somatic) of healthy functioning at discharge for their sons. This indicates that mothers perceived maintenance of improved clinical change related to somatic symptomology (headaches, nausea, dizziness, etc.) and critical items that would require professional clinical attention (hallucinations, suicidal ideation, mania, eating disorders, etc.) for male youth at six months post discharge (Burlingame, Wells, Lambert & Cox, 2004). This discrepancy suggests that this sample of mothers perceive youth to be at a higher level of clinical dysfunction than that perceived by fathers. In addition, parent reports are quite different than youth reports at six month post-discharge, who reported general maintenance of change.

It is unclear why there are such large discrepancies between youth, mothers, and fathers especially in terms of long term clinical change. What is interesting is that previous research has consistently found females to do better than males in OBH programs (Magle-Haberek et al., 2012; Tucker et al., 2011; Tucker et al., 2014) however when parents are included in the research, these differences as shown in this study do not seem to be present. In fact, at six months post discharge females, as reported by parents, are functioning worse than males on average, a finding not consistent in the female youth self-reports. Research suggests that discrepancies between parent and youth reports are not uncommon nor should they be seen as something that impacts a study's validity (Achenbach, McConaughy, & Howell, 1987). In fact, research shows that discrepancies across informants are consistent with the theory that aspects of youth behavior may not be the same across all environments. The different types of relationships adults have with youth may influence their perception and assessment of problem behaviors, and individual factors may have an impact on mental health assessment (Achenbach et al., 1987).

Generally speaking, as youth progress through adolescence, they spend less time with their parents and more time outside of the home. As a result, the symptom ratings of parents with older children may be based on less actual contact time with the youth, which may lead to a skewed assessment (Tarullo & Richardson, 1995). In addition, research has shown there to be gender-based differences in assessment with daughters showing greater discrepancies with parents than sons (Carlston & Ogles, 2009). This was especially evident in this study where both fathers and mothers reported more significant differences than their daughters in terms of functioning at six months post-discharge. Reasons for this are unclear; however it has been suggested that females may exhibit more internalizing symptoms which are harder to see and report while males may exhibit more externalizing behaviors which are more visible for parents to report (Kolko & Kazdin, 1993; Schroeder, Hood, & Hughes, 2010; van der Ende et al., 2012). To fully understand the reason for these discrepancies more research is needed with larger sample sizes to know if these are true differences between youth and their parents or more due to sampling error and the effect of attrition.

FAD Changes

In terms of the FAD changes, overall it appears that youth reported high levels of family dysfunction at intake with significantly lower levels at discharge and post-discharge; however, there were clear differences across genders in terms of family functioning. Females reported a higher level of family dysfunction than males at intake, which significantly decreased at discharge, and increased at six months post discharge, though remained just below the clinical cut-off of two. Males reported lower FAD scores than females at intake, which significantly decreased at discharge but remained at a problematic level of family functioning, and remained stable at six months post discharge. These findings suggest that at six months post discharge all families, according to youth and regardless of gender, were still at levels close to being of concern.

Mother FAD scores, regardless of gender, suggest that mothers perceived an improvement in family functioning from intake to discharge yet these scores remained problematic above 2.0 at discharge and post discharge. Mother reported FAD scores show an alignment between perceptions of change in family functioning between mothers and their male youth in treatment, as well as mothers and their female youth in treatment. Both mothers and daughters indicate high levels of family dysfunction at intake, decreases at discharge, and increases at six months post discharge. Both mothers and sons in OBH treatment report family functioning above the clinical cut off at intake, decreases at discharge that remain at or minimally above the clinical cutoff, and very minimal decreases at six months post discharge that remain hovering just above the clinical cut-off for mothers and just below for male youth. The main difference is that mothers of female youth reported much higher levels of family dysfunction in their female children at six months post discharge (2.20 compared to 1.97).

Fathers reported a minimal increase in FAD scores from intake (2.15) to discharge (2.16) indicating no change in family functioning as a result of OBH treatment. A different picture appears when looking at these findings by gender. Fathers of male participants reported no change in FAD scores from intake to discharge suggesting that fathers perceived no impact on family functioning upon discharge of their sons from OBH programming and that family functioning remained at a problematic level. At six months post discharge, fathers reported an improvement in family functioning as indicated by a decreased FAD score at six months post discharge to one-hundredth of a point below the clinical cut-off (1.99). For female youth, fathers reported FAD scores at intake both lower than males and below 2.0, indicating a healthy level of family functioning at intake. At discharge, fathers reported FAD score increased to a problematic level of family functioning (2.10), and further increased at six months post discharge (2.17). These scores indicate fathers' perception of deterioration in family functioning following their daughters' participation in OBH programming. This perception by fathers is similar to mothers in that all scores following OBH treatment remain above 2.0; however, both mothers and female youth perceive a statistically significant improvement in family functioning as reported by FAD scores from intake to discharge as well as from intake to six months post discharge, whereas fathers perceive a statistically significant deterioration in family functioning from intake to discharge and intake to six months post discharge.

This study indicates that greater attention is needed to support families as youth transition out of OBH treatment. These findings are similar to other research which shows that changes and improvements in mental health functioning do not necessarily transfer to increases in family cohesion or functioning (Harper, Russell, Cooley & Cupples, 2007). It is unclear the nature of these discrepancies between youth and parents, especially fathers. It could be that fathers truly did perceive OBH programming to have no impact on the family system. Conversely, perhaps fathers developed an increased awareness of family functioning as a result of OBH treatment, which may have brought issues of family functioning to the surface through family work increasing their understanding of the true level of functioning in the family. A limitation of this study is that data does not reveal if the youth within this sample transitioned home or to another level of care, and therefore does not consider how post discharge placement outside of the home might impact FAD scores at six months post discharge. Family functioning could be seen radically different depending on if the child was at home or at another program not living with parents. Harper et al. (2007) stress how transition planning and aftercare services are "critical" to retain the positive improvements of intermediate programs like OBH and OBH programs should "invest available resources to enhance the capacity of families to maintain emotional and behavioral change initiated during the intervention" (p. 126).

Finally, both mother and youth reports indicate that the trajectory of change in family functioning as measured by the FAD is quite different for families with male youth in treatment as opposed to families with female youth in OBH treatment. Given these different patterns in changes in family functioning by gender, particularly a noticeable decline in family functioning in families of female youth at six months post discharge as perceived by mothers, youth, and fathers alike, it seems critical to further examine differences in gender in the treatment process not only in individual therapy, but also in the therapeutic approach with the family. While prior research has illuminated differences by gender in individual outcomes in OBH treatment (Magle-Haberek et al., 2012; Tucker et al., 2011; Tucker et al., 2014), the difference in changes in family function by gender indicates that the therapeutic approach must take gender into account not only in individual treatment, but also in family treatment both during OBH treatment and in aftercare considerations and recommendations.

Predictors of Change in Family Functioning

Predictors of change in family functioning that emerge from this analysis show some compelling differences in perceptions between youth, mothers, and fathers. It is important to note that unlike our previous analysis of change at three points of time, our regression analysis looked only at changes between intake and discharge; hence our issues of attrition were minimized. In fact, parents of 580 of the 1014 youth for which we have intake and discharge data provided discharge data on their children (57.2%); giving us a better picture of the relationship between parent and youth perspectives at least up until discharge from OBH programs.

Predictors of FAD improvement at discharge as reported by youth include length of treatment, YOQ total score changes per youth, YOQ total score changes per mothers, and FAD score changes per mothers. Fathers' reported perception of YOQ total change and FAD change are not predictors of youth perceived FAD improvement. Predictors of FAD improvement as reported by mothers include YOQ total score change per mother and per youth, while the only predictor of FAD improvement as reported by fathers is YOQ total score change per fathers. For mothers, fathers, and youth, their self-reported perception of YOQ total change predict their self-reported perception of FAD change, indicating that as the father, mother, or youth observe positive changes in the youth's individual functioning, improvements in family functioning will also be observed. This is supported by previous research which has found family functioning and mental health symptomologies are linked. Rawatalal, Kliewer and Pilljay (2015) investigated the link between depressive symptoms in adolescents and perceived family functioning and found that higher levels of youth reported family dysfunction were associated with depressive symptoms in youth. In this study, parents' perspectives also revealed an association between higher levels of parent reported family dysfunction and higher levels of internalizing symptoms in youth.

Despite this, parents and youth do not necessarily align in their views of changes in family functioning. For example, youth reported YOQ change, and not youth reported FAD change, predicted mothers' reported FAD change. For fathers, neither youth reported FAD change nor youth reported YOQ total change predicted FAD improvement from the perspective of fathers. Thus, in practice, parents and youth may feel very differently about changes in functioning within the family system as well as experience changes differently. It is critical to note that across the models less than 15% of the variance in FAD change as reported by youth and less than 12% of the variance in FAD change as reported by mothers and fathers can be accounted for by the independent variables. Hence, change in the family system is quite complex, and there are other remaining unexplained factors that influence changes in family functioning. It seems that youth and mothers' perceptions of family change are more likely to be aligned than youth and fathers. This difference calls for much needed further investigation into the role of fathers in family systems prior to and up to intake as well as the ways in which OBH therapists engage fathers throughout the treatment process. Further research is needed to better understand how fathers are engaged in the process and how that can relate to youth improvements and increased family functioning.

Additionally, the fact that shorter treatment length was a predictor of youth reported FAD improvement calls into question the potential for longer treatment length to pose an obstacle to improved family functioning. Given that length of treatment is not a predictor of FAD improvement per mothers' and fathers' reports, one possible explanation for this might be that a longer period of time apart from parents could leave youth feeling disconnected from their parent(s), particularly after going through such an intensive experience as an OBH program. In fact, previous research on OBH has found it to negatively impact the youth – parent attachment, even though youth reported significant mental health improvements post OBH participation (Bettmann & Tucker, 2011). In Bettmann and Tucker's study (2011) OBH youth perceived their mothers and fathers to be significantly less sensitive and responsive to their emotional states and youth were less trusting by the end of treatment that parents would understand their needs and desires (Bettmann & Tucker, 2011). In our study, we did not compare transported and non-transported youth; however, this too may add to the level of disconnect youth may feel from their parents. In contrast, for parents, a youth's time in an OBH program may provide a respite from the mounting stressors of parenting a child with significant behavioral and/or mental health challenges (Harper & Russell, 2008) which may impact their own perspectives of family functioning differently than youth. Clearly more research is needed in this area.

Finally, when discussing changes in family functioning, it is important to highlight the diversity in the ways that families are engaged in OBH programs. Russell, Gillis, & Lewis (2008) found that OBH programs involve families on different levels through family sessions, psycho-educational family groups, parent/family support groups, parent seminars, and online support services; however, these vary by program without any clear model of family engagement. This study looked uniformly at all programs without addressing programmatic differences in family therapy and the ways families are engaged in the OBH treatment process. Further research is needed to address the differential impacts of programmatic differences in family involvement including the dosage of family therapy, medium (telephone, in person, letter writing, etc.), timing within the treatment process, and style and focus of family therapy sessions. These differences would logically impact family functioning differently; hence future research is needed to look in more depth at how family is used and how different types of family engagement impact both family functioning as well as youth mental health improvements. In fact, strong working alliances between parents and clinicians may be key to long term maintenance of change for youth (Harper et al., 2007) and engaging the family while youth are in out of home care is significantly related to increased positive long term outcomes for youth (Nickerson, Brooks, Colby, Rickert, & Salamone, 2006). Hence, not only understanding OBH's engagement with family but finding ways to intentionally bolster this alliance and make the family a larger focus in OBH programs could be crucial for promoting lasting change in youth participants and their families (Tucker, Widmer, Faddis, Randolph, & Gass, in press).

Limitations and Next Steps

This study attempted to look at the impact of OBH on youth outcomes and family functioning as measured by youth, mothers and fathers, and despite some of its promising findings, it also has several limitations that are important to highlight. First, similar to other studies evaluating the impact of OBH programs, due to a lack of a comparable comparison group that did not receive OBH treatment, there are threats to the internal validity of the study. Put simply, our confidence that changes reported are due to the treatment and not other factors like events in youth's lives or maturation is limited. In addition, we did not look at the setting of youth at six months following OBH treatment and their engagement in treatment. Hence, in terms of measuring family functioning, we are unable to distinguish between lack of impact or negative impact of OBH treatment versus a heightened awareness to previously unseen dysfunction within the family system as a result of therapeutic work done in treatment by both youth and parents. Put together, these two limitations significantly cloud our ability to better understand the regression of family functioning as reported by the parents. Future research is needed perhaps with additional measures of family functioning in order to triangulate these findings as well as a qualitative exploration of how OBH impacts the family from the youth and parent perspective.

Finally, in an attempt to meet previous criticism of OBH research in its lack of longitudinal outcomes (Russell, 2003; 2005) this study investigated change over time for youth participants. Unfortunately, due to high attrition, this became a major limitation to our study. Russell (2003) highlights how longitudinal research with OBH participants can be difficult due to the likelihood that youth go on to other after care programs like therapeutic boarding schools and residential treatment centers; however, OBH programs must do a better job at collecting this data. At the program level, bolstering follow up data necessitates an intentional commitment of resources. There are multiple ways this may be possible for OBH programs. This can take the form of internally focused efforts, such as devoting personnel time to increasing research follow up. As shown by Massey and Hoag (2013), consistently getting follow up data involves time from programs dedicated with that as its sole focus. In addition, it may be possible to incentivize family participation in research studies. Finally programs may need to seek support from external research specialists, depending on the specific needs, capacities, and resources of the program. These efforts are critical to having a sufficient base of data on OBH for researchers to create meaningful analyses that can inform best practices towards better outcomes for youth and their families.

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Pushing Beyond Outcome: What Else Changes in Wilderness Therapy

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Abstract

The field of wilderness therapy has placed increasing importance on measuring effectiveness. Though studies demonstrate positive outcomes for adolescents, we lack representative samples, post-discharge data, and replication of positive results. This three-year study sought to measure outcomes and to identify mechanisms of change in wilderness therapy. We found statistically significant change from intake to discharge on the Youth Outcome Questionnaire® and on measures of hope, life effectiveness, and treatment expectancy. We discuss when change occurs as well as mechanisms of change, demographic differences, and critical lessons we learned about conducting research in a clinical setting.

Keywords: wilderness therapy, adolescents, residential treatment, outcomes

The practice of wilderness therapy has grown considerably over the last twenty years. As it has changed, the importance of measuring the effectiveness of this relatively new intervention has become apparent. The evolving industry of wilderness programs has come to be identified as Outdoor Behavioral Healthcare (OBH; Gass, Gillis, & Russell, 2012; Russell, Gillis, & Lewis, 2008). The eagerness of these programs to evaluate outcome as well as to collaborate and share best practices led to the formation in 1997 of the Outdoor Behavioral Healthcare Council and member programs now do outcome research as a way to demonstrate effectiveness (OBHC, 2013a). Additionally, the National Association of Therapeutic Schools and Programs (NATSAP) created a Research and Evaluation Network with the goal of evaluating the effectiveness of member programs. Participating programs contribute to a database that collects outcome data at intake, discharge and one year post-discharge. All members of the Outdoor Behavioral Healthcare Council contribute to this database as well. More recently OBHC has begun sponsoring a yearly symposium, the Wilderness Therapy Symposium. This symposium brings together a diverse group of clinicians, administrators, field guides, and researchers associated with wilderness therapy to focus on improving the practice of wilderness therapy (OBHC, 2013b).

The present study, which we started over six years ago, represents our first foray into outcome research with adolescents in a wilderness setting. We learned a great deal about designing and implementing a research agenda while simultaneously working clinically with a group of adolescents in the wilderness (Massey, Hoag, & Roberts, 2013). Client care was our first priority and as such our caseloads often took priority over conducting research. We experienced low response rates due to our failure to monitor or assist support staff in following through with administering the protocol. As busy clinicians, we did not invest in the day-to-day execution of the study. This study has several weaknesses, though it does represent a start in our outcome research program that has developed significantly over the last six to seven years. The intention of this paper is to both disseminate our results and to educate others about our process to hopefully continue raising the quality of research within OBH.

ISSN 2469-3030 online © 2016 Journal of Therapeutic Schools and Programs DOI: 10.19157/JTSP.issue.08.01.06

PUSHING BEYOND OUTCOME

A variety of wilderness therapy outcome studies have provided initial evidence of efficacy (Behrens, Santa, & Gass, 2010; Behrens & Satterfield, 2007; Hoag, Burlingame, Reedy, Parsons & Hallows, 1999; Hoag, Savicki & Burlingame, 2001; Lewis, 2007; Russell, 2003, 2005, 2007; Tucker, Zelov, & Young, 2011; Young & Gass, 2010). These studies have shown a sharp reduction in symptoms for adolescents during the time they are in wilderness therapy, as well as continued improvement in mental health over the course of the year following therapy. While symptoms fluctuate post-treatment, the mean scores do not return to pre-treatment levels and may even continue to show improvement two years after clients complete wilderness programs (Russell, 2005).

