JTSP

Journal of Therapeutic Schools & Programs

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A New Phase for the **NATSAP PRN:** Post-Discharge Reporting and Transition to Network Wide Utilization of the Y-OQ 2.0

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The NATSAP Practice Research Network (PRN) was established in 2007 in order to develop a foundation of outcomes-based evidence for programs providing support to youth facing emotional and behavioral challenges (Young & Gass, 2008). The NATSAP PRN was seen as a cost-effective tool to provide outcome data used to indicate the successes and shortcomings of NATSAP programs as an industry group. The outcomes were also accessible by individual programs, providing credible and confidential feedback on the effectiveness of that particular program relative to other programs. The NATSAP PRN has continued to establish support for the effectiveness of NATSAP programs in the past five years, but many questions still remain about the "true" outcomes achieved by these programs. As the PRN works towards helping to answer these questions regarding program effectiveness, the network seeks to demonstrate that the treatment models implemented by participating organizations may be considered evidenced-based practice (Young & Gass, 2010, Tucker, Zelov & Young, 2011).

During the past two decades, there has been an increased focus in the behavioral health community on delivering evidence-based practice (EBP). Some of those practices, such as motivational interviewing and psychoeducational-supported employment, are now common practice in many behavioral health settings (Surface, 2009). The term 'evidence-based practice' was originally used to describe a process. However, it has started to be used to refer to any practice that has some form of acceptable evidence that supports the treatment model (Surface, 2009). Consequently there is confusion in the literature and among mental health practitioners, and when the term is used, it is often the specific evidence-based practices, not the process that is being mentioned (Surface, 2009). In medical research—where

the term EBP was first coined—randomized clinical trials are considered the gold standard of research (Stetler, 2001; Stetler, 2010). In therapeutic settings, where medicine is not the variable being examined, it becomes more difficult to directly test a particular intervention or model. In response to this, several organizations have created systems and rubrics (NREPP, 2012; Gass, Gillis, & Russell, 2012) that evaluate the reliability and generalizability of interventions.

The Substance Abuse and Mental Health Services Administration (SAMHSA) has developed a website that serves as a portal for their National Registry of Evidence-based Programs and Practices (NREPP, http://www.nrepp.samhsa.gov). Inclusion on this list is determined by six Quality of Research (QOR) factors shown in Table 1. Each of these is scored on a 0-4 scale by a team of reviewers and each outcome is rated separately as needed (NREPP, 2012). A successful review by NREPP is a significant milestone in the development of mental health and substance abuse treatment interventions. Submission for review requires one or more positive behavioral outcomes (p≤ .05) using experimental or quasi-experimental designs that have been published in a peer-reviewed journal or documented in a comprehensive evaluation, as well as having implementation and quality assurance materials ready for use by the public (NREPP, 2012). NREPP registry programs enjoy a level of increased sustainability and recognition in the mental health field due to the rigorous evaluation that they undergo. This is tied to the fact that many government funding and insurance organizations require that any money used for treatment may only support interventions that have a proven impact on participants.

Table 1

Quality of Research Rubric

Elements of Quality	
Reliability of measures	Outcome measures should have acceptable reliability to be interpretable. "Acceptable" here means reliability at a level that is conventionally accepted by experts in the field.
Validity of measures	Outcome measures should have acceptable validity to be interpretable. "Acceptable" here means validity at a level that is conventionally accepted by experts in the field.
Intervention fidelity	The "experimental" intervention implemented in a study should have fidelity to the intervention proposed by the applicant. Instruments that have tested acceptable psychometric properties (e.g., inter-rater reliability, validity as shown by positive association with outcomes) provide the highest level of evidence.
Missing data and attrition	Study results can be biased by participant attrition and other forms of missing data. Statistical methods as supported by theory and research can be employed to control for missing data and attrition that would bias results, but studies with no attrition or missing data needing adjustment provide the strongest evidence that results are not biased.
Potential confounding variables	Often variables other than the intervention may account for the reported outcomes. The degree to which confounds are accounted for affects the strength of causal inference.
Appropriateness of analysis	Appropriate analysis is necessary to make an inference that an intervention caused reported outcomes.

In order to develop the level of professionalism and respectability seen in successful submissions to NREPP, the NATSAP PRN has continued to grow and evolve in its level of sophistication and the depth of analyses it is able to perform. While its initial studies provided a snapshot of the populations that were attending the programs (Young & Gass, 2010), more recent research shows that there are clinically and statistically significant positive outcomes gained during the course of treatment (Tucker et al., 2011). Continued data collection has enabled the researchers to add to the previous findings and include post-treatment data, which is a key component for demonstrating intervention effectiveness and is a necessary part of establishing an intervention as EBP. This level of research continues towards the goal of measuring outcome data from contributors to the NATSAP PRN and increasing confidence in past research and generalizability. The focus of this paper is on reporting one-year post discharge findings as well as continuing to report changes from admission to discharge for contributing NATSAP programs.

Methods

Measures

The NATSAP programs participating in this study gathered psychosocial client information from multiple sources. The NATSAP PRN currently employs the Outcome Questionnaire Family of Instruments (OQ) (Burlingame et al., 2005; OQ Measures, 2011; Wells, Burlingame, & Rose, 2003). The Y-OQ-SR 2.0 and the Y-OQ 30 SR are self-report instruments filled out by youth ages 11 to 19. The Y-OQ 2.0 and Y-OQ 30 instruments were also completed by parents and guardians at admission and discharge (Burlingame et al., 2005; Wells et al., 2003). The Y-OQ 2.0 weighs a variety of behavioral and emotional ranges and possesses a variety of subscales. 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). The OQ assessments possess established normative scores with documented validity and reliability (Holloway, 2004; Jones, 2004; Lambert et al., 1996; Mueller, Lambert, & Burlingame, 1998; Wells et al., 2003).

Programs participating in the NATSAP PRN previously had the option to use the Y-OQ 2.0 or the shorter Y-OQ 30 version; however, the decision was made to no longer use the Y-OQ 30. The Y-OQ 2.0 allows for clinicians, programs, and researchers to assess how treatment is impacting client functioning not only on a general level, but across six domains of functioning including: interpersonal distress; somatic; interpersonal relations; critical items; social problems; and behavioral dysfunction (Burlingame et al., 2005). The increased specificity of the YOQ 2.0 in comparison to the general functioning assessment provided by the YOQ 30 provides clinicians with a deeper understanding of the issues their clients are facing, and allows researchers to pursue more detailed investigations. In addition, the PRN transitioned during the past year from its use of CarePaths as a data management system to OutcomeTools, an online data-management system designed by

the creators of BestNotes, a commonly used client management tool for NATSAP programs. Ease of data entry has increased; hence time needed to administer and enter data from the Y-OQ 2.0 was decreased. As of July 2011, the participating programs began the transition to using only the Y-OQ 2.0 for youth and parents.

In addition to the standardized instruments, customized questionnaires were completed by program staff (e.g., reasons for referral, referral source, admission date, gender, date of birth, and record of abuse), clients (e.g., attitude toward program and drug/alcohol use), and parent/guardians (e.g., previous treatment history, recent school performance, client drug/alcohol use). Copies of all questionnaires used can be viewed at the NATSAP website (http://natsap.org/resources-for-natsap-research-and-evaluation-network-program-research-coordinators/).

The Sample

Data were collected on 2,669 clients admitted to 22 residential programs between December 2007 and May 2012. All 22 of the programs were predominantly private-pay facilities and were all NATSAP members. Of the 2669 clients, 1723 of these clients originally completed the Y-OQ 30 at admission, all of whom were Outdoor Behavioral Healthcare clients. As discussed by Tucker, Zelov & Young (2011), approximately 886 of these clients also completed discharge data with an attrition rate of 48%. This study is a continuation of Tucker et al. (2011) presenting the post-discharge data for this sample. In addition, it presents the admission and discharge data for all of the Y-OQ 2.0 youth and parent data collected to date.

The clients in this study came predominantly from RTC programs (63.0%) and the remainder from Therapeutic Boarding Schools (19.8%), and OBH (16.4%). The majority of the study sample was male (49.8%, n = 464) with 45.8% (n = 433) of the clients being male. The average age of the clients in this study sample was 15.8 years (*SD* = 1.6), with 95.2% of the clients between the ages of 13 and 18 years of age. For the 946 clients for whom there is admission data via the Y-OQ 2.0 the most common primary presenting issues were depression 24.4% and attention issues (Attention Deficit Hyperactivity Disorder or Attention Deficit Disorder), followed by learning disabilities (15.9%), anxiety (14.3%), and alcohol and substance abuse (14.0%) (see Table 2).

Findings

Discharge Data

Youth self report. As discussed previously, the PRN is transitioning away from the Y-OQ 30 and utilizing the Y-OQ 2.0 for all participants regardless of program type. Table 3 reports the findings of all the Y-OQ 2.0 YSR matched pairs of data as of May 2012. Discharge data was collected from both RTC (*N* = 132) and OBH (*N* = 74) participants at the end of their programs; Table 3 provides a complete description of the mean scores at admission and discharge on Y-OQ 2.0 measures for youth in both treatment

Table 2

Presenting Issues of Residential Participants (N=964)

Issue	n	%
Depression	231	24.4
Attention Issue (ADHD/ADD)	208	22.0
Learning Disabilities	150	15.9
Anxiety	135	14.3
Alcohol and Substance Abuse	132	14.0
Other	100	10.6
Oppositional Defiant Disorder/Conduct Disorder (ODD/CD)	62	6.6
Trauma	62	6.6
Autism	10	1.1
Two or more issues	455	48.1
Missing Data re: Presenting Issues	503	53.2

groups. OBH data is limited due to the recent change over from the Y-OQ 30 to the 2.0. Paired samples t-tests were completed as well as effect sizes (*d*) and their confidence intervals for each analysis. Effect sizes measure the strength of a relationship across groups and are used to make numeric comparisons between different findings and their overall treatment effects. Effects sizes are considered to be small when .20 or less, medium at .50 and large when greater than .80 (Cohen, as cited by Gillis & Speelman, 2008). When looking at youth self reports, statistically significant differences as well as large effect sizes were found on all measures (see Table 3). Higher scores correlate with higher levels of dysfunction in the lives of the youth.

To help track client outcomes as well as client progress, clinical cut-off scores were calculated by the instrument developers who compared scores from a normative sample to two clinical samples of inpatient and outpatient populations (Burlingame et al., 2005; Wells et al., 2003). Based on these cut-offs, all of the mean admission scores for the Y-OQ 2.0 SR for youth from OBH as well as RTC programs were within the range of clinical dysfunction for the participants; however, after participating in their residential programs, all of the discharge means were considered to be within the non-clinical range of functioning, except for the mean post score for Social Problems for OBH youth, which was just above the clinical cut off of 3.0. In addition to cut-off scores, a reliable change index (RCI) (Jacobsen & Truax, 1991) was derived for all Y-OQ measures (and subscales) to determine if clients had made significant changes in their symptoms, because statistical significance does not always equate with clinical significance. For an individual's total score to be considered clinically recovered according to the Y-OQ 2.0 SR the change for the total score must be 13 points or greater (with varying levels for the subscales) in addition to post treatment scores falling below the clinical cut-offs for each score (Burlingame et al., 2003; OQ Measures, 2011). As shown in bold on Table 3, total scores for RTC and OBH youth reflect scores of significant clinical recovery. In addition, all subscales for

Table 3

Y-OQ YSR 2.0 Mean Scores at Admission and Discharge

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	t	d	95% CI (lower - upper)
Residential Treatment Centers (N=132)					
Total Score	82.5 (35.8)[a]	**35.0(31.6)**	14.24***	1.58	-4.53 - 6.97
Critical Items	9.0 (5.6)[a]	**3.9(3.3)**	9.41***	1.22	0.26 -1.78
Behavioral Dysfunction	18.0(11.5)[a]	**8.4(7.5)**	8.68***	1.10	-0.86 - 2.38
Social Problems	9.0 (8.5)[a]	**1.3(4.4)**	10.33***	1.38	-0.07 - 2.13
Interpersonal Relations	9.1 (8.0)[a]	**1.0(6.6)**	12.49***	1.41	0.05 - 2.54
Somatic	8.6(5.2)[a]	**4.9(4.3)**	8.40***	1.04	0.15 - 1.77
Intrapersonal Distress	29.7(13.6)[a]	**14.1(10.8)**	13.0***	2.46	-0.86 -3.30
Outdoor Behavioral Health-care (N=74)					
Total Score	70.5(38.6)[a]	**36.9(32.3)**	7.94***	1.31	-7.48 - 8.67
Critical Items	8.5(6.4)[a]	5.0(4.9)	5.28***	1.90	-0.56 - 2.02
Behavioral Dysfunction	14.9(7.7)[a]	9.2(8.1)	6.21***	1.02	-0.74 - 2.86
Social Problemas	8.2(5.2)[a]	3.1(4.9)[a]	7.52***	1.24	0.05 - 2.35
Interpersonal Relations	6.1(5.7)[a]	**1.9(5.4)**	5.74***	0.93	-0.37 - 2.16
Somatic	8.2(5.8)[a]	**4.4(4.0)**	5.88***	0.99	-0.33 - 1.90
Intrapersonal Distress	25.0(15.1)[a]	**13.6(11.7)**	7.03***	1.18	-2.26 -3.84

***$p < .001$

[a] Scores above the clinical cut-off which reflects dysfunction.

Bold scores represent changes considered to be clinically recovered.

RTC youth (Social Problems, Interpersonal Relations, Intrapersonal Distress) reflected clinical recovery. Youth in OBH had changes reflecting recovery on the subscale for Intrapersonal Distress, Somatic, Interpersonal Relations and approached this level for the Social Problems subscale.

Parent reports. Similar to the youth self-report data, parents of youth at RTCs and OBH programs used the Y-OQ 2.0 with its subsequent sub-scales. Overall, admission and discharge data were available from 112 parents of youth in RTCs and 39 parents of youth in OBH programs for a total of 151 parents reporting. OBH parent data is limited due to the recent change over from the Y-OQ 30 to the 2.0. Table 4 provides a complete description of the mean scores at admission and discharge for OBH and RTC youth. Paired samples t-tests were completed and statistically significant differences were found on all measures, as well as high effects sizes (see Table 4).

Based on the clinical cut off scores for the parent forms, at admission parents reported their children to be functioning at a level of clinical concern or deviant from a non-clinical population of peers on all of the measures. After participating in residential programs, however, all of the discharge means were considered to be within the non-clinical range of functioning. Unlike what youth reported, parents reported not only statistically significant changes, but changes that were large enough to be

considered clinically significant according to the measure's reliable change index (RCI) on almost all measures (Wells et al., 2005; OQ Measures). As shown in bold on Table 4, the means of all of the scores except Somatic for OBH youth were considered to reflect areas of functioning as reported by the parent in which the youth had shown clinically significant changes.

Table 4

Parent Y-OQ Mean Scores at Admission and Discharge

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	t	d	95% CI (lower - upper)
Y-OQ 2.0 Parent Scores for RTC Youth (*N*=112)					
Total Score	99.1(32.9)[a]	**30.8(29.4)**	17.83***	2.38	-3.71 - 7.82
Critical Items	11.8(5.9)[a]	**2.7(4.4)**	14.17***	1.89	0.80 - 2.72
Behavioral Dysfunction	27.4(12.1)[a]	**8.8(5.7)**	14.04***	2.58	0.34 - 6.64
Social Problems	8.8(5.6)[a]	**2.3(4.2)**	10.12***	1.38	0.35 - 2.16
Interpersonal Relations	14.0(6.7)[a]	**1.6(6.0)**	16.90***	2.26	1.02 - 3.37
Somatic	8.7(5.3)[a]	**3.6(3.3)**	10.97***	1.56	0.57 - 2.17
Intrapersonal Distress	28.7(12.2)[a]	**10.2(8.2)**	13.78***	1.87	-0.39 - 3.39
Y-OQ 2.0 Parent Scores for OBH Youth (*N*=39)					
Total Score	95.6(27.3)[a]	**28.8(36.9)**	10.75***	2.49	-6.08 - 14.07
Critical Items	8.8(4.8)[a]	**3.8(4.7)**	7.27***	1.68	0.17 - 3.15
Behavioral Dysfunction	22.0(6.5)[a]	**6.7(8.4)**	10.70***	2.47	0.43 - 5.11
Social Problemas	12.9(5.5)[a]	**2.7(5.1)**	8.87***	2.02	0.29 - 3.62
Interpersonal Relations	14.4(5.9)[a]	**2.4(6.3)**	9.85***	2.22	0.37 - 4.20
Somatic	7.1(4.4)[a]	2.7(3.5)	5.78***	1.32	-0.06 - 2.42
Intrapersonal Distress	30.5(11.0)[a]	**10.6(12.8)**	8.57***	1.95	-1.50 - 5.97

****p < .001*
[a] Scores above the clinical cut-off which reflects dysfunction.
Bold scores represent changes considered to reflect clinical recovery.

Post-Discharge Data

OBH. Post-discharge data were also collected from students (*N* = 98) and parents (*N* = 39) from OBH programs using the Y-OQ 30 six months or more after the end of their programs (see Table 5). A repeated measures ANOVA determined that mean Y-OQ 30 scores for both YSR and parents differed statistically significantly between time points. Mauchly's Test of Sphericity indicated that the assumption of sphericity had been violated for both Total Scores, hence a Greenhouse-Geisser correction was used on those items. Bonferroni post hoc tests revealed that youth and their parents reported a decrease in youth's level of dysfunction from admission to discharge and that it did not change significantly from that discharge to post-discharge, suggesting that this change was maintained over time. It is important to note that of the 886 pairs of YSR reported by Tucker et al. (2011), only 98 youth reports were collected at post-discharge reflecting an attrition rate of 89.9% and out of the original 171 paired admission to

discharge data for parent reports, data was only collected post-discharge from 39 parents with an attrition rate of 77.1%

Table 5

Admission, Discharge and Post-Discharge Mean YOQ 30 Scores for OBH Participants

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	$M_{Post-Discharge}$ (SD)	F	Partial Eta²
Youth SR (N=98)	40.0 (16.5)[a]	**23.4(15.2)**	24.8 (14.6)	51.73***	0.35[#]
Parent (N=39)	55.9 (19.8)[a]	**28.6(16.0)**	28.0 (16.4)	35.81***	0.49[#]

***p < .001
[a] Scores above the clinical cut-off which reflects dysfunction.
Bold scores represent changes considered to reflect clinical recovery.
[#] Indicates that sphericity was violated and that a Greenhouse-Geisser correction was used.

RTC. For participants in RTC programs, YSR data were collected from 29 youth post-discharge, reflecting an attrition rate of 72.1% of 104 pairs of Y-OQ 2.0 YSR admission and discharge data reported by Tucker et al. (2011). For this data, repeated measures ANOVA analyses reported that the means for the total score and the subscales differed significantly across time points (see Table 6). Mauchly's Test of Sphericity indicated that the assumption of sphericity had been violated for several subscales (Critical Items, Social Problems, and Behavioral Dysfunction) therefore a Greenhouse-Geisser correction was used on those items. Post-hoc analyses highlighted significant differences in mean scores between admission and discharge, but no significant differences between discharge and post-discharge suggesting maintenance of change across time.

Table 6

Y-OQ 2.0 Scores from Youth in Residential Treatment Centers (N=29)

	$M_{Admission}$ (SD)	$M_{Discharge}$ (SD)	$M_{Post-Discharge}$ (SD)	F	Partial Eta²
Total Score	84.5(34.3)[a]	**37.0(31.2)**	**41.1(34.0)**	28.56***	.51
Critical Items	9.8(6.1)[a]	**4.1(3.2)**	**4.4(3.9)**	19.17***	.41[#]
Behavioral Dysfunction	20.0(17.2)[a]	**10.2(8.1)**	**10.9(9.4)**	7.08**	.20[#]
Social Problems	11.6(11.2)[a]	**1.7(3.7)**	**2.8(4.8)**	19.66***	.41[#]
Interpersonal Relations	10.2(8.3)[a]	**1.6(7.5)**	**2.9(6.7)**	21.39***	.43[#]
Somatic	7.5(5.5)[a]	4.4(4.0)	3.8(3.1)	8.59***	.24
Intrapersonal Distress	29.2(13.4)[a]	**14.8(11.0)**	16.8(12.0)[a]	1.71***	.44

***p < .001
[a] Scores above the clinical cut-off which reflects dysfunction.
Bold scores represent changes considered to reflect clinical recovery.
[#] Indicates that sphericity was violated and that a Greenhouse-Geisser correction was used.

Discussion

Based on the current findings, programs that are contributing to the NATSAP PRN continue to show a trend toward positive changes from admission to discharge for participating youth. This trend is substantiated by the youth who are self-reporting as well as parents who are submitting data regarding their children. Based on the Y-OQ 2.0 and Y-OQ 2.0 SR measures,

not only did the youth exhibit marked improvement from admission to discharge, all of their subscale scores were considered above the cut off for clinical dysfunction at intake, and all but one (OBH Social Problems, cutoff = 3.0 and score was 3.1) were below this cut off at discharge. In most instances youth scores also improved enough to be considered clinically significant as well, which indicates that on average, youth entered NATSAP programs with clinically significant levels of dysfunctional behavior and reported behaviors within the normal range of functioning at discharge. For youth self-report and parent report Y-OQ 2.0 from RTC programs, all subscales decreased to a level that reflected healthy, non-deviant behavior. The same was true for parent assessment from OBH programs. These clinically significant changes determined according to Y-OQ benchmarks were also supported statistically by large effect sizes; all were above 1.0.