Despite these gains, OBH research lacks post-discharge data, methodological sophistication, and representative samples (Russell, 2007; Scott & Duerson, 2009; Tucker et al., 2011). Additionally, most studies can be simplistically summarized as assessing whether change occurred over the course of wilderness treatment. Given the paucity of outcome studies in wilderness treatment settings and the methodological shortcomings of those we have, the focus on outcome research is understandable. However, in approaching the present study we wanted to push beyond measuring outcome with adolescents in wilderness therapy; we wanted to assess what other variables might be contributing to the changes occurring with clients in wilderness therapy programs. Therefore, in addition to the Youth Outcome Questionnaire®, we chose questionnaires assessing hope, life effectiveness, and treatment expectancy. Each of the measures was selected to explore the mechanisms of change for youth in wilderness treatment.

Methods

We invited adolescent clients and their parents at a wilderness therapy program in southwest Utah to participate in this pilot study from December 2007 to December 2010. Each client worked with one of three primary therapists. To remain eligible for inclusion in the study, adolescents needed to complete five weeks of the program. Participants were asked to complete measures (Table 1) at intake, week 3, week 5, and discharge from the treatment program. Six months after discharge, participants were asked to complete the Y-OQ® 2.0 again. Due to attrition at the 6-month follow-up, we conducted another follow-up with a random sample of 30 participants one year after the study ended. This sample of clients discharged between one and four years prior to the follow-up; therefore, it is referred to as the "12-month plus follow-up".

Table 1
Description of Measures

Measure	Description
Youth Outcome Questionnaire® 2.01 (Y-OQ® 2.01)	The Y-OQ® 2.01 is a 64 item report completed by the parent or guardian. It measures treatment progress for children and adolescents (ages 4-17) receiving a mental health intervention, and tracks actual change in functioning (Burlingame et al., 2005).
Youth Outcome Questionnaire®-Self Report (Y-OQ® SR 2.0)	A self-report version of the Y-OQ® 2.01. It serves as an additional source of data in tracking treatment progress for adolescents ages 12-18 receiving mental health treatment (Wells, Burlingame, & Rose, 2003).
Life Effectiveness Questionnaire (LEQ)	A self-report instrument measuring the effects of experiential education and the extent to which a person's actions, behaviors, and feelings are effective in succeeding in life and general life skills (Neill, Marsh, & Richards, 2003).
Hope Scale (HS)	A 6 item self-report index measuring agency and pathway thinking toward goals. Agency thoughts reflect the perception that children can initiate and sustain action toward a desired goal; pathways thoughts reflect one's perceived capability to produce routes to those goals (Snyder et al., 1997).
Treatment Expectancy/ Credibility Questionnaire (CEQ)	A 6 item instrument measuring treatment expectancy and credibility. It assesses how logical and convincing the treatment is to a client and how much a client expects to improve (Devilly & Borkovec, 2000).

Participants completed several measures for this study, including the Youth Outcome Questionnaire® 2.0 (Y-OQ® 2.0, Burlingame et al., 2001), Youth Outcome Questionnaire®-Self Report (Y-OQ® SR 2.0, Wells, Burlingame, & Rose, 2003), the Life Effectiveness Questionnaire (LEQ, Neill, Marsh, & Richards, 2003), the Hope Scale (HS, Snyder et al., 1997), and the Treatment Expectancy/Credibility Questionnaire (CEQ, Devilly & Borkovec, 2000).

The Y-OQ® 2.0 is a parent report measure of treatment progress over time for children and adolescents, aged 4-17 years old, receiving mental health services (Wells, Burlingame, & Lambert, 1999). It was constructed as a brief measure that was sensitive to change over short periods of time. The items are each rated on a 5-point Likert scale, which range from 0 (never), 1 (rarely), 2 (sometimes), 3 (frequently), to 4 (almost always). Burlingame and colleagues (2001) found the Y-OQ®-2.0 total score internal consistency to be .94 among non-clinical and clinical samples. Test-retest reliability coefficients were .83, indicating high temporal stability (Burlingame et al., 2001).

The Y-OQ® SR 2.0 is a self-report version of the Y-OQ® 2.0 to be completed by adolescents aged 12-18 years old, to provide a parallel to the parent completed version. It has demonstrated reliability including strong internal consistency (α=.95; Wells et al., 2003). Similar to the Y-OQ® 2.0 the Y-OQ® SR items are rated on a 5-point Likert scale.

The Life Effectiveness Questionnaire (LEQ) is a 24-question self-report instrument measuring changes in life proficiency and effectiveness as a result of experiential intervention. The LEQ uses an eight-point scale (1 - "*false or not like me*", 8 -"*true or like me*"). It has been shown to have a high internal consistency with alpha levels from eight of the scales ranging from .78 to .93 and test-retest correlations ranging from .60 to .81 (Neill et al., 2003).

The Hope Scale (HS) is a 6 item measure assessing goal oriented behavior across two components - agency and pathway thinking. The six-point scale ranges from "*none of the time*" to "*all of the time*". Snyder et al., (1997) related the HS has establish adequate internal consistency (α=.77), is stable over time, and exhibits convergent, discriminant, and incremental validity.

Finally, the Treatment Expectancy/Credibility Questionnaire (CEQ) has 6 items measuring how logical and convincing the treatment is to the participant and how much he or she expects to improve (Devilly & Borkovec, 2000). It demonstrates high internal consistency (α=.79-.90) with the factors of expectancy and credibility. It utilizes a nine-point Likert scale assessing how the participant feels about the treatment and how logical it seems to them.

Between December 2007 and December 2010, 332 adolescent clients entered the wilderness program and completed at least 5 weeks. Of these, a total of 118 adolescent clients and their parents participated in the study (36% participation rate); 36 were female (30.5%) and 82 were male (69.5%). Clients ranged in age from 13 to 17 years, with the average age being 15.9 years. Sixty-eight percent of students reported having treatment prior to the wilderness program. The median length of stay was 10.6 weeks. Diagnostic data on this sample was not collected; however, we conducted a secondary analysis of records of clients who enrolled between October 2010 and November 2011(Hoag, Massey, & Roberts, in press). Of that sample, 74% had four or more diagnoses. The most common primary diagnostic classifications were Mood (39%), Behavior (19%), Substance-Related (17%), and Anxiety (15%). Forty-eight percent of the participants completed the Y-OQ® SR 2.0 at each of the four in-program data points, and 68% completed the Y-OQ® SR 2.0 at two of the four in-program data points (i.e., intake and discharge). We conducted a *t*-test to examine differences in Y-OQ® SR 2.0 scores at intake and discharge between those with complete in-program datasets (all four questionnaires) and those without. Scores were similar at intake, $t(109) = -0.475$, $p = 0.636$, and discharge, $t(82) = 0.742$, $p = .959$, suggesting that those with completed in-program datasets were representative of all participants in the study.

Results

Outcomes during the Program

We conducted paired *t*-tests to examine change from intake to discharge on each measure. We found statistically significant change, with large effect sizes on each measure (Table 2). The Y-OQ® 2.01 defines scores below 46 to be in the community or normal range of functioning, and a change of 13 points to be reliable change (Burlingame et al., 2005). The reliable change index (Jacobson & Truax, 1991) identifies whether the magnitude of change is clinically significant, as statistical significance does not always equate to clinical significance. The 66 point decrease in parent scores on the Y-OQ®-2.01 from intake to discharge is both clinically and statistically significant. The Y-OQ® SR defines scores below 47 to be in the community range of functioning, and a change of 18 points to be reliable change (Wells et al., 2003). Therefore, the 38-point decrease in adolescent scores from intake to discharge is clinically and statistically significant (Table 2). In addition to Y-OQ® scores, adolescents' assessments of their level of hope, life effectiveness, and treatment expectancies also saw statistically significant improvements with large effect sizes over the course of the program (Table 2).

Table 2
Paired t-Tests on Change in Score from Intake To Discharge

Measure	M_{intake} (*SD*)	M_{exit} (*SD*)	*t*	df	*d*
Y-OQ® 2.01	93.3 (25.9)	27.8 (22.1)	6.97**	15	2.7
Y-OQ® SR	58.9 (32.8)	20.7 (27.8)	11.75**	79	1.3
HS	23.1 (5.7)	29.6 (4.1)	-9.26**	79	-1.3
LEQ	6.1 (1.0)	7.0 (0.8)	-7.48**	78	-1.0
CEQ	38.1 (11.3)	48.4 (8.7)	- 6.94**	80	-1.0

Note: ** indicates a $p < .001$

Table 3 displays the mean scores for each measure over the course of the program. On the Y-OQ® SR, symptom change was consistent over time and it took five weeks to reach the reliable change threshold. Those who completed the Y-OQ® SR at all four in-program data points changed an average of 14 points from intake to week 3, 26 points from intake to week 5, and a total of 37 points from intake to discharge. A similar rate of change is seen in those who had incomplete datasets for the Y-OQ® SR.

Table 3
Mean Score at Admission, week 3, week 5, and Discharge for participants with Complete and Incomplete Data Sets

	Admit		**Week 3**		**Week 5**		**Discharge**	
	N	*M* (*SD*)	*N*	*M* (*SD*)	*N*	*M* (*SD*)	*N*	*M* (*SD*)
Participants with incomplete datasets								
Y-OQ® SR	54	61.8 (31.4)	42	52.4 (32.9)	37	32.5 (29.0)	27	19.6 (28.6)
LEQ	54	5.7 (1.3)	43	5.7 (1.2)	37	6.0 (1.2)	27	6.9 (1.1)
CEQ	55	36.1 (12.7)	41	40.0 (10.3)	36	43.6 (9.7)	27	45.3 (12.9)
HS	56	21.6 (6.8)	43	22.7 (5.8)	36	25.3 (5.7)	27	30.3 (3.9)
Participants with complete datasets								
Y-OQ®SR	57	58.8 (33.4)	57	44.9 (31.2)	57	33.3 (32.9)	57	21.8 (28.6)
LEQ	56	6.2 (0.8)	56	6.3 (0.9)	56	6.3 (0.9)	56	7.0 (0.6)
CEQ	57	39.3 (10.1)	57	44.3 (8.3)	57	46.5 (6.1)	57	49.9 (4.9)
HS	56	23.4 (4.9)	56	24.7 (5.2)	56	26.1 (5.3)	56	29.3 (4.1)

Adolescents also reported consistent improvements in life effectiveness, hope, therapeutic alliance, and treatment expectancy. However, these factors accelerated at different points in treatment. Life effectiveness and hope increased only slightly in the first five weeks of treatment and made more dramatic changes during the second half of treatment. Conversely, treatment expectancy/credibility increased nearly as much during the first three weeks as it did over the remaining weeks of treatment (Table 3).

We explored the relationship between student and parent assessments on the Y-OQ® as well as the relationship between the Y-OQ® SR and the other client self-assessments. The Pearson's *r* showed that Y-OQ® parent and student assessments did not correlate at intake (r =.220, n=39, p =.174), though they did at discharge (r =.540, n=17, p=.025). Adolescent self-assessments of outcome correlated to self-assessments of hope and life effectiveness. The HS and Y-OQ® SR had a moderate correlation with a Pearson's *r* of -.453 (*n*=111, *p*=.000) at intake and -.473 (*n*=83, *p*=.000) at discharge (indicating that as symptoms on the Y-OQ® SR decreased, hope increased). The LEQ and the Y-OQ® SR showed moderate correlation as well with a coefficient of -.490 at intake (*n*=111, *p*=.000), and -.444 at discharge (*n*=83, *p*=.000) (suggesting that as the young people felt more effective in their life, symptoms decreased). The CEQ did not have significant correlations with the Y-OQ® SR.

We computed independent *t*-tests to examine differences in Y-OQ®-SR scores by several demographic factors: gender, parent's marital status, previous treatment, and ethnicity. The only statistically significant difference found was at discharge for parent's marital status. Students with parents who were married scored 13.6 points higher at discharge, *t*(79)= -2.23, *p* = .029, *d* = -0.495, than those whose parents were not married. Gender showed differences that approached statistical significance. The overall change in Y-OQ® SR scores from intake to discharge was 12 points greater for females than it was for males, *t*(78)=1.76, *p*= .082. Girls assessed themselves to be worse at intake (M_{girls}= 64, M_{boys}= 59) and better at discharge compared to boys (M_{girls}= 15, M_{boys}= 25). The small sample of females may explain the lack of statistical significance.

Outcomes at Follow-up

Response rates at the 6-month follow-up were low ($N_{adolescent}$ = 8, N_{parent}= 10) with a mean score of 36.1 on the Y-OQ® SR and 56.4 on the Y-OQ®-2.01. In order to augment the 6-month follow-up, we randomly selected a sample of 30 students in February 2012 for another follow-up. This sample of students discharged between one and four years prior to their discharge, therefore it is referred to as the "12-month plus follow-up". Of this subset of 30 students and parents, 20 parents and six students completed questionnaires for a mean score of 48.1 on the Y-OQ® 2.01 and 19.5 on the Y-OQ®-SR

Due to low sample sizes at the follow-ups, statistical testing was not appropriate. Although the follow-up responses are to be interpreted with great caution, they suggest the possibility that, at 12 months or more after discharge, parents on average assessed their children to be close to the community functioning cutoff score, and students assessed themselves to be well within community functioning.

Discussion

We found that adolescent clients made clinically and statically significant change on the parent and self-report of the Y-OQ® during treatment. Adolescents reported statistically significant change on measures of hope, life effectiveness, and treatment expectancy, though these factors changed at different rates at different points during the program. There were no statistically significant differences between demographic variables examined (gender, previous treatment, and ethnicity), except for parental marital status. Outcome differences between males and females were nearly significant and warrant further exploration in future research. This study corroborates several major themes in the literature for adolescents in wilderness therapy: adolescents in wilderness therapy undergo positive change, females appear to respond more to wilderness than males, and attrition is challenging.

The growing body of evidence suggests that wilderness therapy has a positive effect on adolescents. In a recent analysis of the NATSAP database, clients in OBH programs showed clinically and statistically significant change from intake to discharge on the Y-OQ® 30 SR (Magle-Haberek, Tucker, & Gass, 2012) and on the Y-OQ® 30 parent assessment (Tucker et al., 2011). The Y-OQ® 30 is a shorter version of the Y-OQ® 2.0 that provides a global index score of an adolescent's behavioral and emotional distress. In 2003, Russell conducted an outcome study with 858 adolescents from seven OBH programs using the Y-OQ® 2.0. This study also found clinically and statistically significant change on the Y-OQ® with adolescents self-reporting a decrease of 22 points and parents reporting a decrease of 52 points from intake to discharge. As in our sample, the improvement in parent scores was nearly two times greater than that reported by clients (Russell, 2003). Other studies using measures other than the Y-OQ® have reported significant change over the course of OBH treatment (Behrens et al., 2010).

Our sample also reflects a gender pattern that has appeared in the OBH literature: females entering with higher levels of dysfunction and a greater response to treatment than males (Magle-Haberek et al., 2012; Russell, 2003; Tucker, Javorski, Tracy, & Beale, 2013; Tucker et al., 2011). In the present sample, girls improved an average of 12 points more on the Y-OQ®-SR than males, *t*(78)=1.76, *p*= .082. Though this was not quite statistically significant, probably due to the small sample of females, it approaches significance and is worth exploring further. Using the Y-OQ®, Russell (2003) and the

NATSAP Research and Evaluation Network (Magle-Haberek et al., 2012; Tucker et al., 2011) found that females scored higher at admission and made greater overall change during treatment in wilderness therapy. In Russell's study both the adolescent self-report and the parent report saw greater intake scores (than males) and greater change over the program. At Russell's 12 month follow-up, Y-OQ® scores between males and females were similar. Russell suggests that this gender pattern could be related to differences in subscale changes (Russell, 2003) given that Burlingame et al. (1996) found that males had higher scores on behavioral dysfunction subscale and females had higher scores with the somatic subscale. In some research published using data from the NATSAP database, females self-reported higher scores at admit and made greater overall change than males; by discharge however, male and female self assessments and parent assessments of males and females on the Y-OQ® were comparable (Magle-Haberek et al., 2012; Tucker et al., 2011). Similarly, a study of young adults in wilderness therapy using the Outcome Questionnaire® (Lambert et al., 2004) found that young adult females assessed themselves to be functioning worse at intake and made greater change over the course of treatment than their male counterparts (Hoag, Massey, Roberts, & Logan, 2013).