Regardless of setting (RTC or OBH), youth reported on average to be significantly and clinically improved at discharge, however, self-report scores in OBH programs did not show the same clinical changes observed in other groups. Differences with the parent report data has been attributed in the past to differences in reporting tendencies between parents and youth (Achenbach & Edelbrock, 1991; Behrens & Satterfield, 2006; Gass, 2005; Russell, 2003; 2005; Young & Gass, 2010), but could also be due to differences in the participants who are attending the two types of programs. The admission self-report scores from OBH and RTC programs differ significantly on the total score and the Behavioral Dysfunction, Interpersonal Relations, and Intrapersonal distress, with OBH scores being lower at admission. At discharge those same items are no longer significantly different. Hence, both OBH and RTC clients were functioning at similar levels of positive functioning at discharge. Research comparing OBH and RTC program participants and their relative admission scores is non-existent. Even though this is a pattern that has been reported on in previous iterations of this study (Tucker et al., 2011), it is not clear what significance they hold. It appears based on this data that individuals going to RTC programs were more acute in their level of dysfunction and therefore had more room to improve during the course of treatment.

The post-discharge data showed that on average the significant improvements during the course of treatment discussed above are maintained; neither youth nor their parents reported post-discharge scores that indicated a significant difference from discharge. All of the subscales except one (Intrapersonal Distress) stayed below the clinical cutoff level at six months or more. It is of note that all of the subscales showed statistically large effects sizes (partial eta2) that were greater than .20. At this time there was not sufficient parent data in order to make meaningful comparisons, because only parent data from OBH programs was available for analysis with low responses from RTC parents.

Limitations and Future Directions

The findings of this study and others by the NATSAP PRN continue to

demonstrate consistent clinical improvements in clients according to both youth and parents. Although the findings remain positive, it is important to be aware of the limitations among these outcomes. As the previous study addressed (Tucker et al., 2011), issues of large variances and their impact on effect sizes continue to appear during analysis. Although the trend is towards success, it should be noted that it was not achieved for all of the participants and these findings should not be applied universally to all youth in these programs.

The NATSAP PRN still faces challenges common to similar organizations regarding recruitment and generalizability, measurement validity, managing relationships with members, and ongoing program support (McMillan, Lenze, Hawley, & Osborne, 2009). In terms of recruitment and generalizability, it is important to point out that the data included in this study came from 22 of the NATSAP member programs and represents only a small sample of the field. Hence, these findings should not be considered representative of all NATSAP programs. In fact, the outcomes may be more due to one or two programs than as an overall model. The findings that have been observed continue to be positive, but they are only able to point towards the possibility that these programs may be successful enough to qualify for model treatment status. It is anticipated that this will improve now that the transition to OutcomeTools as the data collection software is complete. For example, the number of complete admission entries increased twofold within the first six months after the transition to Outcome Tools.

One of the primary limitations of these findings involves the validity and reliability of data. While the OQ measures have shown to have consistently strong reliability and validity, a lack of consistent data entry in terms of demographics and presenting issues at intake by participating programs limited the ability to truly understand how these independent variables impacted changes in youth functioning. Less than half of the participants in the study sample had this basic information, which is provided by the program. Despite this, during the past year there has been a dramatic shift in this trend, as with the use of OutcomeTools total numbers of complete entries has risen. It is anticipated that this limitation will be minimized in the future.

Attrition at discharge limited the size of the matched data and the confidence in the findings. Since it was unclear why discharge assessments were not completed, it cannot be ruled out that those participants who did not complete discharge assessments were more acute or did worse than others for whom this data were collected. Another possibility is that some of the participants are still in treatment since the PRN is an ongoing process rather than a completed study. This is particularly salient for those that are in RTCs, which tend to have a significantly longer average length of treatment. A third option is lost data; one of the negatives that was discussed in switching to OutcomeTools was the potential loss of data during the transition from one system to the other. This certainly does not

account for all the attrition observed, but it may account for a significant portion. While it is regrettable to lose any data it appears that it will be mitigated by the increases that will be seen in the long term due to ease of entry.

If the goals of the NATSAP PRN are to be fully realized, these issues need to be addressed. Significant progress in these regards has been made with the implementation of OutcomeTools. Significant increases have been seen in the number of admission assessments submitted to the database, with similar increases in the number of complete demographic information forms submitted since the move to the new online assessment package in July 2011. This development has addressed some of the previous concerns discussed regarding PRNs and the challenges they face (McMillan et al., 2009; Tucker et al., 2011).

Another key element for success is continued PRN recruitment and development. Many individual organizations are eager to join and participate with the initiative, but when it comes to implementation on an individual level it becomes necessary to develop the protocol for this as they go. Having increased resources in the form of outlines or models for implementation could help programs that do not have a significant research presence develop their own method for gathering data in a more efficient manner.

The NATSAP PRN has continued to show the potential to produce significant network-wide program outcomes and is closer to becoming a valid method for evaluating change. While it has areas where growth is still needed, the positive nature of the post-discharge outcomes reported here was a significant step. Future areas of growth should focus on continuing to improve the consistency of data entry, particularly discharge and post-discharge data, and increasing the rate of participation of programs. The growth of the NATSAP PRN shows great promise and only with proper care and guidance will the tokens of greater success be redeemed for the full return.

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The Montana Adolescent Maturity Assessment-Parent Version (MAMA-P): A Rating Scale for Immaturity

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Introduction

Several years ago our clinical experience with troubled teenagers (i.e., adolescents brought for treatment to a private therapeutic high school located on a remote ranch in Montana by parents from suburban-urban hubs in 30 states) suggested these individuals shared a number of common clinical denominators. This occurred despite a long list of symptoms, signs, misbehaviors, and failures well-described in their histories, including well over 50 cumulative Axis-I DSM-IV diagnoses offered as explanations by hundreds of clinicians during prior failed attempts at outpatient treatment.

These students demonstrated a panoply of symptoms, misbehaviors, and spectrum of dysfunction. Most had endured various dysphoric affects and anxieties for months, albeit none were obviously psychotic. Few had ever been arrested, none adjudicated, but many had been dishonest and sneaky. And most had disobeyed home or school rules and civic laws with impunity and without apparent remorse. Many reported distracting preoccupations (e.g., eating disturbances, serial intoxications, compulsive video-game use, florid promiscuity). Some had repeatedly injured themselves (i.e., a few had made suicidal gestures, and a very few had survived serious attempts). They had already failed most of the normative tasks of a modern adolescence at home, at school, and among age-peers socially. Invariably psychiatric outpatient treatments attempted by well-trained clinicians across the nation had failed, or outpatient treatment had become untenable when these young people could no longer safely live at home.

Certainly no two histories were precisely alike; and no two profiles of symptoms, diagnoses, and misbehaviors were exactly the same. Yet

after examining a few hundred of these accounts, we recognized what they shared in common. For a start, there was a common "story line" throughout almost all of their histories: a teenager's serial difficulties, which despite outpatient psychotherapies and multiple trials of psycho-polypharmacy, progressively worsened until a crisis provoked an exile from home to a "wilderness" program and then on to residential placement. Second, not only was there one narrowly-defined domain of difficulty, but rather a scattered pattern of academic, family and social failures, usually associated with deterioration in family function and morale.

Third, parents described a characteristic set of attitudes in a troubled daughter or son. The details differed, but parents all invariably complained: (a) about adolescents so self-centered, narcissistic, and grandiose (e.g., "It's all about *her*!) that even other teenagers were offended; (b) about adolescents so lacking in empathy they were unable to imagine (or to care) how someone "different" (i.e., someone perceived not to be "just like *me*") might feel that they are entirely unable to put themselves in the place of a younger sibling, teacher, parent, or grandparent; (c) about teenagers who were heedless about future consequences, and lacked fully-imagined goals or step-wise plans to achieve any future aim, apart from wishful thinking; (d) about adolescents who treated close others (e.g., parents, siblings, friends) like puppets, expecting them to acquiesce in their selfish plans or gratify their desires or demands; and if they did not do as expected (e.g., if a parent or sibling said "no") the result was a tantrum, sneaky evasion, or persistent badgering; and (e) about a son or daughter who apparently suffered little or no moral reasoning about offensive, selfish, sneaky, defiant, or prohibited behavior—other than wariness about getting caught and punished.

The unsound attitudes present in most of these teenagers constituted a "flawed approach" to the tasks of adolescence. This approach made confrontations and failures inevitable, and parents invariably wished we would change such flawed approaches by teaching their children new "coping skills" so that they would "learn" to make "good" choices instead of "bad" choices. Parents usually phrased "wanted transformations" in terms of learning, as these bright teenagers already had resisted learning the "lessons" for months that incessant parental lectures and unhappy consequences might have been expected to teach. When these young people moved to our remote ranch to live and work in close proximity with our teachers and therapists, this flawed approach also became obvious. Confrontations were reproduced with adults and disrupted relationships with peers brought unhappiness. Yet these young people were not readily able to "learn" a better approach, as presumably they might have done if the underlying cause of their difficulties had merely been "ignorance" that "learning" could remedy.

After working closely with many of these troubled young people, and after experiencing repetitive variations on these themes, it occurred to us that all the elements of this adolescent "flawed approach" were

normal in younger children.[i] These descriptive elements sounded like an appropriate description of a normal three-year-old, in whom a lack of empathic consideration, goals, and worry about "honor" would not arouse the slightest parental concern, for these limitations are expected in toddlers. Stated another way, the problem with a teenager whose only approach to opportunities and challenges is similarly constrained is not that he has acquired a novel pathology, but rather that he has not moved on developmentally and therefore seems constrained to behave like a toddler. In adolescence, much more is currently expected and for this reason such intractable childishness produces all kinds of trouble. This became our working clinical formulation in these cases: that the "flawed approach" in these teenagers was a relative form of immaturity (McKinnon, 2008).

Fortunately these were not new ideas. Normative developmental sequences carefully described decades ago brought precision and coherence to parental accounts of academic and interpersonal dysfunction in immature teenagers. These careful accounts on the various aspects of psychological maturation described both usual adolescent achievements and also the pre-adolescent stages where immature teenagers presumably had become stuck (Kegan, 1982, 1994). For example, Jean Piaget's (1952) account of cognitive development explained "magical" and "concrete" thinking as pre-adolescent forms of thought. Such thoughts represent the interpretations of reality that immature teenagers are limited to and rely upon, inasmuch as they have not yet managed to assimilate mature "cross-contextual" (abstract) thinking to concepts of present acts and future consequences. Piaget's careful observations are also consistent with recent imaging studies of adolescent brain maturation, demonstrating the pre-frontal cortex (long implicated in planning, sequencing and other "executive" functions) matures late in adolescence. When adolescent development gets disrupted, it makes sense that executive functioning also may become delayed (Giedd, et al., 2009; Goldberg, 2001). Margaret Mahler's (1975) descriptions of the achievements of "separation" and "individuation" in childhood, and Heinz Kohut's (1971, 1977) account of the still-fused internalized representations of self and other that result from a developmental failure to achieve "whole" (separate) objects, make conceptual sense of an immature teenager's (pre-adolescent) expectation that emotionally-close others will behave as extensions of self (i.e., like puppets). Lawrence Kohlberg's studies of the childhood stages in the evolution of moral reasoning make sense of an immature teenager's pre-adolescent failure to employ abstract or social ethical reasoning and his shameless pre-adolescent "moral" preoccupation with merely eluding

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[i] For this epiphany we are indebted to Robert Kegan, whose remarkable synthesis, The Evolving Self: Problem and Process in Human Development (Cambridge: Harvard University Press, 1982), we happened upon at the time we were struggling to understand this "flawed approach" in our young students. Its exegesis of key developmental sequences, described by Jean Piaget, Erik Erikson, Margaret Mahler, Robert Kohlberg and others, was very useful, albeit these works were already familiar. Kegan's later book, In Over Our Heads: The Mental Demands of Modern Life (Cambridge: Harvard University Press, 1994) also (re) makes the traditional case for "arrest" or "delay" as causal explanations for a broad range of adolescent (and adult!) psychological symptoms and problems.

detection and punishment (Kegan, 1982; Kohlberg, 1975).

Since we were convinced that the heart of our work with adolescents ought to focus on changing these dimensions of maturity (and only secondarily aim at symptom reduction), we wanted to develop a way of directly measuring maturity to gauge whether one or another treatment approach made any useful difference. In a literature search, we did not find an established measure likely to gauge the relative immaturity we encountered clinically.

Therefore, we decided to create our own. We started with parental descriptions of that "flawed approach." Since parents had already lived with adolescent immaturity for months, even years, and had become sensitive to its manifestations, we asked them to rate their own children, and pilot test the new instrument. Our goal was to create a reliable instrument that was simple to use, short, valid, (i.e., that measured "maturity" rather than something else), and sensitive to shifts in maturation that made substantial differences in academic and interpersonal functioning. For obvious reasons, we called it the *Montana Adolescent Maturity Assessment (parent version)—or MAMA-p.*

Methods

<u>Participants</u>

Participants were parents of students enrolled at Montana Academy, a therapeutic boarding school in the Northwest United States. Data were collected for the MAMA-p from a total of 511 parents (262 mothers, 249 fathers). Of that sample, 97 parents (54 mothers, 43 fathers) completed additional questionnaires during a parent workshop when they visited their sons and daughters, whose ages ranged from 14 to 18 years (mean age = 16.5).

<u>Procedures</u>

We administered assessments during two parent workshops when parents arrived at Montana Academy to attend lectures and other meetings. In addition, we included data from an ongoing longitudinal study at Montana Academy tracking students' treatment progress during three periods of their stay in our program: pre-enrollment, at mid-treatment, and at graduation. As these other data were collected from parents, we also asked parents to complete the *Montana Adolescent Maturity Assessment-Parent Version* (MAMA-p). Mothers and fathers were instructed to provide independent ratings on all instruments (without consulting one another). Participation was voluntary and participants provided consent and were debriefed.

<u>Assessments</u>

Montana Adolescent Maturity Assessment-Parent Version. The MAMA-p is a parent-report measure of adolescent maturation defined in terms of a teenager's "approach," including: (a) consideration for others, (b) planfulness and future orientation, and (c) prosocial moral reasoning. Mothers and fathers independently responded to 35 statements about their child, after

reading the following instructions: *The following statements describe some children. Read each item and, using the following response scale (never, rarely, sometimes, often, always), check the response that best fits your child's current personality (over the past two months) on the whole.* See Appendix A for a sample of MAMA-p items.

 Global Functioning Questionnaire. The authors created this parent-report questionnaire to assess adolescents' general global functioning. The measure includes 10 items that ask about students' global functioning in areas such as their academic performance, quality of relationships with family members and peers, self-control with drug and alcohol use, and students' self-esteem. Parents rate items on a five-point *Likert* scale, (See Appendix B): 1 = very poor, 2 = poor, 3 = okay, 4 = good, and 5 = very good.

 Child Behavior Checklist (CBCL; Achenbach & Edelbrock, 1991). The CBCL is a parent-report measure of children's behavioral and emotional problems that can be categorized as *internalizing* and *externalizing* difficulties. The *internalizing scale* includes measures of anxiety, depression, and somatic complaints; the *externalizing scal*e measures aggression and rule-breaking behaviors. The CBCL contains 112 items that are rated on a 3-point scale: 0 = not true of your child, 1 = somewhat or sometimes true of your child, and 2 = very true or often true of your child. The CBCL has been shown to possess strong reliability and validity.

Results

Reliability Analyses

 To determine the internal structure and multidimensionality of the MAMA-p, we conducted principle components analysis (PCA) and tests of internal consistency. Item correlations were subjected to PCA separately for father reports and mother reports. Without restricting the number of factors, exploratory PCA revealed five factors for father items, with eigenvalues ranging from 15.25 to 1.07; and four factors for mother items, with eigenvalues ranging from 16.63 to 1.21. Figure 1 shows the scree plots for the father and mother data.

 The eigenvalues (Table 1) suggest a four- or five-factor solution, using Kaiser's (1960) method of extracting components with eigenvalues greater than 1.0. However, this method likely overestimates the number of components (Zwick & Velicer, 1986). Close inspection of the scree plots and Eigen structure suggests that a three-factor solution might better fit the data. Varimax rotation was selected for the three-factor solution, and the results are shown in Table 2. The three-factor solution accounted for a total of 59% of the variance for father MAMA-p scores and a total of 62% for mother MAMA-p scores. The 35 items load on very similar factors for the father and mother data sets, with the exception of three items (items 15, 17, and 23) that appear on a different factor for the other parent but which retain high cross-loadings. These three items can be seen in bold (Table 2) with their cross-loadings underlined.

To evaluate the internal consistency reliability, Cronbach's alphas were conducted on the full 35-item MAMA-p, and on items that make up the three subscales that differ slightly in composition for father-reports and mother-reports. Results indicated the 35-item MAMA-p is reliable (α=.95). For father reports, internal consistency was strong for the three factors (α=.92, α=.93, α=.91). Mother data produced similar reliability coefficients for the three factors (α=.93, α=.94, α=.92). Intercorrelations for the subscale and composite MAMA-p scores are shown in Table 3 for both father and mother data. For father subscales, intercorrelations ranged between .63 and .71. For mother subscales, intercorrelations ranged between .67 and .74. Correlations between subscales and the full MAMA-p scores were higher, as expected, ranging from .86 to .91.

<u>Correlation Analyses</u>

Correlation analyses were conducted between MAMA-p scores and measures of behavioral, emotional, and global functioning. Results indicated the MAMA-p significantly correlated with all criterion measures, producing 53 statistically significant coefficients out of the 54 correlation tests.

Table 4a shows the correlation coefficients between father and mother MAMA-p scores and measures of global functioning, as assessed by the Global Functioning Questionnaire. Correlation coefficients, including cross-informant (i.e., mother ratings on MAMA-p and father ratings of global functioning) correlations, are statistically significant and range from .36 to .77. Table 4a also includes correlations between MAMA-p scores and father- and mother-reports of symptom improvement (correlations range between .52 and .63), where mothers and fathers were asked whether their child's psychiatric symptoms have improved since enrolling at Montana Academy *(Worse, About the Same, Better, Much Better, and Essentially Gone).*

Table 4b shows the correlation coefficients between father and mother MAMA-p scores and treatment progress, as measured by the students' treatment phase. Father-reported and mother-reported MAMA-p scores positively correlated with students' treatment progress (<u>r</u>=.67, <u>r</u>=.62, respectively). Table 4b also shows correlations between MAMA-p scores and scores on the symptom checklist (i.e., the CBCL) as completed by fathers and mothers separately. Correlation coefficients, including cross-informant (i.e., father ratings on MAMA-p and mother ratings on the CBCL) correlations, range from -.21 (trending significance) to -.78.

<u>Discussion</u>

This study sought to develop a questionnaire assessment to access the clinical common denominators of global struggles in teenagers around psychological maturation (and relative immaturity). *The Montana Adolescent Maturity Assessment-Parent Version* (MAMA-p) was created based on developmental theories and clinical observations across more than a decade of clinical treatment for teenagers who needed to mature

appropriately. Data from 511 parents provided an excellent source to develop the strong measures of reliability and validity in the 35-item MAMA-p.

Findings from our analyses indicated the MAMA-p is a reliable instrument, with three equally reliable subscales each comprised of items with meaningful representation of their specific domains. These subscales of maturity were conceptually related to Empathy, Planfulness, and Moral Reasoning. The composition of each subscale was almost identical between father and mother reports on the MAMA-p. The three discrepancies, where items loaded differently for mothers versus fathers, also produced cross-loadings in a predictable manner. For example, item 17, which loaded on Factor One (Empathy) for the mother data, loads on Factor Three (Moral Reasoning) for father reports, but has a high cross-loading on Factor Three (Moral Reasoning) in the mother data. High intercorrelations for the subscales suggests the MAMA-p might be best used as an overall measure of maturity, although the results of the factor analysis support the notion of coherent subscales along with our clinical observations. Future research is needed in order to establish discriminant validity of these subscales.

Examination of correlations between the full scale MAMA-p and various criterion measures allowed us to explore its concurrent validity. The results provided evidence of validity, as the MAMA-p exhibited statistically significant correlations with improvement in psychiatric symptoms (CBCL scores), improvement in boys' and girls' emotional and behavioral functioning (Global Functioning ratings), and to their treatment progress at Montana Academy. It should be noted these findings are made more robust by the cross-informant (i.e., mother-father) correlations. All of these correlations were all statistically significant, with the sole exception of the correlation between (mother-reported) maturation in teens and their (father-reported) decrease in internalizing symptoms (although this correlation was trending in the predicted direction).

The present study suggests the MAMA-p provides a simple-to-use indicator of maturation. Such a measure could provide a more useful, less pathological, and more meaningful indicator of teenage difficulties than conventional Axis I symptom diagnoses. The instrument also provides a more relevant measuring scale to test our *immaturity hypothesis* (i.e., that delayed maturation explains the panoply of symptoms, misbehaviors, and dysfunction with which these teenagers present). It further identifies how recovered developmental momentum explains the radical improvement—along these dimensions of adolescent functioning—commonly observed by parents, clinicians, and teachers during sustained residential treatment.