Why these gender-based outcome differences seem to exist in OBH programs is unclear. Males largely out-number females in wilderness treatment, though females appear to be responding more to this approach. The trend of girls entering treatment with greater dysfunction is not specific to wilderness therapy though. Several studies among various residential treatment centers reported that females also have more psychopathology than males (Baker, Archer, & Curtis, 2005; Connor, Doerfler, Toscano, Volungis, & Steingard, 2004; Handwerk et al., 2006; Hussey & Guo, 2002; Wells et al., 2003). However, unlike the wilderness therapy research, results are mixed in terms of outcome differences by gender (Cohen, 1989; Connor et al., 2004; Handwerk et al., 2006; Weis, Whitmarsh, & Wilson, 2005). Tucker, Javorski, Tracy, and Beale (2013) propose that girls may respond particularly well to OBH due to its focus on empowerment and self-efficacy, as well as using a social group format. Another possibility is the phenomenon of regression to the mean (Barnett, van der Pols, & Dobson, 2005). We agree with Tucker and colleagues' (2013) conclusion that "future research is needed to explore in more depth why or in fact if this modality truly impacts youth differently based on gender" (p. 174).

Our results show a correlation between outcome scores on the Y-OQ® and both the Life Effectiveness Questionnaire and Hope Scale. This suggests that participants were experiencing more hope in their lives and feeling more effective with general life skills. However, participants do not report significant change in their hopefulness or beliefs about the effectiveness of their coping skills until later in the treatment process. This may be attributed to the need for the client to stabilize, take inventory of their situation, and begin to build confidence in their ability to heal and move forward in a healthier manner. This finding points to the value in using a variable length of stay for clients to allow for internalization of changes and to ensure they have had sufficient time to experience increased hopefulness and belief in the effectiveness of their coping skills.

We found that the Y-OQ® scores for parents and adolescents, while not correlated at intake, were correlated at discharge. Parents are often highly emotional and in a state of crisis upon their son or daughter's admission to wilderness. Conversely, the adolescent is often in denial and externalizing fault for struggles or discord. This tension may account for the divergent scores of parents and clients on the Y-OQ® at intake. Similarly, it is possible that, as parents move out of their heightened emotional state and clients begin to see their process more clearly, scores on these measures more closely align at discharge. This reflects the movement to a more objective and unified family system, something that is anticipated and suggested as a goal in a wilderness therapy program.

Limitations

The chief limitations of this study were low parent participation and follow-up response rates. Only 40% of parents who agreed to participate actually completed a questionnaire at intake, and parent participation decreased further over the course of the study. Participation from both parent and adolescent clients post-discharge was particularly challenging. While in-program participation for adolescent clients was strong with 68% completing intake and discharge questionnaires, only 14% of parents responded at both intake and discharge, and post-discharge response rates were too low to conduct statistical analyses. It is also worth noting that all participants were from one wilderness program site; and therefore the results may not be generalizable to wilderness therapy as a whole.

These challenges are not specific to this study or to OBH research. Difficulty with parent participation has been experienced in a number of efforts to evaluate outcomes in residential treatment (Behrens & Satterfield, 2007; Russell, 2007; Tucker et al., 2011). For example, in an analysis of the data in the NATSAP database, Tucker et al. (2012) report that there were 879 adolescent matched pairs for intake and discharge in OBH programs, however there were only 171 matched pairs for parents.

Though gains are being made, longitudinal data is a major gap in the literature for OBH and the broader field of private residential treatment. OBHC and NATSAP are making new commitments to collecting in-program and post-discharge data (OBHIC, 2013a), and using technology (Outcome Tools) that allows parents and clients to complete questionnaires online. In 2011 the NATSAP Research and Evaluation Network began using Outcome Tools (Outcome Tools, 2012). Looking at the different methods and response rates from our 6-month and 12-month plus follow-up, one can see hope for future post-discharge data with this technology. With this online system our response rates increased from less than 10% for parents and clients to 67% for parents and 20% for adolescents.

Lessons Learned

This exploratory effort provided critical lessons on how to conduct research in a clinical setting. The essential lessons we took from this pilot study were: having an appointed staff with the skills, interest, and time to coordinate the study; constant communication between all levels of staff including therapists, researchers, and field and office staff; close monitoring of data collection; utilization of technology for data collection; and greater investment in post-discharge follow-up. Quality research demands consistent attention. That attention is hard to give if researchers are simultaneously serving as full-time clinicians or administrators. The level of consistent monitoring and communication needed to carry out research is not sustainable without appointing or hiring a staff member who has the appropriate skills, interest, and time.

As discussed above, post-discharge follow-up was a major challenge and limitation in this study and in the literature of OBH. Utilizing technology that allows participants to respond more easily will likely improve this. However, we also believe that increased efforts and investment in reaching clients after they leave a program is necessary to attain representative samples. We recognized that there is no easy way to reduce attrition, and that there is no replacement for the hours spent attempting to solicit responses.

Conclusions

This study supports the consistent finding in OBH literature that adolescents change dramatically over the course of wilderness therapy. Our sample of adolescents showed a marked decrease in symptoms over the course of this wilderness program according to parent report and adolescent self-assessments. Clients also reported significant improvements in hope, life effectiveness, and treatment expectancy and credibility. Hope and life effectiveness measures were significantly correlated to outcome and accelerated in the second half of the program.

Weaknesses that have riddled the OBH literature were also present in this study. However, this pilot study taught us valuable lessons in overcoming issues of post-discharge attrition and low parent participation. We believe that it is essential to invest more resources in post-discharge follow-up, to appoint staff with the appropriate skills and time to coordinate a research project, and to utilize technology that makes it easier for participants to complete questionnaires and for staff to manage and monitor the research. These lessons helped us further develop our research program at a multi-site wilderness program, and will hopefully aid in the collective responsibility of the industry to build a thorough and diverse body of literature on the change process in wilderness therapy.

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Family Matters: Engaging Parents in Youth Treatment

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Abstract

One of the keys to successful adolescent development is a healthy family dynamic. It is thus beneficial for adolescent treatment agencies to recognize, address, and foster family health such that the home system can support and sustain treatment gains made by the adolescent. In this paper, we describe how one residential program defines and facilitates the family work that happens in conjunction with youth therapy, called the Parallel Process. We also detail how parental skills learned during therapy are quantitatively associated with youth length of stay and post-treatment youth substance use and internalizing and externalizing problems.

Keywords: adolescent therapy, residential treatment for youth, family work for youth in therapy, family therapy, adolescent substance abuse, adolescent mental health, Satir family model, Parallel Process

Family health is one of the keys to the success and emotional growth of an adolescent. All too often it seems that therapeutic adolescent programs pay lip service to working with families, without actually challenging the whole family system to change. In our clinical work, we have found that it is vital to recognize, address, and foster the maturity of the family in order to impart sustainable change in the adolescent. Family work is hard work, especially if families are far away, if therapists lack experience and confidence in doing family therapy, and if families themselves are ambivalent or outright resistant to change. Haine-Schlagel and Walsh (2015) note that there is very little information about how to optimize parental engagement with therapy and that more information is needed to flush out whether different types of parental engagement lead to different youth outcomes. In this paper, we describe how one residential program defines and facilitates the family work that happens in conjunction with youth therapy, called the Parallel Process. We will discuss typical barriers and solutions to engaging parents and also provide evaluation results that suggest that skills fostered through the Parallel Process are associated with youth substance use and internalizing and externalizing problems.

What is the Parallel Process?

As articulated by Kristy Pozatek, the Parallel Process is when parents engage in the therapeutic process and grow alongside their adolescent by looking at themselves for ways that they may be inadvertently interfering with their teen's maturity and/or lack their own emotional maturity (Pozatek, 2008). It requires that parents gain self-awareness about their part in their adolescent's difficulties and then find the courage to make the necessary changes. The Parallel Process is an opportunity for parents to work with therapists and their child to repair damaged relationships, establish healthy boundaries, and improve family communication. The goals of the Parallel Process are for parents to behave in new ways based on a higher self-awareness and self-responsibility and ultimately, to facilitate, support, and sustain their youth's treatment gains.

Two cornerstone skills that can be cultivated during the Parallel Process are accurate attunement and attuned limit-setting. We define attunement as a parent's ability to deeply see and understand their child. In other words, attuned parents understand the heart and situation of their child and communicate this understanding to their child. McKinnon (2011) refers to this attunement as 'recognition' of a child's strengths and vulnerabilities and the capacity to foster maturity in the context of that recognition. Limit-setting incorporates the knowledge of healthy boundary establishment and appropriate consequences for behavior.

ISSN 2469-3030 online DOI: 10.19157/JTSP.issue.08.01.07

Benefits of the Parallel Process

There is some literature exploring the benefits of parental involvement with their child's therapy, but much of what does exist involves children in less intensive therapeutic settings, aged seven and older, whose young age more naturally incorporates parental involvement as a part of the child's therapeutic plan. However, within these contexts, there is some evidence that parental engagement improves youth outcomes. For example, Dowell and Ogles (2010) conducted a review of 48 psychotherapy outcome studies and found that parent-involved therapy was associated with improved youth outcomes over and above non-parent involved therapy, with a moderate effect size of $d = 0.27$. The authors note the need for more research to explore parent engagement factors and look at how therapists might optimize youth outcomes by considering parents as co-clients. Another review of nine CBT outcome trials for anxious youths aged 7-18 could not definitively conclude that parental involvement led to better youth outcomes, however, despite citing myriad methodological limitations and variability in research methods, the authors offer that the results could be viewed as '*favored evidence appears real*' (p. 578), suggesting that there are likely benefits of involving parents in youth therapy (Barmish & Kendall, 2005). It's clear that more information is needed, particularly in the area of parental involvement with their teenager's therapy, and especially as it pertains to residential or wilderness therapy.

Some benefits that the Parallel Process may foster are youth treatment completion, parental emotional growth, improved family communication, and sustained treatment gains. First, earnest involvement of the family may be a catalyst that increases the adolescent's own motivation and commitment to stay the course in treatment. Second, parents may feel more a part of the process and less out of control when they, too, are engaged in the self-growth that mirrors that of their adolescent. Third, by working in parallel, both the youth and their family can learn and share a new vocabulary, which should foster improved communication. Finally, the Parallel Process may sustain the emotional growth work the adolescent completes during therapy, and promote lasting change for the entire family.

Obstacles to the Parallel Process

There are several factors that may interfere with the Parallel Process that can stem from the therapist or the parents. It may be too easy for therapists to fall into the trap of aligning with the adolescent, opposing the parents, and "divorcing" the parents from the therapeutic process.

Therapist-based barriers to successful family work can be addressed in several ways. First, inexperienced therapists could shadow more experienced therapists in family sessions. Indeed, in one study it was found that therapists with more experience were more likely to engage parents in the therapeutic process than therapists with less experience (Haine-Schlagel, Brookman-Frazee, Fettes, Baker-Ericzen, & Garland, 2012). This suggests that shadowing may benefit less experienced therapists as they witness more experienced therapist's comfort with outlining expectations, ongoing communication, and engagement in therapeutic activities.

Second, therapists may gain skills through family-specific therapeutic training and ongoing supervision. One type of training that may be effective in increasing family skills is the Satir family approach (Satir, 1988). This approach includes many experiential activities to ground skills and build growth. The Satir approach encourages self-responsibility through individuation (awareness of the inner self) and differentiation (identity and emotional separation within the context of the family) for all members of the family.

Therapist's personal family history naturally surfaces over the course of working with other families and this may interfere with therapeutic progression. Indeed, Minuchin (1998) comments on the need for therapists to avoid the trap of imposing his or her historical or current barriers to growth, and rather, to be closely attuned to the family narrative. Given this, a way therapists can overcome this barrier to engaging parents is to engage in their own process of increased self-awareness and self-confidence via therapy, group consultations, supervision, and continued education on family therapy.

Just as therapists can interfere with the parallel process, so the family can interfere with the adolescent's process, particularly by their own resistance to change. There are several reasons this might occur. First, it's common that parents deny their role in their adolescent's difficulties. It's important that parents are made to recognize, without assigning blame, that they are 'too important *not* to have an impact on their teenager's development'. Second, parents may focus only on their child's concerning behavior; progression (or lack of) through the therapeutic program, "flaws" of the program; their child's academic or vocational future (Potazek, 2010). When parents are engrossed in these areas of focus, there remains little room to recognize the family dynamics that may contribute to the problematic health and behavior of their teenager.

There are a number of ways to overcome these parent-derived obstacles to youth therapeutic progression. Parent engagement needs to be more than just attendance at learning or therapeutic opportunities. For example, Haine-Schlagel and Walsh (2015) remind us that attendance is not a representative proxy of behavioral engagement with the process. Parents need explicit information about what is involved with a Parallel Process and they need to commit to approaching youth therapy in collaboration with the provider. Agencies can provide the environment and tools for parents to begin the change process and in doing so, parents may form their own support network with other parents that can foster a culture of authentic connections, recognition of each other's vulnerability, and challenge toward learning and growth.

Research Questions:
We explored the following questions:

1. What is the relationship between parent skills and post treatment youth substance use and internalizing and externalizing problems?
2. What is the relationship between parent skills and youth treatment duration?

Method

Pine River Institute (PRI) is a 36-bed residential treatment and wilderness leadership experience for youths aged 13-19. It places a high priority on family growth and maturity and has structured the program to cultivate transformative change in families through systemic adoption of the Parallel Process model. PRI is located in rural Ontario, Canada. Youths who attend PRI struggle with addiction issues and often mental health, behavioral, and relationship problems. Before PRI, youths experience compromised health, impaired development, and chaotic relationships. The treatment approach focuses on helping adolescents mature, using a developmental and relational model. Youths are placed in one of four gender-based teams, each of which is associated with a core group of staff including a therapist as the clinical supervisor and leader of the team and three front-line team leaders. Treatment duration varies by individual need, but is typically two months in an Outdoor Leadership Experience (OLE Phase), twelve months at the residential campus (Residence Phase) eventually with shared time between home and the campus (Transition Phase), and up to a year engaged with an aftercare specialist.

The program implements Parallel Process via a multitude of events and interventions: Three-Day Parent Retreats, Semi-Annual Two-Day Parent Learning Workshops, Weekly Multi-Family Groups, Bi-weekly Parent Groups, Sunday Brunches and Satir Informed Family Therapy. During these opportunities, parents partake in learning activities, such as charting their family map, understanding family rules, and sculpting the coping stances within their family (Satir). Parents also engage in learning sessions related to developmental-relational approaches to understand their teenager. These opportunities help parents grow together and create a community culture of openness, learning, and support. Within this culture, mentorship naturally emerges from families whose youths are further along in the program and this mentorship provides hope and guidance for newer families, while strengthening the mentor's own increased awareness and self-responsibility.

Participants in this study were 70 families whose youths had attended PRI between 2010 and 2014. Youths in these families had an average age of 16.9 years at admission, 14% were adopted (not by a step-parent), and 68% were male. In 58% of the families, the biological parents lived together. These families, before treatment, were typically mired in ongoing crises related to their teenager's substance use, mental health, relationship, and behavioral problems. Specifically, about two-thirds of youths had experience with running away or contact with police, at least a third had visited a hospital for substance use or mental health reasons, academic careers were stalled or abandoned, and most of their relationships were fleeting or in turmoil.

Length of stay at the program is variable, dependent upon the youth's growth and maturity. Youths in this study stayed in the program an average of 376 days. In terms of therapeutic progression, 62% completed the residential phase of the program (29% departed during Residence and 9% during Transition phases).

Post-treatment information is collected at one, three, six, and twelve months after the youth left the program, and then annually, after a youth has departed the program. For post-treatment time-point for this study, we collapsed the three- and six-month post-PRI data (using the three-month scores if there were duplicates). Post-treatment response rate for all parents is 67% (82% for families whose youth complete the program).

Measures

Youth age at admission, sex (*female* = 0, *male* = 1), phase of departure (POD; *OLE* = 1, *Residence* = 2, *Transition* = 3, *Completion of Residence* = 4), and duration of treatment are all collected as part of our ongoing records, via BestNotes client record management software (BestNotes, LLC.).

We measured clinician-rated attunement (ATTUNE) and limit setting (LIMITS). Attunement was defined as the capacity of the parent to deeply understand the needs and behaviors of their child and limit-setting was defined as appropriate boundaries and consequences for behavior. For each maternal and paternal caregiver, clinicians rated ATTUNE and LIMITS on a scale from 0 (*very low*) to 10 (*very high*) near the end of the youth's stay in the program. For this study, we took the average of the paternal and maternal caregiver ATTUNE and LIMITS.