Unlike mere descriptive syndromes (e.g., the "disorders" of the APA's [2000] Diagnostic and Statistical Manual [e.g., DSM-IV]), the immaturity hypothesis is a *causal* explanation, which is testable. With a valid, reliable measure accurately measuring shifts in maturity, the hypothesis can be empirically falsified (or supported). Treatment implications are anything but trivial. For if immature teenagers can be helped past obstacles that hinder

development and encouraged to grow up and catch up with age peers, then academic and interpersonal dysfunction may be reversed; symptoms may abate; misbehaviors may cease; and medications prescribed merely to relieve secondary symptoms may become unnecessary. In summary, and with all other factors being equal, the clinical dysfunction in these troubled teenagers ought to be substantially relieved and the prognosis changed dramatically.

To make the MAMA into such an instrument, more research is required. Further studies are needed to determine the generality of the instrument with broader populations and to refine the subscales to provide a more accurate analysis of the components of maturation. The MAMA-p was specifically designed for parental use, but we are in the process of adapting the instrument and testing its effectiveness for use by observing staff and peers. Moreover, further studies are also in process to examine the predictive validity of the MAMA and its relationship to other existing instruments that provide approximate measures of subordinate dimensions of maturation (e.g., Empathy, Planfulness, Moral Reasoning).

Figure 1. Father-reported and Mother-reported MAMA-p Scree Plots

Father-reported MAMA-p Scree Plot
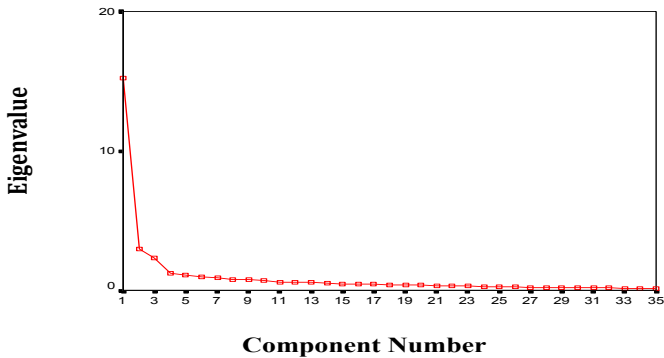
Mother-reported MAMA-p Scree Plot
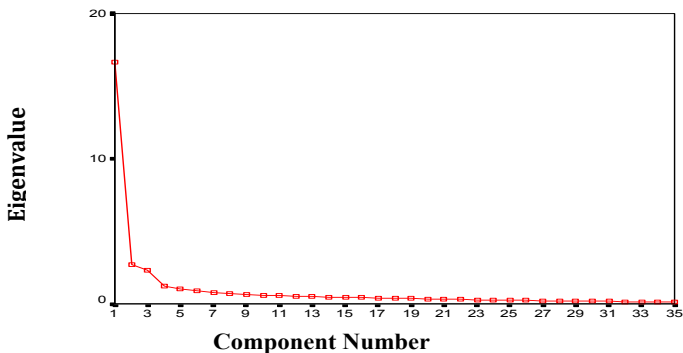
Table 1. Initial Eigenvalues for Father and Mother MAMA-p Data

Component	Initial Eigenvalues – *Father*			Initial Eigenvalues - *Mother*		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	15.254	43.58	43.58	16.627	47.51	47.51
2	2.955	8.44	52.02	2.704	7.73	55.23
3	2.334	6.67	58.69	2.325	6.64	61.88
4	1.208	3.45	62.14	1.206	3.45	65.32
5	1.074	3.07	65.21	.998	2.85	68.17
6	.958	2.74	67.95			

Table 2. MAMA-p Items and Rotated Component Matrices

	Father-reported MAMA-p Factor Loadings		
	1	2	3
Takes others feelings into account (12)	**0.77**	0.32	0.22
Empathy for friends (3)	**0.75**	0.02	0.12
Sacrifice for sake of friend (24)	**0.74**	0.05	0.04
Has trouble sharing (25)	**0.73**	0.15	0.06
See another's point of view (1)	**0.71**	0.21	0.29
Recognize impact on others (30)	**0.68**	0.35	0.28
Understand feelings of others (27)	**0.68**	0.20	0.26
Mean to others without remorse (32)	**0.64**	0.06	0.25
Sacrifices interests for family (8)	**0.62**	0.37	0.22
Grateful for all that I do (10)	**0.57**	0.51	0.33
Empathy for a teacher (7)	**0.56**	0.28	0.27
Exhibits entitled attitude (15)	**0.52**	<u>0.36</u>	0.34
Understands I do not have time (23)	**0.49**	<u>0.38</u>	0.19
Unrealistically boasts (35)	**0.38**	0.18	0.31
Approaches school in organized ways (34)	0.25	**0.84**	0.12
Turns in homework on time (22)	0.08	**0.83**	0.07
Plans ahead (20)	0.34	**0.76**	0.18
Cannot stick with one task (6)	0.07	**0.75**	0.25
Set priorities with multiple tasks (19)	0.30	**0.75**	0.03
Sticks to task (31)	0.13	**0.75**	0.23
Puts off studying (26)	0.19	**0.75**	0.19
Gets distracted easily (11)	0.09	**0.74**	0.23
Preoccupied with now (14)	0.43	**0.58**	0.34
Good job delaying gratification (9)	0.40	**0.55**	0.31
Steal from business/store (16)	0.21	0.11	**0.77**
Is a risk taker (2)	0.14	0.02	**0.72**
Steal from a friend (18)	0.29	0.05	**0.72**
Steal from me (21)	0.35	0.23	**0.68**
Respects the law (28)	0.21	0.28	**0.67**
Will lie or steal (4)	0.38	0.35	**0.65**
Cheat on an exam (13)	0.35	0.20	**0.62**
Sense of right and wrong depends on friends (33)	0.18	0.24	**0.59**
Understands what "honesty" means (29)	0.39	0.30	**0.56**
Ignores obviously-dangerous implications (5)	0.35	0.45	**0.52**
Is "too big for his/her britches" (17)	<u>0.42</u>	0.33	**0.44**

Bolded items (15, 17, 23) load on a different factor for mother-versus father-reported MAMA-p on the rotated component matrix

Table 2. MAMA-p Items and Rotated Component Matrices (cont.)

	Mother-reported MAMA-p Factor Loading		
	1	2	3
Takes others feelings into account (12)	**0.80**	0.26	0.24
Sacrifice for sake of friend (24)	**0.72**	0.09	0.14
Understand feelings of others (27)	**0.71**	0.17	0.29
Empathy for a teacher (7)	**0.68**	0.32	0.21
Recognize impact on others (30)	**0.67**	0.44	0.35
See another's point of view (1)	**0.66**	0.36	0.20
Sacrifices interests for family (8)	**0.65**	0.32	0.19
Has trouble sharing (25)	**0.61**	0.22	0.10
Mean to others without remorse (32)	**0.60**	0.17	0.28
Grateful for all that I do (10)	**0.59**	0.47	0.28
Is "too big for his/her britches" (17)	**0.44**	0.35	<u>0.36</u>
Unrealistically boasts (35)	**0.44**	0.26	0.27
Approaches school in organized ways (34)	0.19	**0.84**	0.23
Set priorities with multiple tasks (19)	0.32	**0.80**	0.17
Turns in homework on time (22)	0.03	**0.80**	0.17
Sticks to task (31)	0.19	**0.78**	0.23
Plans ahead (20)	0.31	**0.78**	0.23
Puts off studying (26)	0.23	**0.76**	0.19
Cannot stick with one task (6)	0.23	**0.75**	0.13
Gets distracted easily (11)	0.20	**0.74**	0.11
Preoccupied with now (14)	0.45	**0.60**	0.39
Good job delaying gratification (9)	0.50	**0.54**	0.32
Exhibits entitled attitude (15)	<u>0.42</u>	**0.46**	0.31
Understands I do not have time (23)	<u>0.43</u>	**0.44**	0.29
Steal from me (21)	0.23	0.28	**0.79**
Steal from business/store (16)	0.19	0.05	**0.79**
Cheat on an exam (13)	0.32	0.22	**0.71**
Steal from a friend (18)	0.19	0.11	**0.71**
Respects the law (28)	0.32	0.23	**0.70**
Is a risk taker (2)	0.09	0.11	**0.66**
Understands what "honesty" means (29)	0.40	0.33	**0.62**
Sense of right and wrong depends on friends (33)	0.36	0.35	**0.60**
Will lie or steal (4)	0.44	0.38	**0.58**
Ignores obviously-dangerous implications (5)	0.40	0.35	**0.58**

Bolded items (15, 17, 23) load on a different factor for mother-versus father-reported MAMA-p on the rotated component matrix

Table 3. Intercorrelations between Subscale and Composite MAMA-p Scores for Fathers and Mothers

	Factor 1 (Empathy)	Factor 2 (Planfulness)	Factor 3 (Moral Resoning)	Total MAMA-p
Factor 1 (Empathy)	——	.74*	.70*	.91*
Factor 2 (Planfulness)	**.65***	——	.67*	.91*
Factor 3 (Moral Reasoning)	**.71***	**.63***	——	.87*
Total MAMA-p	**.90***	**.86***	**.88***	——

Intercorrelations for mother MAMA-p subscales and total MAMA-p scores are shown on the upper portion of the table (in italics); intercorrelations for father MAMA-p subscales and total MAMA-p scores are shown on the bottom portion of the table (in bold).
*p<.05

Table 4a. Correlations between Maturation (MAMA-p) and Measures of Global Functioning by Fathers and Mothers

	ACAD	RULE	FAM	PEER	ADULT	EST	DRUG	COM	AMB	HAP	SYM
MAMA-p Total (Father)	.41** **.58****	.65** **.59****	.63** **.72****	.41** **.36****	.59** **.64****	.54** **.67****	.62** **.67****	.55** **.59****	.68** **.71****	.69** **.61****	.56** **.52****
MAMA-p Total (Mother)	.52** **.45****	.77** **.65****	.67** **.57****	.55** **.47****	.67** **.42****	.57** **.45****	.56** **.47****	.67** **.53****	.67** **.55****	.65** **.56****	.63** **.54****

Note: Correlations between the MAMA-p and *mother*-reported global functioning are shown in italics; and correlations between the MAMA-p and *father*-reported global functioning are shown in bold.

Acronym: ACAD–academic functioning, RULE-follows rules and schedules, FAM-relationship with family, PEER-relationship with peers, ADULT-relationship with adults outside of family, EST-self-esteem, DRUG-self-control with drugs and alcohol, COM-engagement in community and world at large, AMB-ambition in long term goals, HAP-general happiness, SYM-psychiatric symptoms improvement.

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

Table 4b. Correlations between Maturation (MAMA-p), Treatment Level, and Emotional and Behavioral Functioning (CBCL)

	Treatment Progress	Mother - Report CBCL		Father - Report CBCL	
		Internalizing	Externalizing	Internalizing	Externalizing
MAMA-p (Father)	-.67**	-.38*	-.58**	-.33*	-.62**
MAMA-p (Mother)	-.62**	.-35**	-.78**	-.21^{t}	-.68**

*p<.05, **p<.01, t=trending

Appendix A
Sample Rating Statements from the
Montana Adolescent Maturity Assessment-Parent Version
(MAMA-p)

The MAMA-p, still a beta version, is not yet available for practical use without permission. These sample statements, taken from the MAMA-p, provide specific examples of the statements that parents rated according to the following instructions:

Directions: The following statements describe some children. Read each item and, using the following response scale (never, rarely, sometimes, often, always), check the response that best fits your child's **current** personality (over the past 2 months) on the whole.

My child is able to see the world from another's point of view.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child cannot stick with one task.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child sacrifices his/her interests for the good of the family.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child is grateful for all that I do.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child is preoccupied with now, and oblivious to the future.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child understands that sometimes I do not have time.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child respects the law.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child sticks to a task, however long it takes.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child is mean to others, without remorse.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

My child unrealistically boasts.
☐Never ☐Rarely ☐Sometimes ☐Often ☐Always

Appendix B
Global Functioning Questionnaire

Instructions: The following questions ask for your assessment of your son/daughter's global functioning. Please tell us how your child was doing prior to your decision to send him or her away for treatment – i.e., at the time of worse functioning, even pre-wilderness treatment.

1. My overall rating of this student's ACADEMIC performance in SCHOOL right now is:
□Very Poor □Poor □Okay □Good □Very Good

2. My overall rating of this student's compliance with RULES and SCHEDULES at SCHOOL right now is:
□Very Poor □Poor □Okay □Good □Very Good

3. My overall rating of this student's RELATIONSHIPS with the FAMILY right now is:
□Very Poor □Poor □Okay □Good □Very Good

4. My overall rating of this student's RELATIONSHIPS with other KIDS HIS/HER OWN AGE right now is:
□Very Poor □Poor □Okay □Good □Very Good

5. My overall rating of this student's RELATIONSHIPS with ADULTS OUTSIDE THE FAMILY right now is:
□Very Poor □Poor □Okay □Good □Very Good

6. My overall rating of this student's SELF-ESTEEM right now is:
□Very Poor □Poor □Okay □Good □Very Good

7. My overall rating of this student's SELF-CONTROL AROUND DRUGS and ALCOHOL right now is:
□Very Poor □Poor □Okay □Good □Very Good

8. My overall rating of this student's ENGAGEMENT IN THE COMMUNITY AND THE WORLD AROUND HIM/HER right now is:
□Very Poor □Poor □Okay □Good □Very Good

9. My overall rating of this student's AMBITION TO CREATE AND OBTAIN LONG TERM GOALS right now is:
□Very Poor □Poor □Okay □Good □Very Good

10. My overall rating of this student's HAPPINESS right now is:
□Very Poor □Poor □Okay □Good □Very Good

Acknowledgments

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The Perfect Storm: Anxiety and Depression in Adolescents in the 21 Century Implication for Treatment in Residential Settings

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Introduction

Although Anxiety Disorders and Major Depression are distinct disorders, many researchers and clinicians have found that the two problems co-exist in many patients. They are "partners in crime" and appear to be biologically predisposed to occur together (Marano, 2003; Clark & Watson, 1991; Alloy, et al. 1990). In addition, they are neuro-chemically related and share many of the same symptoms such as fatigue, low self-esteem, sleep disturbance, irritability, and poor concentration (Iny, et al. 1993). Already representing the bulk of mental disorders, professionals warn us that an unprecedented rise of anxiety and depression is in sight (Gray, 2010).

A recent study by Twenge (2010) showed that five times as many high school and college students are dealing with psychological problems than the same population did during the Great Depression. Findings from 77,576 high school and college students show that "hypomania" (anxiety and unrealistic optimism) and depression grew at an even higher rate, with six times as many students scoring high on Minnesota Multiphasic Personality Inventory (MMPI) scales as compared to the same population during the Great Depression (Twenge, 2010). The researchers of this study believe that these results may be overly conservative estimates as students on antidepressants and other medications may have skewed the results. These findings are consistent with other studies showing a dramatic increase in anxiety and depression in adolescents (Gray, 2010).

It appears that the significant increase of anxiety and depression rates in adolescents and young adults can no longer be explained by traditionally accepted theoretical models alone, such as; psychodynamic and relational

theories, behavioral and learning theories, or biological models. The additional influence of "cultural" factors such as; negative effects of social networking, heightened stress through media, poor nutrition, paradoxical implication of an over-abundance of choices, motivational shift from intrinsic to extrinsic goals, and lack of cardiovascular exercise may individually or in combination contribute to an environment that provides the fertile ground for such a traumatic increase in the prevalence of these disorders.

The three purposes of this article are to: a) trace the etiological history of anxiety and depression, collectively referred to as traditional factors; b) consider cultural factors that may explain the unprecedented rise in anxiety and depressive disorder of the young; and c) consider treatment approaches for adolescents in residential settings that take into consideration both traditional and cultural etiological factors of the disease(s).

Anxiety Disorders

The diagnosis and classification of anxiety disorders has evolved over the past four decades. The first Statistical Manual of Mental Disorders published by the American Psychiatric Association (APA, DSM-II, 1968) recognized the existence of only two disorders; withdrawing reactions and overanxious reactions. The DSM-IV (2000) however, describes these two diagnoses as generalized anxiety disorder and social phobia and has expanded the spectrum of defined anxiety disorders to include panic disorder, agoraphobia, specific phobia, obsessive-compulsive disorder, generalized anxiety disorder, post-traumatic stress disorder and separation anxiety.

Clinical Factors of Anxiety Disorders

Psychodynamic and relational theories.

Psychodynamic and relational theories argue for a causality model based on mother-infant interactions (Ainsworth, et al. 1978). This model argues that the bond developed between infant and mother will heighten the infant's comfort and sense of security. Conversely, poor attachment from infant to mother may give rise to fearful, inhibiting behavior - the "birthplace" of anxiety disorders in children and adolescents (Warren, et al. 1997).

Studies exploring the effects of parenting styles on child behavior have shown that children benefit from sensitive care giving while negative parenting styles such as excessive restriction and negative parental feedback are associated with adverse consequences. Children exposed to parenting styles marked by high control have shown low personal control and increased evidence of anxiety disorder in late childhood and adolescence (Krohne & Hock, 1991; Chorpita and Barlow, 1998). Likewise, maternal intrusiveness and overprotection are associated with symptoms of anxiety disorders in children and adolescents (Bowen, et.al. 1995).

Treatment implications for residential settings.

These findings suggest that children and adolescents with moderate to severe symptoms of anxiety disorders can benefit from a warm, supportive

therapeutic environment. Settings that are overly structured and restrictive are contraindicated. Schools and programs that are highly confrontational and employ behavior management models that rely on negative feedback to shape behavior and offer limited physical contact with parents may provide short term symptom relief. However, these gains do not necessarily provide an understanding of healing to the effected "internal" pain of the depression and/or anxiety.

While enmeshed and overprotective parents may contribute to the etiology and maintenance of anxiety in the child, prolonged suspension of the parent-child interaction will not effectively reduce anxiety states in the child over the long term (Minuchin, 1974). Adolescents returning home post-discharge are better served through an intensified family therapy approach with a focus on resolving enmeshment issues (Laitila, et al. 1996). Such therapy may focus initially on the marital dyad, but family therapy eventually must include the child.

One of the outcomes of the child being in extended care treatment is the interruption of negative cycles occurring within the home, which allows for causal variables to be more isolated and examined. In addition to providing children the opportunity to focus on their own healing, time apart can also be an important window for the parents to begin their own emotional work; learning to recognize and differentiate their own personal struggles and emotional states from that of their child is essential to the healing process. If the parent(s) deal with issues related to anxiety and/ or mood, how is it expressed within the home? Do others in the family sense this anxiety? How does it affect them, and in turn each other? These types of questions provide insight toward the presenting problem from a family system perspective. Learning to recognize and later disrupt these dysfunctional patterns becomes part of the focus of family therapy.

Behavioral and cognitive learning theories.

Behavioral models describing the development of anxiety have long been in existence and were first introduced by B.F. Skinner in the first half of the twentieth century. More recently, scientists have found evidence that anxiety can be learned. Parents, teachers and others may produce a steady state of anxiety in the child through prolonged modeling of fear, rewarding/ reinforcing avoidant behaviors, teaching styles that emphasize frightening and dangerous aspects of life, inducing fear, or the actual infliction of harm (Fincham, et al. 1989).

The interactions between anxiety and certain cognitive processes have been described. Hadwin, et al. (1997) found that anxious children interpret ambiguous information as threatening more often than non-anxious children. Moreover, anxious children pay an inordinate amount of attention to what they perceive as a threat. Their interpretation of such "threats" is typically based on a distorted thought process. Factors contributing to such cognitive distortions may be based in socialization experiences that sensitize children to dangerous, anxiety-provoking conditions (Zahn-Waxler, 2000).

Treatment implications for residential settings.

Milieu therapy approaches that rely heavily on identifying maladaptive behavior without equal or greater emphasis on teaching replacement behaviors may protract the recovery process. Children and adolescents may interpret such approaches as fear inducing.

When children and adolescents are placed in residential settings for protracted symptoms of anxiety, a careful assessment of the client's behavioral-cognitive processes related to symptomology is essential. Once these processes are identified, therapeutic attempts at anxiety reduction utilizing "exposure approaches" such as successive approximation and/or other therapeutic approaches should be used cautiously if at all. The etiology of anxiety in the client should be well understood before placing the child in an environment that may expose them to "intolerable" levels of anxiety often produced through "exposure" techniques.

Biological models.

A number or researchers have conducted studies that lend support to the theory that genetic influence may play a role in the manifestation of anxiety. Their findings show that children with parents suffering from anxiety disorder have higher incidence rates of anxiety than children whose parent do not struggle with the affliction (Kendler, et al. 1992; Last, et al. 1991; Boer, 2000).

Others report that children who demonstrate inhibiting and withdrawn-like behaviors when meeting strangers may be predisposed to developing anxiety disorders later in life (Kagen, et al. 1987, Kalin, 2010). A related study points out a relationship between generalized anxiety disorder in adolescent females and behavioral inhibition in early childhood (Schwarz, et al. 1999).