Parent reported post-treatment information includes youth mental health and youth substance use. Youth mental health was measured with the Child Behavior Checklist (CBCL; Achenbach & Rescorla, 2001). This 112–item measure has impressive content, criterion, and content validity with the sub-factor reliability alpha ranging from .78 to .97. The CBCL instructs parents to describe their child over the past six months for questions such as '*too fearful or anxious*' with response options of '*Not True*' (0), '*Somewhat or Sometimes True'* (1), and '*Very or Often True'* (2). Scores are summed for each of eight subscales. Three of those subscales (Withdrawn / Depressed, Anxious / Depressed, and Somatic Complaints) combine to form the Internalizing Problem composite scale. Two sub-scales form the Externalizing Problems composite scale (rule-breaking behavior and aggression). We adopted the general Externalizing and Internalizing scales for our purposes. Youth substance use is measured with one question asking parents about the youth's substance use behavior over the previous three months, with response options of *Abstinent* (1), *Social / Occasional* (2), *Periodic Slips* (3), and *Consistent & Problematic* (4).

The means, standard deviations, and medians for all relevant variables are given below (Table 1)

Table 1. *Descriptive Statistics for Predictors and Outcomes*

	Mean	*SD*	**Median**
ATTUNE	4.9	2.4	4.8
LIMITS	3.3	1.3	4
Substance Use 3-6 Months Post-PRI	1.9	1.1	1
Internalizing Problems 3-6 Months Post-PRI	9	7.1	8
Externalizing Problems 3-6 Months Post-PRI	7.7	7.4	6
Length of Stay	375.8	158.8	367.5

Analyses

We used multiple regression for all of our analyses. Although we were not primarily interested in sex, age, or POD for this particular study, these factors are known to predict treatment outcomes. For example, females tend to experience success more than males (Cady, Winters, Jordan, Solberg, & Shindfield, 1996; Harrison & Hoffman, 1987). Richter, Brown, and Mott (1991) found that age was associated with youth outcomes. Finally, longer stays have been associated with more positive treatment outcomes (Latimer, Newcomb, Winters, & Stinchfield, 2000), and likewise, treatment completion was found to predict better outcomes (for example, see Gorske, Srebalus, & Walls, 2003; Winters, Stinchfield, Opland, Weller, & Latimer, 2000). So, we know that age, sex, and treatment completion predict outcomes for youth. With this in mind, we wanted to control (statistically) for these factors. If we did not control for these factors, the variability in our outcomes might possibly be unaccounted for or possibly misallocated.

Our first investigation explored predictors of post treatment youth substance use and internalizing and externalizing problems.

Substance Use

The overall model predicting post-treatment substance use was significant ($F_{(5,49)} = 2.60, p = .037, R^2 = .21$). In other words, youths vary on their substance use after PRI and the combination of sex, age, POD, ATTUNE, and LIMITS accounted for 21% of that variability. In particular, POD was a significant predictor of substance use, as seen below (Table 1); for every one phase further a youth progresses in the program, we can estimate a decrease in substance use by .39 of a standard deviation (*SD*). The other variables were not significant predictors of post-treatment substance use (as noted by *p*-values greater than .05).

Table 2. *Predictors of Post-Treatment Substance Use at 3-6 Months*

	β	SE(β)	*β (ST)*	*t*	*p*
(Constant)	2.67	1.64		1.62	0.11
SEX	0.34	0.31	0.15	1.09	0.28
AGE	0.03	0.10	0.04	0.33	0.74
POD	**-0.45**	**0.19**	**-0.38**	**-2.40**	**0.02**
LIMITS	0.04	0.13	0.05	0.29	0.77
ATTUNE	-0.04	0.07	-0.09	-0.56	0.58

Internalizing Problems

The overall model predicting internalizing problems was significant ($F_{(5,48)} = 3.49, p = .009, R^2 = .27$). Here, 27% of the variability in internalizing scores was attributed to our combination of variables. LIMITS and ATTUNE significantly predicted internalizing problem scores. Specifically, controlling for other variables, as ATTUNE increased by one unit, internalizing problems decreased by almost half (.46) of a standard deviation. For every one unit increase in LIMITS, internalizing problems scores increased by .39 *SD*.

Table 3. *Predictors of Post-Treatment Internalizing Problems*

	β	SE(β)	*β (ST)*	*t*	*p*
(Constant)	-6.23	11.44		-0.54	0.59
SEX	-1.40	2.06	-0.09	-0.68	0.50
AGE	1.07	0.67	0.20	1.60	0.12
POD	-0.46	1.28	-0.05	-0.36	0.72
LIMITS	**2.02**	**0.77**	**0.39**	**2.60**	**0.01**
ATTUNE	**-1.44**	**0.44**	**-0.46**	**-3.25**	**0.00**

Externalizing Problems

The overall model predicting externalizing problems was not significant ($F_{(5,48)} = 1.60, p = .18, R^2 = .14$). In other words, this combination of variables did not predict scores on externalizing problems.

Table 4. *Predictors of Post-Treatment Externalizing Problems*

	β	SE(β)	*β (ST)*	*t*	*p*
(Constant)	15.83	12.12		1.31	0.20
SEX	0.27	2.18	0.02	0.13	0.90
AGE	0.01	0.71	0.00	0.01	0.99
POD	-2.39	1.35	-0.29	-1.77	0.08
LIMITS	0.93	0.82	0.18	1.13	0.26
ATTUNE	-0.72	0.47	-0.24	-1.53	0.13

Length of Stay

The overall model predicting length of stay was significant ($F_{(5,120)} = 22.16, p < .001, R^2 = .48$). So, 48% of the variability in length of stay can be attributed to this combination of variables. Sex, POD, and parent factors were all significant predictors of treatment duration. Girls stayed longer than boys (57 days), those who progressed further in the program stayed longer (for each stage progressed, estimate 120 days longer), and as parental limit setting increased, so did the length of stay (19 days for each one unit increase in limit-setting). Finally, higher parental attunement was related to shorter treatment duration (13 days for every one unit increase in ATTUNE). For example, youths whose parents have an average score of five on attunement near the end of treatment can be estimated to stay an additional 39 days compared to those whose parents average 8 or an additional 65 for those whose parents average 10.

Table 5. *Predictors of Treatment Duration*

	β	SE(β)	*β (ST)*	*t*	*p*
(Constant)	76.90	139.25		0.55	0.58
SEX	**-57.01**	**24.03**	**-0.16**	**-2.37**	**0.02**
AGE	-3.45	7.88	-0.03	-0.44	0.66
POD	**120.62**	**13.77**	**0.66**	**8.76**	**0.00**
LIMITS	**18.76**	**8.01**	**0.18**	**2.34**	**0.02**
ATTUNE	**-12.88**	**5.26**	**-0.20**	**-2.45**	**0.02**

Note: *There were 125 participants in this analysis as we could include families who had not yet contributed to post-treatment data.*

Discussion

Our findings were interesting in several ways. First, we showed that POD is an important element for predicting reduced substance use. In other words, treatment completion is associated with reduced substance use three to six months after the program.

Parent skills had an impact on internalizing problems to the degree that they trumped the influence of POD. In other words, parental attunement was associated with reduced youth internalizing problems, even when we factored into the analysis the impact of therapeutic progression. This is intriguing, given the breadth of research that has found treatment completion to be such a strong predictor of post-treatment youth improvement. We think it is important to note, however, that we are not advocating that one need not complete treatment plans in order to reduce internalizing problems. Instead, we promote that good treatment that includes a structured and purposeful parental parallel process is likely to improve the outcomes of youths, even if the youth does not fully complete the program.

The *increase* in internalizing scores when parental limit-setting was higher merits some thought. In other words, the more strictly that parents set limits with their adolescent, the more problematic the youth's internalizing problems were scored. It's possible that high parental limit-setting enters the realm of rigidity, which may not resonate with a youth who feels that they have matured beyond the need for very strict limits. Further, it's possible that parents may utilize limit-setting without accurate attunement, perhaps based on their own anxiety and experience pre-treatment. This may overlook the real needs of the child, and be a catalyst for unhealthy emotional reaction for the youth.

The non-significant findings about externalizing problems was not overly surprising. The CBCL includes a broad array of aggression and rule-breaking problems (one element of which is substance use). Thus, non-significant findings could easily be attributed to therapeutic or natural factors that were not included in this study.

The finding that parental skills predict therapy duration is compelling. Most importantly, reduced treatment duration means that youth may be treated more efficiently, with shorter treatment stays, when the Parallel Process model is used. It points to the potential value in investing in the Parallel Process as a cost-benefit strategy. Our findings suggest that, with dedicated family work to increase parent skills, the youth's treatment duration can be reduced by over one month.

In this paper, we defined and explained how one program employs the Parallel Process model. We provided early evaluation results that indicate that treatment completion is key to reducing youth substance use and that parental attunement is an important factor for improving the emotional health of their teenager. Finally, we found that parental attunement is associated with treatment duration. We consider this work a springboard for future exploration of the impact of parental engagement in the Parallel Process and the development of self-responsibility, awareness, and attunement.

Limitations

This study is not without it's limitations. First, single site post-treatment only design does not allow us to claim that our results are caused by our treatment but rather can only explore the relationships between the two. Second, our substance use, ATTUNE, and LIMITS measures are not standardized; they were designed to be meaningful for treatment planning primarily, and used in this study to begin to explore and validate our work with families. Third, not all families who attended the program were included in the study. This could be due to lack of contribution or to the fact that the post-treatment time-points had not yet been reached at the time data were analyzed. Finally, our use of simple multiple regression and post-treatment only data is not a limitation per-se, but we look forward to a few years in the future when we have enough pre-post data to look at changes over time and possibly developing models that explore parental skills as mediators or moderators of change.

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Working with traumatized students: A preliminary study of measures to assess school staff perceptions, awareness, and instructional responses

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Acknowledgments
This study was funded by Title funds as defined under the Elementary and Secondary Education Act of 1965, provided by the United States Department of Education.

Abstract

This preliminary research focuses on the perceptions of academic staff working in residential settings with youth who have experienced psychological trauma. The article provides the psychometric properties of three instruments that assess academic staff perceptions of student behavior (TPSB), awareness of trauma (TTS), and responses to student behavior (TRSB). These measures can be used to assess academic staff readiness in working with traumatized students. Measurement validity/reliability were established using a sample of 26 academic staff whose school was affiliated with a publicly funded residential treatment center. Factor analyses indicated that scales were comprised of questions that were adequately correlated; each scale reliably measured its own individual construct (i.e., staff perceptions, awareness, responses). Cronbach's alpha internal consistency coefficient demonstrated that scales were reliable for measuring each construct, where the TPSB resulted in $\alpha = 0.83$ for its "acting out" and "shutting down" subscales, the TTS had $\alpha = 0.91$, the TRSB resulted in $\alpha = 0.79$ for the "acting out" subscale, and $\alpha = 0.81$ for the "shutting down" subscale. These instruments may be useful for teachers and academic staff working with traumatized students, particularly in residential treatment settings.

Keywords: residential treatment, trauma, measurement validity, measurement reliability, academic staff

In the United States, more than 25% of children experience physical, sexual, or emotional abuse, or witness violence in their home (Duke, Pettingell, McMorris, & Borowsky, 2010). The Substance Abuse and Mental Health Services Administration describe trauma as the product of one or more events that are potentially damaging to one's physical or emotional health with a persistent negative impact on functioning (Substance Abuse and Mental Health Services Administration, 2012). Teachers in residential programs often have contact with students who have endured traumatic experiences (Abram, et al., 2004; Salazar, Keller, Gowen, & Courtney, 2012). Such trauma can negatively impact youth functioning in several areas including affect regulation and behavioral control (Cook et al., 2005), which requires teachers to manage social, emotional, and behavioral issues in the classroom in addition to working toward academic goals (Zetlin, MacLeod, & Kimm 2012).

ISSN 2469-3030 online DOI: 10.19157/JTSP.issue.08.01.08

School Staff Perception, Awareness, and Response to Trauma

Childhood trauma can impact the way in which youth view the world as well as how the child is perceived by others (Social Work Policy Institute, 2010). Therefore, academic staff may face the possibility of making erroneous assumptions about students through their perception of student behavior. Cox, Visker, and Hartman (2011) found that teachers in a juvenile justice treatment facility perceived students as being uninterested in their class work. However, student disengagement might actually be a display of trauma symptoms, as students manage the distraction of environmental triggers and other common features of dealing with trauma. Similar perceptions may also exist in youth treatment facilities and other residential settings, where youth are not able to adequately communicate their feelings or motives for behavior due to trauma. This can lead school staff to misinterpret their behavior, resulting in students being mislabeled or misdiagnosed with oppositional behavior and other mental health disorders (Cole et al., 2005; Cook et al., 2005).

Teachers and school staff can face significant uncertainty when attempting to educate students who have experienced trauma (Alisic, 2012). They may experience ambiguity about their roles and how to meet the needs of every student in the classroom. They may also need greater support from program directors as well as additional knowledge and skills in managing classrooms where traumatized students are present (Alisic, 2012). Research with foster care students in residential programs is informative in this regard. Such research found that behavioral problems were among the most challenging of issues reported by first and second year teachers (Zetlin, MacLeod, & Kimm, 2012). Additionally, staff reported a need for training to improve awareness of ways to address these behavioral issues. Such perceptions of students and uncertainty of how to engage them can have a potentially negative impact on how teachers respond to students (Cole et al., 2005). Some traditional academic staff responses to traumatized students, such as punitive interventions, can exacerbate trauma symptoms and further impair learning (Wolpow, Johnson, Hertel, & Kincaid, 2009). Individual perceptions, including biased thinking, and lack of knowledge and awareness can impact teachers' responses to students, and their subsequent student outcomes (Cole et al., 2005; Wolpow, Johnson, Hertel, & Kincaid, 2009). When academic staff responses are guided by attachment and trauma knowledge, rather than authoritarian methods, the academic environment is more conducive to student learning and personal growth (Moore, Marlene, & Holland, 1997). Therefore, collective assessment of academic staff perceptions of, awareness of, and responses to students' behavior may be warranted in residential programs to help identify ways that academic staff skills can be strengthened to help them better engage with traumatized students.

Current Measures

Current measures to assess academic staff readiness in working with students living with psychological trauma are lacking. There are numerous existing tools that are non-specific to trauma that broadly examine school climate, including instruments from the National School Climate Center (2014) as well as Welcoming Schools through the Human Rights Campaign Foundation (2012). Other measures have assessed teacher use of power in the classroom (McCroskey & Richmond, 1983), and school counselors have qualitatively reported their perceptions of vicarious or secondary trauma (Parker & Henfield, 2012). However, staff perceptions on how comfortable they are in dealing with first-hand trauma of students have not been widely explored (Crosby, Day, Baroni, & Somers, 2015). Also, the views and attitudes of non-mental health personnel in schools, such as teachers, paraprofessionals, and administrative staff are lacking on this issue. Teachers and administrative staff may have views that vary significantly from those of mental health professionals in residential settings, as they generally receive less overall exposure to trauma knowledge and training in their fields of study.

Present Study

To address the lack of assessment tools, three complimentary measures have been developed to evaluate academic staff on their readiness to work with traumatized students. The Teacher Perceptions of Student Behavior scale (TPSB) measures academic staff perceptions of student behavior, the Teaching Traumatized Students scale (TTS) measures academic staff overall awareness of trauma and its impact on learning, and the Teacher Responses to Student Behavior scale (TRSB) measures academic staff instructional responses to such behavior. These measures can be used to assess the trauma knowledge of teachers in juvenile residential facilities, residential treatment programs, and therapeutic schools that serve high numbers of youth who have experienced trauma. The purpose of this study is to report on the preliminary psychometric properties of the aforementioned scales.

Method

Participants & Procedure

All participants were teachers and school staff, employed between September 2012 and June 2013 at a public charter school, located on campus with a large child welfare placement agency for female youth in a Midwestern city in the United States. The school exclusively provides middle school and high school level education to female, court-involved students, who have been placed in a residential treatment facility as a result of a child welfare or juvenile justice court petition. The majority of these students have experienced trauma, abuse, and neglect. Study participants (*N*=26) ranged in years of employment experience in school settings from less than one year to more than five years. Most participants were Caucasian (*n*=17, 65%), with 27% being African American (*n*=7), 8% being multiracial or of another racial background (*n*=2). The sample consisted of 77% (*n*=20) female staff and 23% (*n*=6) were males. Additionally, 58% (*n*=15) were certified teachers and 42% (*n*=11) were school support staff. All participants provided informed consent to participate in the survey and completed the questionnaires on school grounds. The Institutional review board at Wayne State University approved the study.

Scale Development

Initial development of these measures began with a thorough review of the literature on childhood trauma, its impact on educational wellbeing, and educational responses to traumatized students. This resulted in a list of concepts related to the target constructs of school staff perceptions of, awareness of, and responses to student trauma. To ensure content validity, the research team enhanced this list of concepts using the knowledge of trauma-trained experts in child welfare and school psychology, as well as the expertise of school administrators. These administrators included the school principal who participated on behalf of the school staff, contributing feedback and relevant teacher experiences. The research team saw a need to understand teachers' perceptions of and reactions to both the internalizing and externalizing behaviors as different phenomena. Specifically, students who "shut down" in class and do not respond are, for the purposes of this research, considered "internalizing" and those who "act out" in class are considered "externalizing". Indeed, teachers do report different perceptions of and responses to each behavior set, and thus, we developed measures accordingly using two independent subscales. The aforementioned concepts were used to create scales for school staff perceptions, awareness, and instructional responses.

The TPSB scale focuses on school staff assumptions about student behavior and student motives for behavior. This construct consists of one set of 9 questions and one set of 7 questions, based on "acting out" (e.g., being disruptive, loud, argumentative, threatening) and "shutting down" (e.g., being nonresponsive to prompting, withdrawn, putting head down). Participants reported how often they perceived particular motives for student acting out and shutting down behavior using a five-point scale, 1=never, 2=some time/less than half of the time, 3=often/about half of the time, 4=most of the time/more than half of the time, 5=always. Responses of each subscale are summed individually. For interpretation, higher scores on each subscale represent greater sensitivity to trauma in staff perception of students, where staff were more likely to attribute student behavior to trauma-related factors. See Appendix A for the full scale.

The TTS scale included both internalizing and externalizing student behaviors and is made up of 9 questions focusing on the actions of school staff that display overall knowledge and efficacy with traumatized youth. Participants reported using a five-point scale, 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree. Responses were summed, with higher scores representing greater overall awareness of student trauma and trauma-related educational needs. See Appendix B for full scale.

The TRSB scale consists of two sets of 8 questions based on student "acting out" and "shutting down", similar to the student behaviors as defined in the TPSB scale. This construct focuses on the instructional and teaching responses of academic staff when students are demonstrating such behaviors. Participants reported how often they utilize particular responses to students acting out and shutting down behavior using a five-point scale, 1=never, 2=some time/less than half of the time, 3=often/about half of the time, 4=most of the time/more than half of the time, 5=always. Responses of each subscale are summed individually, with higher scores representing greater usage of trauma-sensitive instructional practices with students. See Appendix C for full scale.

Data Analysis

Survey and demographic data were entered into SPSS statistical software and explored using frequencies and descriptive statistics. Exploratory factor analysis (EFA) without rotation was used to analyze the survey data. This analytic method is often used to examine the number of factors present among a group of variables (Child, 1990). It is also useful for uncovering the basic structure of these variables, providing an otherwise indirectly measured construct. Eigenvalues were calculated and examined to determine which factors (survey questions) were well-aligned enough to be included in each scale. During EFA, variables that did not show sufficient eigenvalues of greater than 0.3 were excluded in order to create scales.

Results

For the TPSB, two separate exploratory factor analyses were conducted, one for the originally designed acting out items and one for the shutting down items. For the acting out items, 9 out of the original 17 questions reached eigenvalues of greater than 0.30 and were therefore included in the scale. Next, a Cronbach's alpha internal consistency coefficient was computed for those 9 items and resulted in $\alpha = 0.83$. For the shutting down items, 7 out of the original 17 questions reached eigenvalues of greater than 0.30, and the Cronbach's alpha internal consistency coefficient for the 7 items resulted in $\alpha = 0.83$. See Table 1 for the final scale items with eigenvalues, and scale means, standard deviations, and alphas. The TTS construct was best measured by a single set of items, rather than two separate subscales for "acting out" and "shutting down" behaviors. More specifically, questions on this scale were not originally designed to differentiate between awareness based on students acting out or shutting down. Therefore, this scale measures the construct of overall awareness of student trauma. An EFA was conducted for the originally designed items, with 9 out of the original 10 questions reaching eigenvalues of greater than 0.30. A Cronbach's alpha internal consistency coefficient was computed for the 9 items, resulting in $\alpha = 0.91$. See Table 2 for the final scale items with eigenvalues, and scale means, standard deviations, and alphas.

Table 1. Teacher Perceptions of Student Behavior scale (TPSB) Factor Analysis Eigenvalues

	Scale Items for "Acting Out" Subscale	Eigenvalues
1.	responding to change or transition	0.5
2.	seeking attention	0.6
3.	not feeling well physically (i.e., stomach ache, headache)	0.3
4.	reacting to something from their past	0.8
5.	feeling like the work is too difficult for them	0.6
6.	reacting to a court decision	0.8
7.	fearing failure	0.7
8.	reacting from a parental or other family visit	0.8
9.	reacting to something that happened in their current living environment	0.8

	Scale Items for "Shutting Down" Subscale	Eigenvalues
1.	responding to change or transition	0.7
2.	reacting to something from their past	0.7
3.	feeling like the work is too difficult for them	0.5
4.	reacting to a court decision	0.8
5.	fearing failure	0.6
6.	reacting from a parental or other family visit	0.9
7.	reacting to something that happened in their current living environment	0.8

Acting Out Subscale: α= 0.83; = 3.22; *SD*= 0.56
Shutting Down Subscale: α= 0.83; = 3.04; *SD*= 0.57

Table 2. Teaching Traumatized Students scale (TTS) Factor Analysis Eigenvalues

Scale Items	Eigenvalues
1. Rewarding students helps change problematic behavior	0.3
2. I am aware of the effects of trauma on the behavior of students in my classroom	0.9
3. I consider my students' experiences with trauma as I design strategies to engage students in learning	0.8
4. I can identify traumatic responses in students	0.9
5. I am aware of aspects of the school environment that may trigger trauma reactions in students	0.9
6. I know how to handle difficult behavior related to traumatic reactions in students	0.8
7. I understand how the brain is affected by trauma	0.9
8. I am mindful on how my verbal expressions (tone, language, sarcasm) impact a traumatized child	0.8
9. I am mindful of the way my body language and nonverbal expression impact a traumatized child	0.7

Scale α= 0.91; Scale = 3.62; Scale *SD*= 0.81

For the TRSB, two separate EFAs were conducted, one for the originally designed acting out items and one for the shutting down items. For the acting out items, 8 out of the original 23 questions reached eigenvalues of greater than 0.30 and were therefore included in the scale. Next, a Cronbach's alpha internal consistency coefficient was computed for those 8 items and resulted in α = 0.79. For the shutting down items, 8 out of the original 23 questions reached eigenvalues of greater than 0.30, and the Cronbach's alpha internal consistency coefficient for the 8 items resulted in α = 0.81. See Table 3 for the final scale items with eigenvalues, and scale means, standard deviations, and alphas.

Table 3. Teacher Responses to Student Behavior scale (TRSB) Factor Analysis Eigenvalues

Scale Items for "Acting Out" Subscale	Eigenvalues
1. I use frequent breaks	0.5
2. I deliberately use wait time (i.e. pauses) after giving a direction	0.5
3. I have sensory outlets available in the classroom (i.e. stress balls, play dough, etc.)	0.7
4. I use repetition and compromises in my interactions with students	0.5
5. I use structured, interactive, and interpersonal games in the classroom setting (music, ball toss, string game, etc.)	0.9
6. I provide students access to a safety zone when needed	0.8
7. I adjust lessons in ways to accommodate	0.8
8. I have physically rearranged the classroom as a method to address student behaviors	0.6
Scale Items for "Shutting Down" Subscale	**Eigenvalues**
1. I use frequent breaks	0.5
2. I deliberately use wait time (i.e. pauses) after giving a direction	0.7
3. I have sensory outlets available in the classroom (i.e. stress balls, play dough, etc.)	0.8
4. I use repetition and compromises in my interactions with students	0.5
5. I use structured, interactive, and interpersonal games in the classroom setting (music, ball toss, string game, etc.)	0.8
6. I provide students access to a safety zone when needed	0.7
7. I adjust lessons in ways to accommodate	0.8
8. I have physically rearranged the classroom as a method to address student behaviors	0.6

Acting Out Subscale: α= 0.79; = 3.41; *SD*= 0.71
Shutting Down Subscale: α= 0.81; = 3.49; *SD*= 0.76

Finally, a Cronbach's alpha internal consistency coefficient was computed across all scales to determine inter-scale correlation, and resulted in $\alpha = 0.66$. The TPSB subscales were positively correlated with each other at $\alpha = 0.62$, and the TRSB subscales were highly, positively correlated with each other at $\alpha = 0.92$. However, the TPSB subscales were not found to be correlated with the TRSB subscales. The TTS scale was not correlated to the TPSB subscales, but was positively correlated to the TRSB subscales at $\alpha = 0.63$. See Table 4 for full inter-scale correlation alphas. These correlations are in the moderate range suggesting that, while there is some overlap in constructs being measured by these scales, there is reasonable distinction between and unique construct measurement of each.

Table 4. Inter-scale Correlation

	TPSB-Acting Out	TPSB-Shutting Down	TTS	TRSB-Acting Out	TRSB-Shutting Down
TPSB-Acting Out	1.00	0.62	-0.09	-0.29	-0.20
TPSB-Shutting Down	0.62	1.00	0.12	0.07	0.07
TTS	-0.09	0.12	1.00	0.63	0.63
TRSB-Acting Out	-0.29	0.07	0.63	1.00	0.92
TRSB-Shutting Down	-0.20	0.07	0.63	0.92	1.00

Cronbach's $\alpha = 0.66$

Discussion

This preliminary study examines and provides the psychometric properties for three new measures that evaluate academic staff in relation to student trauma. Designed using academic staff participants from a publicly-funded residential school environment, these measures can be used in similar settings and other alternative schools that serve traumatized students. It is imperative that educational settings become trauma-informed in order to improve the educational wellbeing of traumatized students and to reduce the disproportionate negative academic outcomes experienced by this student population (Crosby, Day, Baroni, & Somers, 2015; Cole et al., 2005; Wolpow, Johnson, Hertel, & Kincaid, 2009). Unfortunately, academic staff rarely receive training on how to work effectively with traumatized youth (Ko et al., 2008).

Improving education for students in residential and alternative settings requires not only staff professional development (Cox, Visker, & Hartman, 2011), but also more trauma-specific assessment of academic staff. Mathur & Schoenfeld (2010) suggest that schools serving court-involved youth implement evidence-based practices and training, as well as a system with tools to evaluate such practices. Such practices, training, and evaluation may also be useful in other residential treatment settings for youth. The development of such tools carries significant implications for academic staff in these environments. Assessing staff perceptions of student behavior, awareness of trauma knowledge, and staff responses to students allows academic staff to individually self-examine their trauma-sensitivity and to collectively gauge the overall trauma-related climate of their school. This can provide important information regarding gaps in training knowledge and resources that teaching and support staff may need to improve their work. It can also be used to subsequently evaluate the effectiveness of such trauma-informed training and resources.

Due to the current lack of similar measurement tools, the criterion validity of these scales could not be established with evidence of concurrent, convergent, or discriminant validity. Also, the sample size is generally small for employing factor analysis. Still, this exploratory approach preliminarily identified subscales based on internal consistency reliability coefficients for each scale. This pilot research demonstrates statistical promise for future exploration. Further research should explore the psychometric properties of this tool when used with larger populations. Research should also include traditional school settings and those that serve co-ed student populations. Additionally, research should explore further test-retest reliability and predictive validity through replication of the study, testing to determine group differences between the original and replicated samples, and assessment of concurrent, convergent, and discriminant validity as other related measures become available.

Conclusion

The purpose of this study was to report on the preliminary psychometric properties of three instruments, the TPSB, TTS, and TRSB. These measures assess academic staff perceptions of student behavior, instructional responses to behavior, and overall awareness of trauma and its impact on learning. The findings demonstrate adequate psychometric properties, indicating that these measures may be potentially useful for helping researchers, program directors, and academic personnel gain greater understanding of the school environment for traumatized students. These instruments may provide useful insight into areas where further trauma-informed professional development is needed, making the academic environment a more comfortable and inclusive space for this student population.

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Appendix A: Teacher Perceptions of Student Behavior scale

Rate how often you believe that each of the following is happening. Students who ACT OUT in class are….	Never	Sometimes/ Less than half of the time	Often/ About half of the time	Most of the time/ More than half of the time	Always
1. responding to change or transition	1	2	3	4	5
2. seeking attention	1	2	3	4	5
3. not feeling well physically (i.e., stomach ache, headache)	1	2	3	4	5
4. reacting to something from their past	1	2	3	4	5
5. feeling like the work is too difficult for them	1	2	3	4	5
6. reacting to a court decision	1	2	3	4	5
7. fearing failure	1	2	3	4	5
8. reacting from a parental or other family visit	1	2	3	4	5
9. reacting to something that happened in their current living environment	1	2	3	4	5
Students who SHUT DOWN in class are…	Never	Sometimes/ Less than half of the time	Often/ About half of the time	Most of the time/ More than half of the time	Always
1. responding to change or transition	1	2	3	4	5
2. reacting to something from their past	1	2	3	4	5
3. feeling like the work is too difficult for them	1	2	3	4	5
4. reacting to a court decision	1	2	3	4	5
5. fearing failure	1	2	3	4	5
6. reacting from a parental or other family visit	1	2	3	4	5
7. reacting to something that happened in their current living environment	1	2	3	4	5

Appendix B: Teaching Traumatized Students scale

Please circle the most appropriate number.		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1.	Rewarding students helps change problematic behavior	1	2	3	4	5
2.	I am aware of the effects of trauma on the behavior of students in my classroom	1	2	3	4	5
3.	I consider my students' experiences with trauma as I design strategies to engage students in learning	1	2	3	4	5
4.	I can identify traumatic responses in students	1	2	3	4	5
5.	I am aware of aspects of the school environment that may trigger trauma reactions in students	1	2	3	4	5
6.	I know how to handle difficult behavior related to traumatic reactions in students	1	2	3	4	5
7.	I understand how the brain is affected by trauma	1	2	3	4	5
8.	I am mindful on how my verbal expressions (tone, language, sarcasm) impact a traumatized child	1	2	3	4	5
9.	I am mindful of the way my body language and nonverbal expression impact a traumatized child	1	2	3	4	5

Appendix C: Teacher Responses to Student Behavior scale

How much do you use the following teaching strategies with students who ACT OUT?		Never	Sometimes/ Less than half of the time	Often/ About half of the time	Most of the time/ More than half of the time	Always
1.	I use frequent breaks	1	2	3	4	5
2.	I deliberately use wait time (i.e. pauses) after giving a direction	1	2	3	4	5
3.	I have sensory outlets available in the classroom (i.e. stress balls, play dough, etc.)	1	2	3	4	5
4.	I use repetition and compromises in my interactions with students	1	2	3	4	5
5.	I use structured, interactive, and interpersonal games in the classroom setting (music, ball toss, string game, etc.)	1	2	3	4	5
6.	I provide students access to a safety zone when needed	1	2	3	4	5
7.	I adjust lessons in ways to accommodate	1	2	3	4	5
8.	I have physically rearranged the classroom as a method to address student behaviors	1	2	3	4	5

How much do you use the following teaching strategies with students who SHUT DOWN?		Never	Sometimes/ Less than half of the time	Often/ About half of the time	Most of the time/ More than half of the time	Always
1.	I use frequent breaks	1	2	3	4	5
2.	I deliberately use wait time (i.e. pauses) after giving a direction	1	2	3	4	5
3.	I have sensory outlets available in the classroom (i.e. stress balls, play dough, etc.)	1	2	3	4	5
4.	I use repetition and compromises in my interactions with students	1	2	3	4	5
5.	I use structured, interactive, and interpersonal games in the classroom setting (music, ball toss, string game, etc.)	1	2	3	4	5
6.	I provide students access to a safety zone when needed	1	2	3	4	5
7.	I adjust lessons in ways to accommodate	1	2	3	4	5
8.	I have physically rearranged the classroom as a method to address student behaviors	1	2	3	4	5

Coping Styles and Secondary Traumatic Stress in Direct Care Staff Working in Residential Treatment Centers

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Abstract

Relationships were examined between secondary stress symptoms, coping styles, and compassion satisfaction among staff working with child and adolescent residents in treatment. Results indicated male participants and emotional-based coping styles positively correlated with secondary traumatic stress reactions. Implications for future research and suggestions for training programs and clinical practice are offered.