Ratey (2008) suggests that over the last decade, a significant body of research has emerged that advocates for the involvement of physiological and neurobiological processes of the brain in the etiology of anxiety disorders. The research indicates that chronic stress has a significantly aversive effect on the hippocampus (a part of the limbic system of the brain), shrinking dendrites, killing neurons, and preventing neurogenesis. At the same time, the amygdala, referred to as the alarm system in the brain, is in "overdrive" and becomes increasingly stronger and dominates the hippocampus. The net effects are symptoms including weight gain, insulin resistance, panic attacks, anxiety, depression, increased risk of heart disease, and an erosion of cognitive skills (Ratey, 2008).

A particular focus of these studies is centered on the hypothalamic-pituitary-adrenal axis (HPS) system, which is centrally involved in a person's response to stress and the regulation of arousal (Tsigos & Chrousos, 2000). Abnormalities in the production of neuro-chemicals such as noradrenalin and cortisol have been implicated in anxiety disorders. Youth with clinically significant levels of these chemicals show higher levels of anxiety than

the control groups (Granger, et al. 1994). Moreover, phobias, generalized anxiety, and panic disorder have been linked to abnormalities in limbic and stem-hypothalamic circuits of the brain (Davis, 1997).

Treatment implications for residential settings.

Treatment of anxiety disorders should occur in concert with "rule-in" or "rule-out" of abnormalities in neurobiological regulatory processes. Basic neurological exams are critical and should be followed, if indicated by more in-depth diagnostic processes including sleep deprived EEG, endocrineological exams, etc.

A large emerging body of literature is demonstrating that brain plasticity makes it possible to reverse clinically significant imbalances in brain chemistry (Adamec, 1997; Lawlis, 2008). This is a revolutionary departure of the previously held notion that the brain is "hard wired" at a relatively early age. Historically, many forms of anxiety disorders were treated with psychotropic medications (i.e. SSRI's and Benzodiazepines) and/or cognitive behavior therapy. Over the past decade, however, neurologists have shown that increased levels of certain proteins including brain-derived-neurotropic-factor (BDNF) responsible for the regulatory processes of neurotransmitters, can reduce or eliminate certain states of anxiety (Ratey, 2008). (For further details; see Cultural Factors: Cardiovascular Exercise).

Depressive Disorders

The majority of depressive disorders are made up of major depressive disorder and dysthymic disorder (Kashani & Sherman, 1988). Bipolar disorder, once considered rare in children and adolescents, has received increased interest from clinicians and researchers, alike (Carlson, et al. 2000).

Clinical Factors of Depression

Psychodynamic and relational theories.

Both researchers and clinicians have postulated that depression in children and adolescents may be the result of the loss of a love object, either real or imagined (Beck & Alford, 2009; Gabbard, 2005). Other contributing factors may include the caregiver's failure to meet the psychological needs of the child, repeated disappointments of the child, unresolved unconscious circumstances, unresolved grief, extreme guilt, unrealistic high standards, or internalization of blame (Gabbard, 2005).

Family therapy and sociology literature have historically pointed to the fact that depression in children and adolescents can often be based in family dysfunction (Heru & Ryan, 2002; Martin, et al.1995). Ubiquitous studies have found that low levels of parental support and warmth in combination with parental rejection, hostility, and family conflict are highly correlated with depression in children and adolescents (Ge, et al. 1996; Sumner, 2009; Young, et al. 2005). For decades, those working with family systems have

recognized that the collective blame for family dysfunction is often laid at the feed of a child, and thus, a single family member becomes the "identified patient." Because of their "acting-out" symptoms (e.g. irritability, hostility and other maladaptive behavior), such youth are often misdiagnosed with oppositional defiant disorder (ODD) because the underlying pathology is often not recognized by the casual observer; the "acting-out" problems are masquerading for the "acting-in" symptoms (Millon 2011; Minuchin, et al.. 1975)

Treatment implications for residential settings.

When "acting-out" symptoms of the child become unmanageable in an outpatient setting, residential treatment is often the best option. Depending on symptom acuity and history, the out-of-home interventions may vary from a short psychiatric hospitalization to longer tem enrollment in a therapeutic boarding school. Regardless of the setting, family therapy must be considered a pivotal component of the treatment regime. Unfortunately, in the face of overwhelming evidence, some operators of residential programs are abandoning or minimizing family therapy with the false hope that a moratorium of greatly reduced interaction between the child and family will accelerate the healing process of the child (Asen, 2002; Cottrell & Boston, 2002; Shirk, et al. 2003). Only in exceptional cases when family dysfunction reaches irreversible levels, should family therapy be abandoned in an effort to emancipate the child from the family.

Behavioral and cognitive learning theories.

Behavioral theories suggest that anxiety and depression can be learned through a conditioning process (Mineka & Kihlstrom, 1978). There is support for the theory that organisms can reach a state of "learned helplessness" when exposed to repeated levels of stress. Such an individual will "surrender" to an aversive, stressful, and challenging situation and demonstrate anxiety and/or depressive symptoms (Maier & Seligman, 1985)

Additionally, individuals may demonstrate cognitive distortions when exposed to prolonged, aversive environmental experiences (e.g. distorted thinking patters, biased beliefs about self and/or others, negative self-concept or deficient social skills). Such cognitive distortions have been demonstrated to lead to depression in adults, children and adolescents (Seligman, et al. 1984).

Treatment implications for residential settings.

The reversal of a conditioned response is associated with an "extinction curve" process. Even though the subjects may no longer be exposed to the aversive stimuli, some patients are prone to replicate the aversive stimuli, perpetuating the associated behavioral manifestations of anxiety and depression. Paradoxically, these subjects re-create or "invent" equally aversive stimuli to perpetuate the maladaptive stimulus-response cycle. Harsh programmatic consequences to such replicating aversive stimuli may further prolong the extinction process. Unless the learned,

maladaptive behavior is a threat to safety of the personal and/or the therapeutic environment, strategic therapy may hold greater promise reducing maladaptive behavior as opposed to forms of verbal confrontation (Coatsworth, et al., 2001; Szapoczik, J. & Willimans, R. A. 2000; Watzalwick 1975).

Biological models.

It has been demonstrated that genetic factors may increase risk for depression (Sullivan, et al. 2000). Birnmaher, et al. (1996) suggested that children of parents who suffer from depression have a 50% higher chance of being afflicted with similar symptoms. Dawson et al. (1999) found a relationship between a reduction in left frontal EEG activity and depression in children and adolescents of depressed mothers. Aside from genetic factors, the likelihood for depression increases with the presence of aversive environmental factors both within and outside the family. Rende, et al. (1993) hypothesized that the comorbidity of genetic and environmental factors produces more severe symptoms of depression.

Post, et al. (1996) posit that mood disorders may be related to an evolving developmental neurobiological framework, suggesting that environmental experiences may to somewhat interact to mediate the effects on gene expression. Such environmental experiences include psychosocial stressors, along with the neurobiology of recurrence to stressors. In this view, social support may be capable of generating an inhibitory effect on illness progression by decreasing the perception and neurobiological impact of stressors, even at the level of gene expression (Post, et al. 1996; Robinson, et al. 2008). Such findings are in support with the "new brain science" providing further validation that the brain is not "porcelain" but "changeable" in what has been termed "brain plasticity" (Ratey, 2008; Jasny, et al. 2008).

Treatment implications for residential settings.

Neurobiologists have shown that one's genetic code is physically manifested through the process of gene expression and that this process can be influenced by environmental factors (University of Illinois, 2006). For example, environmental stressors may function to "turn on" expression of a gene related to symptoms of depression or anxiety. Conversely, social support and other strategic interventions may be capable to changing brain chemistry to inhibit depressive symptoms by "turning off" expression of the same genes. A study by Ducek, et al. (2008) provided the first compelling evidence that gene expression changes in individuals that practice short and long term relaxation response (RR). Ducek, et al. (2008) has shown that RR is characterized by decreased oxygen consumption, increased exhaled nitric oxide, and reduced psychological distress, all contributing to changes in gene expression. Such findings may give credence to approaches such as yoga and other systematized relaxation techniques to treat anxiety and depressive disorders.

Patients with clinical levels of individual or comorbid anxiety and

depression may greatly benefit from social support that is "relatively" free of stress. Coping and stress management skills, however, are not acquired in a "quarantined" environment, free of stressors. The presence of appropriate stressors is critical to the treatment of adolescents so affected, and should be included in individualized treatment plans. Making use of the "new brain science" requires more than the provision of a stable environment along with traditional "talk therapy." Adolescents suffering from comorbid features of anxiety and depression may be able to benefit from virtual reality exposure therapy (Parsons & Rizzo, 2008), biofeedback therapy, eye movement desensitization response therapy (EMDR), and other non-traditional approaches.

Anxiety and Depression; A Developmental Perspective

Developmental psychopathology has been defined as *"the study of the origins and course of individual patters of behavioral maladaptation"* (Sroufe & Rutter, 1984). Since pathology does not magically appear, developmental theories of anxiety and depression are based on models whereby the interaction between the individual and the environment "produce" the symptoms – the integration of nature–nurture. Hence, the role of resiliency, adaptive functioning, emotion, co-morbidity, gender and culture are all integral to the phenomenology and etiology of mood disorders.

Emotions and Internalizing Problems

Emotions have regulatory functions within the framework of internal dynamic processes. Likewise, they assist in the organizational and adaptive processes within interpersonal interactions (Campos, et al. 1983). Emotions have a "neutral" value, in as much as there is no emotion that is more or less valid. While emotions are not seen as dysfunctional by themselves, prolonged exposure to and/or high intensity of negative or situational inappropriate emotions may indeed have maladaptive qualities (Watson & Clark, 1992). A disconnect between what a person feels and how such feelings are expressed, in part, is an indication of emotional dysfunction. Such dysfunction may be a manifestation of the individual's inability to regulate emotions within social and/or intra-psychic processes (Cole et al. 1994).

One of the markers of healthy development for children and adolescents is the ability to regulate emotions and behavior (Silk, et al. 2003). Appropriate development, in part, is measured by the youth's ability to cope with everyday life and the stressors associated with it. "Emotional" maturation is also influenced through the socialization processes (Bobroff, 1960). Learning to regulate what to keep private and what to share, along with learning appropriate forms of expression, is crucial in the pro-social development of the child (Flavell, 1968).

Treatment implications for residential settings.

Emotional dysregulation is typically treated with cognitive-behavioral therapy (CBT) (Whitfield, 2003) or dialectical behavior therapy (DBT)

(Linehan, 1997). Nevertheless, CBT and DBT are associated with a wide variety of manualized protocols that may be too numerous and complex, restricting effective training and dissemination of knowledge (Barlow, et al. 2004). For this reason, therapists advocate for a "unified" approach that includes: a) altering antecedent cognitive reappraisals; b) preventing emotional avoidance; and c) facilitating action tendencies not associated with the emotion that is dysregulated (Barlow, et al. 2004).

Such a "unified" approach requires interventions that cross the boundaries of a strict CBT or DBT approach. If emotional dysregulation is born of a protracted history of moderate to severe anxiety, exposure therapies or systematic desensitization may be indicated.