Keywords: Secondary traumatic stress compassion satisfaction

Editor's Note: *This study focuses on direct care staff in public residential treatment centers (RTCs) that provide residential care for youth referred by the juvenile justice and foster care systems. There are important reasons that this study's findings apply to privately funded RTCs. Both public and private RTCs treat youth in out-of-home care, in a 24/7 treatment milieu, staffed by mental health paraprofessionals and professionals. Trauma is a common problem for youth in both public and private RTCs (e.g., Tucker, Zevlov, & Young, 2011). Also, this study focuses on direct care staff or line staff, a role which is comparable in public and residential RTCs. Direct care staff arguably have the most day-to-day contact with youth in both public and private RTCs, and therefore issues related to them are of high priority.*

Public residential treatment centers (RTCs) treat youth whose violent and aggressive behaviors make it difficult for them to be successful in less restrictive programs, such as foster care or group homes (U.S. Public Health, 2000). Children who are served in Public RTCs are often referred by the foster care and juvenile justice systems. According to the U.S. Public Health Service Report (2000) and Shin (2004), youth in Public RTCs present with a wide range of treatment issues including abandonment, sexual abuse, physical abuse, neglect, and substance abuse. Because of these treatment issues, many of these youth can exhibit several symptoms of post-traumatic stress disorder (PTSD). PTSD is a disorder listed in the American Psychiatric Association (2000) *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.), in which a person experiences symptoms of arousal, intrusion, and hyper-vigilance as a direct result of a trauma.

There are several levels of staff providing care for youth treated in public RTCs, direct-care staff (DCS) have the most contact with the youth. DCS who work in RTCs are paraprofessionals in the human service and mental health field (Leon, Visscher, Sugimura, & Lakin, 2008). DCS work directly with clients for periods of eight to ten hours per day, four to five days per week. According to Pazaratz (2000), DCS have among the most critical and difficult positions in treatment centers because of their job duties (i.e., nurturing, disciplining, helping with homework, providing meals, managing crises, helping set goals, facilitating psycho-educational groups, supervising recreational activities, and

ISSN 2469-3030 online DOI: 10.19157/JTSP.issue.08.01.09

charting). Other duties include ensuring clients safety; transporting clients to appointments; and in some cases when a client becomes a danger to self or others, physically managing the client. DCS may be exposed to behaviors such as spitting, hitting, biting, hair pulling, self-injurious behaviors, and verbal abuse. DCS have the second highest turnover rate in public RTCs - the first-highest turnover rate is the housekeeping staff (Connor et al., 2003). The purpose of this study was to examine the types of coping skills used, and the compassion satisfaction (CS) felt by DCS, as well as the impact of task-oriented and emotion-based coping styles on secondary traumatic stress (STS) and professional quality of life. By understanding these factors, both the staff themselves as well as those who supervise them may be better equipped to manage the impact of STS.

Secondary Traumatic Stress

DCS can suffer from STS as a result of the long working hours and because many of the youth exhibit PTSD symptoms (Bride, 2007; Leon et al., 2008). STS is a phenomenon in which a helping professional personally experiences *symptoms* of PTSD as a result of working with clients with PTSD (Figley, 1999). Notably, these professionals are not exhibiting PTSD symptoms from personal traumas; rather, their symptoms result from exposure to the traumas of the youth with whom they are working (Bride, 2007; Figley, 1999). Experiencing STS can impact the professional's conceptual framework of practice, worldview, interpersonal style, functioning on the job, and psychosocial functioning away from the job (Cunningham, 2003).

Researchers began studying the phenomenon of employee burnout in the field of social services in the early 1970s. At the time, it was suggested that people experiencing burnout should be encouraged to explore other career options (Freudenberger, 1977). More recently, other factors (i.e., managerial support, job satisfaction, employee personality, and psychiatric characteristics such as extraversion and neuroticism) have been explored as to how they might contribute to job burnout and how to manage it (Leon et al., 2008). Employee burnout can lead to a decrease in emotional energy, which is often coupled with the negative self-belief of being inadequate or being unable to complete the required job responsibilities. Such negative beliefs may lead to detachment and avoidance of clients (Leon et al., 2008). Having less emotional energy can lead an employee to experience a sense of powerlessness. An employee may begin to feel as if they are a babysitter rather than a treatment provider (Decker, Bailey, & Westergaard, 2002).

Further research has determined that what often appears as burnout may actually be the deeper psychological issue of STS resulting from working with traumatized clients (Figley, 1999). STS is defined as "the natural, consequent behaviors and emotions resulting from knowledge about a traumatizing event experienced by a significant other. It is the stress resulting from helping or wanting to help a traumatized or suffering person in the mental health field" (Figley, 1999, p. 10). STS can impact an employee's feelings of vulnerability thereby causing emotional numbing or avoidance of a client's traumatic material (Bride, Radey, & Figley, 2007). The effects of STS can be especially debilitating for DCS at RTCs because of the long hours they work and their direct exposure to the youth exhibiting symptoms of PTSD (Pearlman & Saakvitne, 1995). These effects may include emotional numbing, sleep difficulties, poor self-care, relational problems, poor work performance, flashbacks, addiction, withdrawal from clients or coworkers, withdrawal from support systems, decreased use of supervision, and poor client care (Bride et al., 2007; Figley, 2002; Pearlman & Mac Ian, 1995; Pearlman & Saakvitne, 1995). In order for staff to provide care for their clients, it is necessary to develop healthy ways of coping and to recognize symptoms of STS (Figley, 1999; Leon et al., 2008).

Compassion Satisfaction

Compassion satisfaction (CS) is used to explain positive emotions associated with working with clients (Figley, 1995a, 1995b). CS explains the sense of pleasure or satisfaction counselors feel when they believe they are having a positive impact (Alkema, Linton, & Davies, 2008; Figley, 2002). This sense of satisfaction can be achieved not only from the belief that one is having a positive impact on clients, but by having positive coping strategies as well. These strategies can include developing social networks, maintaining a balance between personal and professional life, getting adequate rest and sleep, taking part in physical exercise, fostering spirituality or religious beliefs, seeking continuing education, and practicing healthy eating habits (Alkema et al., 2008). A supervisor can assist by encouraging the development of positive coping strategies which increases the counselor's ability to experience CS, while helping others (Radey & Figley, 2007). Negative coping styles, such as substance abuse or failing to utilize support systems can lead to STS or burnout; whereas, positive coping styles can lead to having a sense of resilience and success (Radey & Figley, 2007).

Coping Styles

Coping styles can influence a person's psychological and physical reactions to stressful situations and influence the outcomes when he or she faces stressful life events (Shikai et al., 2007; Wang, Lightsey, Pietruszka, Uruk, & Wells, 2007). Endler and Parker (1999) identified three dimensions of coping, which included (a) task-oriented coping; (b) emotion-oriented coping; and (c) avoidant behaviors. Task-oriented coping refers to a positive problem-solving approach to managing stress (Jang, Thordarson, Stein, Cohan, & Taylor, 2007), such as staying organized, utilizing supervision, exercising, and participating in religious or spiritual activities. Emotion-oriented coping is generally related to a more negative coping style because the individual tends to react with an emotional response to stressful situations (Endler & Parker, 1994; Jang et al., 2007; Shikai et al., 2007; Wang et al., 2007). An emotional response to a stressful situation can lead to symptoms such as depression, anxiety and physical illness. The third dimension of coping is referred to as avoidance. Avoidant counselors may call in sick from work to avoid stress or spend long periods of time on the computer instead of talking about stressful situations with others for support (Cohan, Jang, & Stein, 2006).

Gender and STS

Knight (2010) reported that female social workers experienced STS symptoms more than males. Knight found that women scored lower on CS and showed more signs of vicarious trauma than men. Similarly, women were twice as likely to develop PTSD symptoms as men (Knight, 2010). According to Grubaugh, Cusack, Knapp, and Frueh (2007), this gender difference is possibly due to the frequency of traumatic events and the frequency of reporting traumatic events. Research by Creamer and Liddle (2005), however, did not support these gender differences. They reported that women showed slightly higher STS, but it was not a significant difference. Instead, they reported that years of experience and the number of hours spent with the client, especially children experiencing trauma, were clinically significant in predicting STS. They explained that one possible reason why gender did not appear to be significant was because there were fewer males working in the mental health field, therefore making it more difficult to measure the effects of gender on STS.

Years of Experience and STS

Years of work experience appear to be a significant factor for CS and STS symptoms. More experienced mental health workers may have developed stronger, more positive coping styles through education, supervision, and experience (Bride, Jones, & MacMaster, 2007). Though significant correlations have been found between age and burnout, experience appears to be a greater predictor of CS, when considering emotional and physical well-being, which make up the main components of CS (Alkema et al., 2008). Potentially, younger professionals enter the human service field filled with an enthusiasm for wanting to help people. This assumption may be diminished when clients' outcomes fail to meet the expectations of the new professional.

Research Questions and Hypothesis

The research questions addressed in this study were a) do any of the following sets of independent variables: (1) gender, (2) years of professional experience, (3) approximate number of work hours per week, (4) level of task-oriented coping, and (5) level of emotion-based coping, predict the dependent variable of STS; and b) do any of the following sets of independent variables: (1) gender, (2) years of professional experience, (3) approximate number of work hours per week, (4) level of task-oriented, and (5) level of emotion-based coping, predict the dependent variable of CS? For each question we predicted the null hypothesis that there will be no combinations of the independent variables that will predict staff's symptoms of STS or CS.

Method

Procedure

Institutional Review Board approval was obtained from Argosy University before the research began. Requests for participation were sent to various site directors' facilities selected from a directory of public RTCs put together through an Internet search. Once the facility supervisors agreed to have their site utilized in the study, they distributed the e-mail inviting their DCS to participate. The e-mail sent to the DCS contained a web address, which directed them to the Survey Monkey© site.

Participants were presented an informed consent form which explained that participation in the study was voluntary and confidential.

Participants

Participants in this study were DCS working in child and adolescent RTCs. Ninety-two participants completed all three instruments in their entirety. The majority of the participants were female (75.6%). Participants identified as Caucasian (81.1%), 6.7% African American, 2.2% Native American, 2.2% Asian American, 3.3% Hispanic/Latino, and 4.4% selected the category of "other." In terms of education, 46.7% held a bachelor's degree and the remainder held a master's degree (27.8%), an associates' degree (20%), a high school diploma or GED (3.3%), or a doctorate degree (1.1%). The average number of years working for a residential treatment center was six (6.093; *SD* = 5.665) and the average numbers of hours worked per week were 32 (32.228; *SD* = 14.114). A total of 51.1% of the participants reported receiving self-care training.

Instruments

Participants completed a demographic questionnaire created for this study, the Secondary Traumatic Stress Scale (STSS, Bride, Robinson, Yegidis, & Figley, 2004), the Professional Quality of Life Scale (ProQOL, Stamm, 2009), and the Coping Inventory for Stressful Situations (CISS, Endler & Parker, 1994).

According to Bride, Radey, and Figley (2007), the internal consistency of the STSS is .86 to .94 and construct validity was demonstrated through convergent, discriminate, and factorial analyses. The STSS uses a five-point scale (1 = never, 5 = very often It has three subscales including Intrusion (e.g., "*It seemed as if I was reliving the trauma(s) experienced by my client(s)*"); Avoidance (e.g., "*I had little interest in being around others*"); and Arousal (e.g., "*I had trouble sleeping*"), which correspond to the criteria for PTSD in the *DSM-IV-TR* (Bride, Radey, & Figley, 2007).

The Professional Quality of Life Scale (ProQOL) was used in this study to measure CS as well as compassion fatigue. Bride, Radey and Figley (2007) estimated that the internal consistency reliability was .87 for the Compassion Satisfaction scale, .72 for the Burnout scale, and .80 for the Compassion Fatigue/STS scale. The multi-trait, multi-method approach to convergent and discriminate validity supported the discriminate validity of the test, and the researchers did not publish convergent validity. Respondents answer questions based on a five-item scale (0 = never, 5 = very often).

Endler and Parker (1994) reported the validity of the CISS, focusing on the multidimensionality of the CISS scales and the construct validity of the CISS scales. According to Endler and Parker (1994), the three factor solutions, (1) task-oriented coping, (2) emotion-oriented coping, and (3) avoidance-oriented coping, were compared statistically, using congruence coefficients. The assessment contained 48 items in three sections with 16 items each that assessed task-oriented coping (e.g., "*Outline my priorities*"), emotion-oriented coping (e.g., "*Do what I think is best*"), and avoidance-oriented coping (e.g., "*Think about the good times I've had*"; Endler & Parker, 1994). Endler and Parker (1994) defined task-oriented coping as being purposeful efforts to problem-solve the situation; whereas, emotion-oriented coping aims to reduce stress, which often results in self-blame, anger, becoming tense, self-preoccupation, or fantasizing.

Results

Data Analysis

For this study, the alpha level was set at .05, the beta level was set at .80, and the regression analysis used the five independent variables. Cohen and Cohen's (1983) benchmarks were utilized to describe the absolute value of effect sizes. Accordingly, the estimated population effect size used for this study was for a moderate effect, or $R^2 = .13$. Thus, a sample of 92 was needed to detect a population R^2 of .13 using 5 predictors, with a 20% risk of a Type II error, and a 5% risk of a Type I error.

Three hierarchical multiple regression analyses were conducted to test both hypotheses. A four-model analysis was conducted as follows: (a) gender; (b) years of professional experience working in RTCs; (c) average number of work hours per week; (d) positive or task-oriented coping styles; and (e) negative or emotion-based coping styles. The R^2 change statistics were examined to compare models so that the independent and successive contributions of all the variables could be assigned. In the case of a significant R^2 value, the beta weights were examined to determine the relative contributions of the individual variables.

Results of Hypotheses

As seen in Table 1, the $R^2 = .026$ ($p = .516$) for the first model (i.e., approximate number of work hours per week, gender, and years of professional experience) did not reach statistical significance level of less than .05. The second model, which added emotion and task-oriented coping, $R^2 = .414$ was significant ($p = .000$), suggesting that more than 40% of the variance in the STS scores was explained by the combination of the demographics and the coping scores. Moreover, the amount of explained variance was increased by almost 39% when the emotion-based coping and task-oriented coping scores were added. The demographics of gender, years of professional experience, and approximate number of work hours per week did not significantly predict STS in staff, however, adding coping style did produce a significant regression equation.

Table 1

Multiple Regression Results for the Total Score on the Secondary Traumatic Stress Scale

Model	R^2	Adjusted R^2	R^2 ⊿	pF ⊿	pF ANOVA
1	.026	-.008	.026	.516	.516
2	.414	.380	.388	.000	.000

The coefficients generated for a multiple regression equation are meant to actually be used in a prediction equation and may be examined more closely in case of a significant finding to weigh the relative contributions of individual predictors (Cohen & Cohen, 1983). Whereas the finding of a significant R^2 involves the set of predictors, the coefficients examine the predictors on an individual basis, it was therefore unnecessary to examine the actual coefficients for the first model since the equation failed to reach the required alpha level of .05. The coefficients for the second model are presented in Table 2 which indicate the beta weight for emotion-based coping was significant (Beta = .556, $p = .000$), no other coefficients were statistically significant.

Table 2

Coefficient Results for the Secondary Traumatic Stress Scale

	Unstandardized		Standard		
Model	B	*SE*	β	*t*	*p*
2 (Constant)	27.066	8.968		3.018	.003
Gender	2.377	2.171	-.094	-1.095	.277
Years of experience	-.031	.170	-.021	-.240	.811
Hours per week	.060	.066	.077	.911	.365
Emotion-coping subscale	.593	.098	.556	6.049	.000
Task-coping subscale	-.176	.110	-.149	-1.600	.113

It can be seen in Table 3 that the first model (i.e., approximate number of work hours per week, gender, and years of professional experience) had no statistical significance on participants' total compassion fatigue score; however, the $R^2 = .086$, $p = .051$ is noteworthy as anything less than .05 is statistically significant. As seen in the table, the second model (i.e., emotion-based coping and task-oriented coping) provided the largest value for the R^2 (.371). This represented a significant accretion in explained variance when the emotion-based coping and task-oriented coping scores were added (R^2 change = .285, p change < .000).

Table 3

Multiple Regression Results for the ProQOL on the Compassion Fatigue Subscale

Model	R^2	Adjusted R^2	R^2 ⊿	pF ⊿	pF ANOVA
1	.086	.054	.086	2.702	.051
2	.371	.334	.285	19.029	.000

Model 1 was not found to be significant, thus the individual coefficients for this model were not reviewed. It was concluded that the demographics of gender, years of professional experience, and approximate number of work hours per week did not significantly predict staff's level of CS. Model 2, which consisted of gender, years of professional experience, approximate number of work hours per week, emotion-based coping, and task-oriented coping, explained approximately 20.6% of the variance in the CS scores of the participants. The standardized coefficient for the emotion-based and task-based coping scores were statistically significant, $p = .000$ and $p = .002$ respectively, as seen in Table 4. An examination of the Beta weights shows that emotion-based coping was a larger contributor to the explained variance ($\beta = .353$) than task oriented coping ($\beta = .398$).

Table 4

Coefficient Results for the ProQOL Compassion Satisfaction Subscale

	Unstandardized		Standard		
Model	B	SE	β	t	p
2 (Constant)	13.672	9.523		1.445	.152
Gender	-1.688	2.305	-.073	-.732	.466
Years of experience	.184	.181	.104	1.016	.313
Hours per week	-.015	.070	-.020	-.207	8.36
Emotion coping subscale	.386	.104	.398	3.713	.000
Task coping subscale	.380	.117	.353	3.250	.002

Findings indicate that two of the five independent variables tested significantly correlated with the DCS symptoms of STS. The two significant predictors of STS were gender and emotion-based coping. Specifically, the male participants had higher scores on the emotion-based coping styles as well as higher levels of STS. The findings also indicated that only two of the five independent variables tested significantly correlated with the staff's CS. Demographic variables failed to predict CS, but the coping styles were significant predictors.

Inspection of the standardized coefficients indicated statistical significance in Model 1 for hours worked, with Beta = .215, $p = .042$, suggesting that the more hours counselors work, the higher the level of CF they will experience. It is noteworthy to remember, however, that these results need further confirmation before it is possible to extrapolate to other counselors similar to the participants in this study. In Model 2, gender had statistical significance with Beta = -.241, $p = .008$, which suggests that males reported more symptoms of STS than females. Task-oriented coping was not statistically significant, $p = .346$, suggesting no relationship between task-oriented coping and STS. The standardized coefficient for the emotion-based coping score was statistically significant; Beta = .497, $p = .000$, as seen in Table 5. The coefficient score for emotion-based coping indicates that as emotion-based coping scores increase, symptoms of STS also increase. An examination of Beta weights shows that emotion-based coping was a larger contributor to explained variance (β = .497) than gender (β = -241).

Table 5
Coefficient Results for the ProQOL Compassion Fatigue Subscale

	Unstandardized		Standard		
Model	*B*	*SE*	β	*t*	*p*
1 (Constant)	49.222	3.616		13.613	.000
Gender	-4.501	2.435	-.195	-1.848	.068
Years of experience	-.122	.188	-.069	-.648	.518
Hours per week	.153	.074	.215	2.069	.042
2 (Constant)	39.687	8.476		4.682	.000
Gender	-5.585	2.052	-.241	-2.722	.008
Years of experience	-.130	.161	-.074	-.809	.421
Hours per week	.107	.062	.151	1.715	.090
Emotion coping subscale	.483	.093	.497	5.213	.000
Task-oriented subscale	-.099	.104	-.092	-.947	.346

Discussion

Emotion-Based Coping

For this study, two testing instruments were used to measure STS. In the first regression, the Secondary Traumatic Stress Scale was used to measure STS and the Coping Inventory for Stressful Situations was used to measure coping styles utilizing the subtests for emotion-based and task-oriented coping (Endler & Parker, 1994). In the first regression, emotion-based coping styles were correlated with STS symptoms. This may suggest that DCS who utilize coping styles such as finding ways to distract from the stress—venting to others, building up to expect the worst, or dwelling on how things could have been handled differently—are more likely to experience STS symptoms if they are working with clients with PTSD.

A second testing instrument was used to measure STS, which resulted in the second regression. The subtest from the Professional Quality of Life Scale (ProQOL) for *compassion fatigue,* another term for STS, was used (Stamm, 2009). The regression had similar results as the STSS in that emotion-based coping was correlated with STS.

Gender and Emotion-Based Coping

Findings from the analyses indicated that gender was also correlated with STS, with males having more STS symptoms than females. This may suggest that males tend to utilize emotion-based coping styles, or internalize their feelings more frequently. Gender, years of experience, hours worked per week, and level of task-oriented coping had no correlation with STS in the first regression; yet, gender was found to be statistically significant in the second regression. It is important to note, however, that while in the second regression hours worked per week may not have been statistically significant, hours worked per week did have a large impact on the results. DCS at RTCs should be monitored on the number of hours working each week as this may help reduce the possibility of STS symptoms.

There is very little literature on the impact of emotion-based coping and STS symptoms. The literature does support the finding that counselors who utilize emotion-based coping styles can have a tendency toward reacting negatively toward clients by expressing anger and later blaming themselves for how they handled the situation (Endler & Parker, 1999; Shikai et al., 2007; Wang et al., 2007). There are some arguments amongst researchers on the importance of gender and STS. Knight (2010) reported that female social workers experienced STS symptoms more than males and that it was most likely due to females having more incidents of traumatic events in their past. This was not supported in this study as evidenced by males reporting greater incidents of STS than females on the CF subtest of the ProQOL. Creamer and Liddle (2005) did not support gender differences as being clinically significant in identifying STS; instead, they reported that a possible explanation for women having higher incidents of STS was due to more women working in the mental health field. Although only 24.4% of the respondents of this study were males, there was still a statistical significance in male DCS experiencing STS symptoms in RTCs. Furthermore, Creamer and Liddle (2005) went on to suggest that hours spent working with the clients, especially children experiencing trauma, was significant; however, the findings in this study did not have significance on either the STSS or CF subtest on the ProQOL. Based on the results of this study, male DCS may be more at risk for STS. More research is needed to determine the relationship between gender and STS.

Compassion Satisfaction

The CS subscale on the ProQOL was used in this regression to measure staff's CS. The two independent variables of emotion-based coping and task-oriented coping showed statistical significance. This may suggest that the staff may not have been exposed to PTSD. It may also suggest that whichever coping style the DCS is using, is working to help maintain CS. If staff is utilizing emotion-based coping styles, it is important to note that with the last two regressions only emotion-based coping was statistically significant as a predictor for secondary trauma.

These findings are consistent with research by Endler and Parker (1999) and Cohan et al. (2006) in that emotion-based coping can lead to STS. It is also important to note from the literature that when a coping style fails, it is essential for the counselor to utilize support systems, counseling opportunities, supervision, and training opportunities in order to prevent an increase in STS symptoms (Endler & Parker, 1999; Shikai et al., 2007; Wang et al., 2007). The signs of a coping style failing can be symptoms of depression or burnout (Jang et al., 2007; Wang et al., 2007). The literature also suggests that utilizing task-oriented coping styles can help staff by increasing a sense of resilience and success (Radey & Figley, 2007).

Implications for Mental Health Practitioners

Based on the evidence presented, STS can have a negative impact on the job performance, careers, and the health and well-being of DCS working in child and adolescent RTCs (Cunningham, 2003; Pearlman & Saakvitne, 1995). These symptoms can impact the performance in their helping roles both on the job and away from the job (Cunningham, 2003; Pearlman & Saakvitne, 1995). The results of this study can be used to assist in the development of training programs for DCS as well as other professionals working closely with youth in RTCs. Although staff who experience CS utilized both task-oriented and emotion-based coping, for this study, emotion-based coping, such as internalizing thoughts and emotions, indicated a more significant relationship with STS. Supervisors can utilize this information in encouraging employees to develop task-oriented coping styles. According to Cohan and colleagues (2006), this includes activities such as staying organized, utilizing supervision, exercising, and participating in religious or spiritual activities. A counselor who effectively uses task-oriented coping may have a stronger ability to problem solve, re-conceptualize a problem, or minimize the effects of the problem (Shikai et al., 2007; Wang et al., 2007). Strengthening positive coping strategies can help employee retention and help reduce or manage STS symptoms. By helping the professionals, ultimately the clients they serve are helped.

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Working Towards Developing Practice Standards For the National Association of Therapeutic Schools and Programs

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Authors' Note
The authors wish to thank Jessica Bowen for revising Trevor Earl's master thesis, upon which this paper was based.

Abstract

This study utilized qualitative methods to analyze 11 case studies published in a recent Special Issue of the *Journal of Therapeutic Schools and Programs*. The students featured in the case studies ranged in age from 14-19 years and were clients in established residential and wilderness programs that were members of the National Association of Therapeutic Schools and Programs (NATSAP). Several themes emerged and were aggregated into eight categories of therapeutic challenges: family dysfunction, anxiety and mood disorders, academic struggles, identity formation and self-esteem, unresolved trauma, difficulty with transitions, disruptive behavior, confrontational attitudes, and resistance to treatment. Based on the analyses, themes were proposed to guide the development of practice standards and research for NATSAP.

Keywords: case studies, qualitative analysis, practice standards

Most wilderness and residential member programs of the National Association of Therapeutic Schools and Programs (NATSAP) developed independent of each other. As a result, their interventions, procedures and policies vary widely. However, it is possible that there are commonly accepted practices across NATSAP programs that are considered to be essential for quality care and therefore rise to the level of preliminary practice standards. Given the growth and maturity of NATSAP as an association of member programs ("NATSAP", n.d.), the time may be ripe to consider developing practice standards.

Practice standards are professional guidelines—a compilation of the interventions deemed most effective by a consensus of individuals in the field. They are different from evidence-based practices, which refer to interventions for which there are solid empirical research findings (Drake, Merrens, & Lynde, 2008). Practice standards should therefore be understood as an intermediate step taken before conclusive scientific evidence is available to establish evidence-based practices. Given that research applicable to NATSAP programs is largely in the early stages, a qualitative case study approach is appropriate to explore the typical experiences and practices in the field, with the ultimate goal of developing practice standards (Ernst, Barhight, Bierenbaum, Piazza-Waggoner, & Carter, 2013; Hipol & Deacon, 2013). The development of practice standards may serve to give stakeholders a clearer picture NATSAP programs' services and practices.

The research questions applied to the case studies were:

1. What are the presenting problems or challenges that precipitated a youth's placement in treatment?
2. What types of therapeutic interventions were used for the youth's problem or challenges?
3. What does this case imply about practice standards?
4. What areas does this case suggest for further research?

ISSN 2469-3030 online DOI: 10.19157/JTSP.issue.08.01.10

DEVELOPING NATSAP PRACTICE STANDARDS

In mental health service delivery, there is a "growing commitment to develop[ing] evidence-based practices" through the formation of practice standards (Kratochwill, 2012, p. 266). Collaboration of professionals within professional associations has helped to establish practice standards and inform research in mental health treatment. For example, in 1991, the American Psychiatric Association (APA) established a steering committee that identified future research topics as well as practice standards (Psychiatry Online, 2013). Similarly, the National Association for Social Workers has begun research efforts to expand knowledge of effective practices, to generate information for service delivery and to improve treatment outcomes (NASW, 2015). In a parallel way, NATSAP may benefit from efforts to develop practice standards and a strategic research program.

Case Study as a Means for Developing Practice and Research Standards

Case studies provide a useful starting point for establishing preliminary practice standards to guide the field (Ernst et al., 2013). Qualitative analysis offers an opportunity to gather information about clinical practice through close examination of representative individual case studies (Ernst et al., 2013; Fishman, 2002). Case studies can serve as a bridge between clinical experiences and formalized professional therapeutic guidelines, thereby highlighting areas for which NATSAP practice standards may be needed (Ernst et al., 2013). This approach provides a starting point for establishing practice standards, which may then be validated and modified through further qualitative and quantitative research. It is intended to be preliminary and exploratory.

Case studies provide an important avenue for examining treatment efforts (Tynan & Pendley, 2013). Fishman (2002) has even hypothesized that the basic unit of psychological practice is the case study. Though the use of case studies as an essential part of the research process has ebbed and flowed over the years, the shifts primarily reflect the disciplinary preferences for quantitative methods rather than an empirically based conclusion that case studies are not useful (Tynan & Pendley, 2013).

Case studies provide a sample of the cases therapists encounter on a regular basis (Fishman, 2002). When a specific organization compiles case studies drawn from clients they have treated, examination of these vignettes will lead to the emergence of themes and patterns. These trends can then reveal further patterns of common problem sets, therapeutic interventions, and the shortcomings and strengths of treatment approaches in these settings. Furthermore, gathering such information facilitates the important process that allows researchers to identify specific targets for further empirical study (Ernst et al., 2013).

In addition to the development of a research agenda, there is evidence suggesting that case studies facilitate the incorporation of empirically based practices into day-to-day clinical practice (Ernst et al., 2013). Case studies delineate "real world" situations and act as instructional guides for implementing empirically based therapy within specific populations, age groups, and/or demographic sets (Ernst et al., 2013).

Finally, case studies can facilitate open and meaningful dialogue within an organization or therapeutic community to create a spirit of affinity and cooperation. Recent literature suggests that qualitative case study methods can help enhance the relationships among those involved in a therapeutic community (Fassinger & Morrow, 2013). For example, comprehensive case studies can give clinicians a voice about areas needing further research, lead to the development of conversational points for treatment team meetings, provide a means of sharing ideas among programs, and encourage a therapist to articulate interventions that are fruitful in their practice.

Participants and materials

The research questions for this study were addressed through analysis of 11 case studies authored by five female and 10 male senior clinicians who practiced within established NATSAP programs. The case studies were published in a Special Issue of the *Journal of Therapeutic Schools and Programs* (Behrens & Gass, 2015). The students featured in the case studies were reported as being 14-19 years of age and presented with a range of co-occurring psychiatric diagnoses. All students had a history of multiple failed therapeutic placements prior to admission and were ultimately treated in a NATSAP program. A summary of these findings is presented in Table 1 below. It should be noted that some of the student demographic information may have been changed, in the case studies, to obscure student identities.

Table 1: *Student Diagnoses and Challenges*

Pseudonym	Type of Program	Age	Gender	Diagnosis/Challenges
Jack	Residential	17	Male	Anxiety Disorder NOS / low self-worth, substance use, persistent manipulation, underachievement, and impaired relationships with family, mixed ethnicity (Balmer, 2015).
Bradley	Outdoor	14	Male	Major Depressive Disorder, Recurrent, Moderate, Other Specified Trauma-and-Stressor-Related Disorder, Persistent Complex Bereavement Disorder, and Depersonalization Derealization Disorder; death of father and stress response (Stanford, Foti, & Fernandez, 2015).
John	Outdoor	18	Male	Dysthymic Disorder, Attention Deficit/Hyper-Activity, Parent/Child Relational Problems, and Alcohol and Cannabis Abuse; Low self-worth, persistent manipulation, academic struggles, and mixed ethnicity (Roberts, 2015).
Joanne	Residential	19	Female	Major Depressive Disorder, Recurrent, Severe as well as Somatic Symptom Disorder; only child, academic struggles, social anxiety, suicidal ideation, eating disorder restricting (Boilen, 2015).
Johnny	Outdoor	16	Male	Major Depressive Disorder, Bipolar Disorder, PTSD, Polysubstance Dependence, Attention Deficit/Hyperactivity Disorder, Eating Disorder, and Conduct Disorder; Legal issues, suicidality, shoplifting, truancy, and physical aggression (Christensen, 2015).
Blade	Outdoor	17	Male	Depression and Anxiety; Resistant, lack of friends, impaired relationships with parents, and drugs and alcohol (Petree & Nanton, 2015).
Helen	Residential	19	Female	Depressive disorder NOS, Attention-Deficit/Hyperactivity Combined Type, Generalized Anxiety Disorder, Oppositional Defiant Disorder/Identity Problems (Hartzell, Santa, & Santa, 2015).
Tony	Residential	17	Male	Autistic Spectrum Disorder (Level 1), Anxiety, and Parent Child Relational Problem; video gaming (Hall, 2015).
David	Outdoor	16	Male	Avoidant Personality Features, Coupled with Obsessive Tendencies, Major Depression, School, Parent – Child Relational Issues and Transition to Adulthood Difficulty/Oppositional behavior, emotion dysregulation, and academic struggles (DeMille & Burdick, 2015).
Anna	Outdoor and Residential	Not Provided	Female	Depression, Substance Abuse/ Prostitution, cutting, and theft (Bissette & Bissette, 2015).
Tom	Outdoor and Residential	15	Male	Substance Abuse, Attention Deficit/Hyperactivity Disorder; Theft and resistance (Douglas, 2011).

Design, data collection, and procedures

Recruitment of case studies

Case studies were recruited for a Special Issue of the *Journal of Therapeutic Schools and Programs* (Behrens & Gass, 2015) through announcements at NATSAP conferences. Instructions for authors, a sample case study, and consent forms for clients and parents of minor clients were supplied to potential authors. After obtaining signed consent forms for clients and parents of minor clients, authors wrote and submitted their case studies to the JTSP editorial board. The case studies underwent editorial review by the JTSP editorial board and reviewers. Final drafts of case studies were subsequently read and approved by clients and parents of minor clients.

Data analysis

A qualitative research approach was used to analyze these case study data. The approach was based on grounded theory (Glaser & Strauss, 1967; Strauss & Corbin, 1998) and employed the constant comparative method (Lincoln & Guba, 1985; Strauss & Corbin, 1998).

DEVELOPING NATSAP PRACTICE STANDARDS

A naturalistic approach to research utilizing grounded theory follows an inductive rather than a deductive path in analyzing data, contending that theory emerges from close examination of the data (Glasser & Strauss, 1967). Grounded theory highlights complexity within the data set, incorporating multiple perspectives and contextual factors. According to Glasser and Strauss (as cited in Lincoln & Guba, 1985), a grounded theory must:

> Fit the situation being researched, and work when put into use. By "fit" we mean that the categories must be readily (not forcibly) applicable to and indicated by the data under study; by "work" we mean that they must be meaningfully relevant to and be able to explain the behavior under study. (Lincoln & Guba, 1985, p. 205)

Rather than relying on *a priori* hypotheses, the researcher carefully sifts through the data, sorting it into naturally occurring meaning units or categories. An attempt is made to include common themes appearing in multiple case studies, but also outliers—concepts or ideas mentioned only in a single case study.

Using the constant comparative method (CCM, Glaser & Strauss, 1967), the data are sorted and resorted until categories become defined, describable, and exhaust the data set. According to Lincoln and Guba (1985), the CCM involves four steps: 1) reading and comparing actual incidents, 2) placing incidents into categories with boundaries and properties, 3) re-sorting the data into manageable, more comprehensive categories that allow for construction of a theory about the data, and (4) writing up the theory as a means of capturing and communicating findings. Data collection continues until redundancy is accomplished. The researcher knows s/he has reached redundancy when there is the sense that the data is complete and new examples only repeat existing categories and understandings.

Trustworthiness of the findings is established through researcher self-inquiry regarding the representativeness or truth-value of the findings, the applicability of the findings to their specific contexts, consistency (or the expectation that the same sorting process could be replicated), and the level of neutrality or approximated freedom from bias or agenda (Lincoln & Guba, 1985). Where possible, member checks done by researchers with practical experience working with this population add to the validity of the findings.

In this project, the researcher extracted data from paragraphs, phrases, and lines in the case studies that held together as units of meaning and that conveyed a type of challenge encountered by students. Initially, these meaning units were sorted into 43 naturally occurring categories. These categories were then reviewed and the meaning units reshuffled to accomplish the best fit. After a consultation with expert clinicians, the researcher streamlined 43 categories into 8 broader categories: family dysfunction, anxiety and mood disorders, academic struggles, identity development and self-esteem, unresolved trauma, difficulty with transitions, disruptive behaviors, and confrontational attitudes and/or resistance to therapy. Details about corresponding interventions provided by the clinician and/or program were attached to each category.

Case Study Analysis

This qualitative study aimed to determine if there was uniformity in treatment approaches to common problems or challenges encountered by students in NATSAP programs. If uniformity was detected across the majority of cases within a category, then a practice standard could begin to be postulated. For each of the eight categories of challenges that students encountered, this article provides a brief discussion of the problem set and common interventions utilized in the case studies, followed by some preliminary suggestions for formal practice standards. The suggested practice standards noted below are presented merely as a starting point for association-wide discussion and research. Certainly, they must be thoroughly explored before they are considered to be formal standards.

Family dysfunction

Family dysfunction was the most commonly identified challenge for students in the case studies. This is not surprising, given that admission into NATSAP programs implies that the teen cannot be effectively treated or maintained in the home environment. A reciprocal influence explanation is also likely, in that having a difficult child brings family distress, and family distress contributes to the development of psychiatric difficulties. It has been well documented that fractured family relationships are highly correlated with psychological issues in adolescents (Mayberry, Espelage, & Koenig, 2009;

Rowe, Wang, Greenbaun, & Liddle, 2008). The literature suggests that in order for therapeutic interventions to be effective long-term, clinicians' attention must include the individual as well as their family group (Mayberry, et al., 2009; Rowe et al., 2008). For NATSAP programs, this may mean developing practice standards that encourage compassion, understanding, and accountability between adolescents, families, and therapists in order to foster healthy attachments. A solid family relationship, repaired and nurtured through therapy, has been shown to be one of the most beneficial forms of treatment for adolescents overcoming psychological discomfort (Griffin & Botvin, 2010). Thus, prioritizing family therapy and involvement seems an obvious conclusion, both from the present case study data and from the extant research.

Possible practice standard

Across the cases, treatment strategies for improving family relationships varied widely depending on the type of treatment (on-site or long-distance) as well as the use (or not) of psycho-educational material, therapy groups, support groups, family visits, and letter writing. However, there was a uniform approach in that some level of family involvement occurred in every case. The proposed practice standard that can be derived from these cases, therefore, is that family therapy in some form is essential for therapeutic success. Other proposed practice standards are that programs could offer consistent opportunities for in-person parent visits and should, as a student's discharge date approaches, help families construct a long-term plan that includes consideration of family issues. The cases also pointed to the potential value of encouraging parental involvement in their own therapy while their child is in treatment.

Anxiety & mood disorders

Some form of anxiety or depression (and often both) was officially diagnosed in 10 out of 11 of the students examined. Many of the cases mentioned suicidal ideation among the students. Specific details about the interventions used for treating anxiety and depression were noticeably absent from the case studies, but most mentioned interventions that were based in the milieu, relationships, and family therapy. This general approach to treating anxiety and mood disorders led to an important question: Is the basic treatment structure within programs generally sufficient for treatment of anxiety and mood disorders, or are there better diagnostic specific options, as yet undefined? More information is needed about the preferred types of interventions for anxiety and depression within treatment programs.

Possible practice standard

Qualitative analysis of the cases emphasized the importance of assessment of anxiety and mood disorders at the onset of treatment. A thorough treatment plan utilizing targeted interventions could follow.

Among the case studies, there were two outlier techniques for treating anxiety and mood disorders in NATSAP programs: Cognitive Exposure Therapy and bibliotherapy. Both have considerable empirical support in the mental health literature, but neither was frequently referred to in the case studies (Hipol & Deacon, 2013; Mckenna, Hevey, & Martin, 2010), which makes them relevant interventions for further research efforts.

Academic struggles

Academic difficulty was another topic mentioned in most of the case studies. Based on the case studies, it appears that nearly all residential programs have plans for addressing academic problems that include academic/learning assessments, mandatory attendance (in residential academic programing), assignment tracking, tutor or teacher assistance, and consideration of academic placement after discharge. In other words, residential programs may help students, many of whom are far behind in school, to catch up and keep up. Note however, that the case studies based in wilderness programs did not mention academic interventions, likely because an outdoor setting may not be as conducive to academic intervention.

Possible practice standard

Qualitative analysis of the case studies suggests that a possible practice standard for residential treatment centers would be to provide some type of a school setting to systematically address students' academic needs. Within these academic settings, programs could consider offering individualized plans for all students enrolled, with careful assessment of learning deficits or problems. Analysis of the case studies also suggests that considerations about appropriate academic placement could be featured in a student's discharge plan. The difference observed between residential and wilderness programs' focus on academics is something that may be worth exploring in the research and clinical discussions.

Identity formation and self-esteem

Identity development and low self-esteem were mentioned in the majority of case studies. Many parents initially described the experience of watching and living with their child's struggles in terms of "losing" the child they once knew and "wanting them to come back." At graduation from the programs, however, parents often used language of reunion, as they celebrated the return of their child's more favorable character traits, including confidence, self-esteem, and composure.

Analysis of the case studies suggested that the NATSAP program strategies for promoting identity development and self-esteem were similar to the strategies for treating anxiety and mood disorders, in that there was a notable lack of specificity regarding the interventions used to treat the issues. It may be that the terms "identity" and "self-esteem" are nuanced and somewhat all-inclusive concepts that tend to naturally improve as a result of nearly any therapeutic attention, regardless of whether those specific terms are ever articulated as therapeutic goals. Gathering more data from the students themselves might enhance understanding of which therapeutic interventions or factors prompted the most significant shifts in self-formation and the development of self-worth.

Possible practice standard

While the components that determined a lack of self-identity and low self-esteem varied across the case studies, there was some uniformity about how to treat this developmental issue. Most of the programs seemed to use non-specific interventions or approaches to treating issues of identity and self-esteem, such as activities that increase emotional vulnerability, leadership opportunities, positive relationships with caregivers, initiative-based activities, and developing new hobbies. It may be worth discussing and researching the efficacy of these non-specific interventions.

Unresolved trauma

Trauma was addressed in two case studies (one related to a family death and one to sexual abuse). Current research, however, suggests a high incidence of adolescents with trauma (Dierkhising et al., 2013; Khor, Melvin, Reid, & Gray, 2014). Why, then, did trauma receive so little attention and articulation in the case studies? One important consideration is that trauma is difficult to treat, and many of the reports that were volunteered for this study focused on model cases with positive outcomes.

Possible practice standard

In both of the cases that addressed trauma, clinicians utilized the therapeutic relationship as an integral part of the treatment and provided psycho-education about the effects of trauma. _One of the cases used Cognitive Processing Therapy, due to its known treatment efficacy (Holliday, Link-Malcolm, Morris, & Suris, 2014). _These guidelines for trauma treatment within the NATSAP community could be the beginning of a practice standard, but the limited sample size makes proposing an official suggestion inadvisable. Gathering further examples of trauma treatment and generating focused clinical discussion of this issue may be warranted.

Difficulty with transitions

Difficulties with transitions were reported in every case study; their therapeutic importance cannot be overstated. Qualitative analysis suggested that effective transitions helped students to maintain their gains in therapy, and well-designed treatment structures appeared to significantly increase the success of these transitions. Conversely, poor transitions and treatment structure seemed to exacerbate challenges, creating a potential crisis. The case histories cited several critical moments in the treatment process, including placement in a treatment program against the student's wishes, early termination from a program, and transitioning to a new program.

Possible practice standard

Given the results of the case study analysis, NATSAP programs might consider developing concrete aftercare plans that include communication with the new therapist and establishment of clear boundaries and expectations between the child and parents in order to make transitions within and between programs as constructive as possible. Qualitative analysis also suggested that selection of a new treatment program may be most effective when it involves thorough research into the child's needs and the potential match with program services.

Disruptive behaviors

Analysis of the case studies suggested that disruptive behaviors are prevalent for youth in NATSAP programs. Problems with substance abuse seemed to be intertwined with disruptive behaviors (i.e., theft, self-harm, and resistance to therapy) and featured prominently in these case studies. Another issue that was intertwined with disruptive behaviors was attention deficit hyperactivity disorder (ADHD). ADHD was a common diagnosis for the students in the case studies. The cases suggest that individuals with ADHD experienced disruptive behavior and were more impulsive and socially challenged. Overall, the case studies seemed to rely on cognitive therapy and affect management interventions for the treatment of disruptive behavior.

One of the case studies involved the creation of a safety plan to address the behavior of self-harm. A safety plan is common when treating self-harming and suicidal patients (Sharry, Darmody, & Madden, 2002). Perhaps it is worth considering as a practice standard. However, because only one of the case studies used this technique, more information is needed to understand how that would be implemented in NATSAP settings.

Possible practice standard

The cases suggested that NATSAP programs might provide psycho-education about disruptive behaviors, promote new interests to replace old behaviors, utilize support group meetings, and create relapse prevention plans for NATSAP students struggling in this area. In addition, the cases seem to suggest the important of exploring issues of problems or diagnoses that might co-occur with disruptive behavior, such as ADHD and substance use. Regardless of issues with comorbidity, it seems that programs might consider researching and discussing the use of Cognitive Therapy and affect management interventions to treat disruptive behaviors.

Confrontational attitudes and/or resistance to treatment

Resistance to therapy, noncompliance, and confrontational attitudes from students all made frequent appearances in the case studies, especially since many of the students were placed in treatment by their parents and not of their own accord. Ambivalence toward treatment, intentional failure to prepare for therapy sessions, and persistent rule breaking were common occurrences in the case studies.

Possible practice standard

The interventions used in the cases suggested that therapists found benefit from fostering a strong, trusting therapeutic relationship with students. Furthermore, the analysis of the cases suggested that students with persistent confrontational attitudes and resistance to treatment did well when required to adhere to the daily program routine and to experience natural consequences. For wilderness programs, the cases suggest that confrontational attitudes may be dealt with effectively through "solo" interventions, during which students spend long periods of time alone completing practical survival tasks as well as self-reflection assignments.

General Practice Standards

Across the cases, therapists used different approaches and theoretical orientations to deal with complex client problems and challenges; however, there were overarching commonalities in the therapists' general approach to treatment. These commonalities were evident regardless of the youth's presenting problem or challenge. Qualitative analysis of the general approach to therapy suggested that therapy seemed to be effective when the youth was provided individualized treatment plans, which were delivered by therapists who were competent in family therapy and had knowledge of common practices within NATSAP, but departed from common practices only to use other empirically proven techniques. Furthermore, across the cases it was evident that effective practice included the use of thorough assessments to provide accurate diagnoses and identification of problems or challenges. Perhaps these general treatment standards are worthy of research attention and focused clinical discussions.

Conclusions

This paper suggested practice standards that were based on a qualitative analysis of the case studies in the 2015 Special Issue of the JTSP (Behrens & Gass, 2015). The hope is that it will serve as a starting point for further research and long-term organization-wide conversations about practice standards. Perhaps a focused effort to arrive at clinical consensus will result in the formulation of a series of clinical practice standards for NATSAP programs. Below is a summary of the aforementioned practice standards offered for consideration.

Table 2: *Practice Standards*

Category	**Possible Practice Standards based on case study analyses**
Family Dysfunction	Family therapy in some form seems promising; parents may be encouraged to seek therapy while their child is enrolled in a NATSAP program; there could be a plan in place to gradually intensify the therapeutic involvement of the parents throughout treatment; programs could consider offering consistent opportunities for in-person parents visits; and, consideration of family issues in discharge planning could be helpful.
Anxiety and Mood Disorders	NATSAP programs could consider the importance of assessing anxiety and mood disorders at the onset of treatment. A treatment plan utilizing experiential exercises, milieu interactions, connecting with emotions, and family therapy seemed to be helpful.
Academic Struggles	Residential treatment centers seemed to provide some form of a school setting for students to address their academic needs. Within these academic settings, programs did well when they offered an individualized approach for all students, along with careful assessment of learning deficits or problems. Analysis of the case studies also suggested that considerations about appropriate academic placements can be featured in the student's discharge plan. The differences between residential and wilderness programs' focus on academics may be important to explore.
Identity Formation and Self-Esteem	Non-specific interventions based on increasing emotional vulnerability, providing leadership opportunities, connecting to caretakers, showing initiative, and developing new hobbies seemed to be common practices.
Difficulty with Transitions	Concrete aftercare plans that consist of communication with the new therapist and establishment of clear boundaries and expectations between the child and their parents seemed to be effective. Also, when considering a program match with a particular student, it may be important to assess the students' needs and program provisions. NATSAP programs could consider what type of students fit best their model.
Disruptive Behaviors	NATSAP programs could consider providing psycho-education about disruptive behaviors, assist in the discovery of new interests to replace old behaviors, utilize support group meetings, and create relapse prevention plans for NATSAP students struggling in this area.
Confrontational Attitudes and/or Resistance to Treatment	Analysis of the case studies suggests that students with confrontational attitudes and resistance to treatment benefit from a daily program routine. The cases seem to support the importance of a strong therapeutic relationship. Consequences that mirror natural penalties in life outside of treatment seemed effective. For wilderness programs, "solo" interventions may be used in treatment of confrontational attitudes.
General Practice Standards	Qualitative analysis of the cases showed that effective therapists provided individualized treatment plans, were competent in family therapy, had knowledge of common practices within NATSAP, departed from common practices only to use other empirically proven techniques, and conducted thorough assessments to provide accurate diagnoses and identification of problems.

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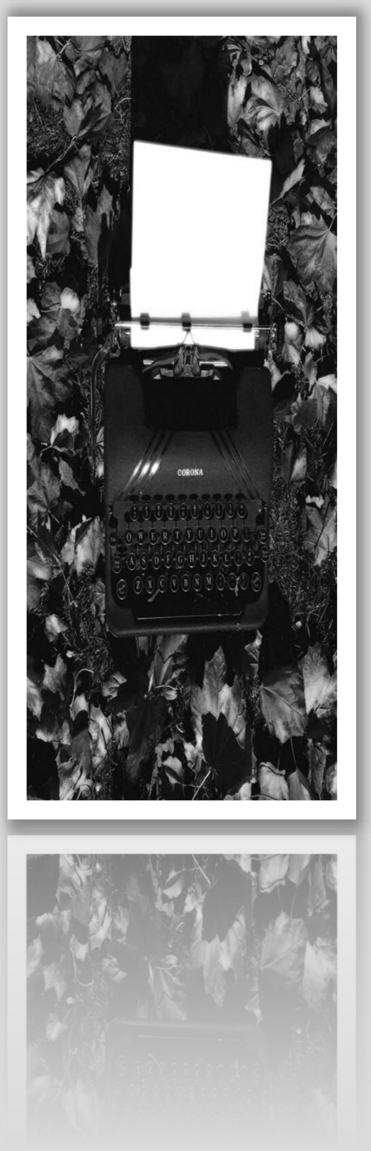

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