Emotions and the development of psychopathology

An individual's affect refers to their personal experience of feeling or emotion. Such experiences are based on personal interpretation and can be biased. The formation of an individual's affect is thought to be the result of repetitive, everyday social interaction along with the emotional content (Izard, 1977). Over time, these personal, affective experiences or biases become the central building blocks for personality. Specific forms of psychopathology can develop when, through repetition, these biases are consolidated into rigid forms. Hence, we recognize anger in antisocial personality, sadness in all forms of depressive disorder, and fear in an overwhelming number of anxiety disorders.

The affective dimensions of psychopathology are not limited to a single emotion. For example, worry, anxiety, guilt, shame, lack of pleasure, suppression of anger and hostility, or empathic over-arousal where the self becomes submerged in the problems of others, are all emotions associated with depression (Izard, 1977).

Treatment implications for residential settings.

The predictability, structure, and constancy of a therapeutic milieu are central to aligning emotion with a particular event or experience (Campling, 2001). Such a milieu becomes the practice field where replacement feelings are explored, and after prolonged and consistent practice, may translate into more enduring behavior patterns.

Such a "practice field" can turn into an "obstacle course" for the child when all components of the school or program (i.e. therapy, milieu, education, recreation, psychiatry, etc.) lack inter-departmental consistency. The alignment of the professional staff with the everyday caregiver is critical in the teaching of replacement emotions and behavior (Balmer, 2006).

Comorbid Anxiety and Depression

There is a high incidence of comorbidity of anxiety and depression with some researchers indicating rates as high as 70% (Brady & Kendall, 1992). Moreover, the comorbidity of anxiety and depression in adolescents is more common than either anxiety or depression alone

(Angold, et al. 1999).

Studies have demonstrated that anxiety in children will often evolve into depressive disorder during adolescence or later in life (Kovacs, et al. 1989; Breslau, et al. 1995; Warner, et al. 1999). These findings are consistent with attachment models where the anxiety, induced by feelings of object loss, becomes intolerable and therefore results in depression (Lubbe, 2011). Similarly, in the learned helplessness model discussed above, the first reaction to "uncontrollable" situations is anxiety, followed by depression (Abramson & Seligman, 1978). Rumination is an alternative model, whereby a person worries, perseverates or obsesses about one's symptoms of depression such that symptom severity is magnified to clinical significance (Nolen-Hoeksema & Girgus, 1994).

The progression from anxiety to depression is dependent on the deregulation of the nervous systems. Under sustained arousal, the individual eventually begins to shut down and withdraw from environmental stimulation, with a net effect of depression (Arnetz & Ekman, 2006).

Anxiety and depression have also been associated with certain cognitive processes. In the case of anxiety, the individual scans the environment in anticipation of potential threats. A consistent state of hypervigilance toward an internal magnification of such threats leads to anxiety, while depression involves the repetitive mental rehearsal of experiences associates with failure and loss (Mineka, et al. 1998).

Avoidance Behavior as the Result and Contributor of Anxiety and Depression

Avoidance behaviors are universal to virtually all individuals with anxiety disorders (Suinn, 1990). For those struggling with anxiety and depression, avoiding and running away from fear and anxiety can also constrict one's life and transform anxiety from being a normal human experience into a life shattering problem (Forsyth and Eifert, 2007). Thus, avoidance serves as *the* predominate means of coping with symptomatology, stressors, tasks, and responsibilities. While everyone experiences some levels of avoidance in their life, individuals with significant anxiety and mood disorders rely upon this "strategy" to such an extent that the individual's attempted "solution" contributes, enforces, and solidifies the problem (Watzlawick, 1975). Thus, a young man with a social phobia may refuse to go to school with the net result of school failure, manifested in failing grades and lack of credits, despite IQ test scores in the superior range. His "coping behavior" of not going to school further alienates him from his social support system and adds to his already high level of anxiety. This ongoing pattern of avoidance contributes to an inability to complete tasks, responsibilities, and goals.

Avoidance behavior has infinite applications and forms. For a young person dealing with anxiety and depression, avoidance may be manifested as an "electric addiction" by immersing themselves in video games and/or social media. For the individual struggling with post-traumatic stress

disorder (PTSD), places, people, or events associated with the trauma are avoided. Obsessive compulsive rituals are performed as a means of avoiding intensely unpleasant internal states. Some individuals avoid initiating tasks, responsibilities, or the mere possibility of being exposed to stressful stimuli. For others, avoidance appears in the form of an inability to complete the task they have initiated. Hence, they become "bored," need multiple "fresh starts" in a new environment, or tasks becomes "too hard" despite displaying ability and skill to the contrary (Heimberg, 2004).

Over time, the accumulated history of failure to complete tasks related to anxiety results in distorted fears and beliefs regarding personal abilities and anticipated outcomes (Heimberg, 2004). The emotional payoff for avoidance is that the world (family, school, peers, etc.) has often adapted to the child's needs, wants, demands, and lowered expectation, leaving the child unchallenged to acquire functional coping skills. Consequently, the child grows increasingly brittle, lacking in resilience and effective coping skills. The cumulative effect of this process leaves the individual with a distorted self-concept, self-esteem and identity formation (Skaalvik, 1997).

Self-Concept, Self-esteem, and Identity Formation – the Flip-Side of Avoidance

Twenge (2006), evaluating data from 1.3 million subjects, postulates that today's adolescents are more miserable than ever before, lacking self-esteem and self-identity despite projecting an image of confidence and assertiveness.

Self-esteem can be defined as a favorable or unfavorable attitude toward the self (Rosenberg, 1985). Self-esteem is the product of two internal assessments or judgments. First, it is the person's overall sense or global judgment of the self or "self-worth" and second, a person's sense of his/her competency in a specific domain or area. Key to self-esteem is the level of discrepancy between what a person desires and what that person believes he/she has achieved, and the overall sense of support that person feels from people around him (Rosenberg, 1965).

Related concepts such as self-confidence or body-esteem imply a narrower sense of the self-esteem. In sum, self-esteem is influenced by many factors; parents, teachers, friends, and the environment are constantly influencing self-esteem (Osborne, 2007). Therefore, self-esteem is influenced by all of these factors and it is possible that anxiety and depression, in part, are brought about by low self-esteem.

Identify formation and self-esteem are positively related (Stets & Burke 2003). Adolescence is a time in a person's life when identity formation takes center stage and emotional turmoil and heighted sensitivity during adolescence can make this major developmental task difficult (Meeus, et al. 1998). Erikson (1994) suggested that every adolescent experiences an identity crisis during which he or she has to find answers to the basic questions of "Who am I and where am I going?" This identity confusion is not associated with a descriptive diagnosis, but is a dynamic condition that

makes an adolescent vulnerable to different psychiatric disorders (Meilman, 1979). Anxiety and depression are the most common of such disorders, followed by school and behavior problems (ADAA 1999). A recent study demonstrated that adolescents with low scores on the Sense of Identify Assessment Form (SIAF) show higher rates of depression than the control group, suggesting that there is a significant, positive relationship between poor sense of identity, depression, and anxiety scores (Damir, et al. 2010). A related study showed that low levels of self-esteem and sense of self, are associated with depression and decreases academic achievement (Fathi-Ashtiani, et al. 2007).

The constructs of self-esteem and self-identity share several common patterns of thoughts and thinking styles. Common to those affected by low levels of self-esteem and self-identity are feelings of defeat, defective, deserted, and deprived with a sense of worthlessness and depression lurking in the shadows (Beck, 2009; Burns, 1980). Worthlessness is the perception that one is of less value than other people in the perceived environment (Burns, 1980). In an effort to regain a measure of self-esteem, some adolescents seek association with "friends" that demonstrate similar behaviors or thought patterns of worthlessness in an effort to normalize their own thoughts, feelings, and behaviors (Burns, 1980).

Self-esteem invariably effects personality. People with low self-esteem tend to be more neurotic, more introverted, more disagreeable, less open, and less conscientious than people with high self-esteem (Burns, 1993). Individuals with these cognitive and behavioral characteristics tend to experience more negative emotions than positive. Studies show a clear link between self-esteem, self-identity, depression, anxiety, and personality (Burns, 1993).

Treatment implications for residential settings.

Self-esteem is highly correlated with all the physical (Antonucci & Jackson, 1983), emotional (Judge & Bono, 2001), and behavioral (Leary, et al. 1995) variables associated with depression. Individuals with high self-esteem or self-identity are healthier both mentally and physically (Achenback, et al. 1987). People with high self-esteem are better students, better ball players, and better friends. They are more stable emotionally, less subject to criticism, more resilient, and happier. Increasing self-esteem may help adolescents to mediate against the contributive factors of anxiety and depression discussed above.

While virtually all residential programs and schools provide an environment that fosters the development of self-esteem and identify formation, they often do so by default and not through a mindful, strategic approach. Being around "good people", demanding accountability, and providing a stable and predictable environment have all the makings of a platform contributing to a "growth environment." Such a platform, however, can be greatly enhanced by specific, scientifically based programming that takes more of a direct aim in addressing the above

described factors.

Anxiety and Depression; Cultural Perspectives

Lane (2000) has suggested that the mental health and happiness of young people have declined since the 1950's. A dramatic rise in anxiety and depression among the young is also well documented (Gray, 2010). The etiological factors discussed above are insufficient to explain this trend.

Stress is a threat to the body's equilibrium. A person chronically exposed to moderate and high levels of stress will suffer from emotional and often physical strain. The "ripple effects of the body's stress response can lead to full-blown mental disorders such as anxiety and depression. Chronic stress can even tear at the architecture of the brain" (Ratey, 2008). In an attempt to explain this dramatic rise of stress among the young, an increasingly prominent view is to look toward the etiology of both psychosocial and psychocultural issues (Gray, 2010).

Heightened Stress through Media

News has always been about reporting that which is deviant from the norm. A fan streaking naked across the football field is far more newsworthy than a mother having a picnic with her children in the city park. Over the past decade, deviancy has been "put on steroids" as images of the grotesque, bizarre, shocking, and horrible stream into the homes of the American family at a rate never before experienced (Beresin, 2010).

An ever widening array of digital displays ranging from TV to smart phones allows today's youth to experience tragedy and strangeness while sitting comfortably on the couch. Today, the dissemination of the deviant, shocking, and tragic is no longer reserved for the news media. Exposure through "YouTube", blogs and other virtual experiences suggests that the constant *"torrent of tragedy and demands lashing at us, keeps the amygdala flying"* (Ratey, 2008, p, 1). Under stress, the amygdala – referred to as the panic button of the brain – triggers changes in blood chemistry that result in physiological changes including increased heart rate, blood pressure, and respiratory rate (Ratey, 2008).

The typical American child will view more than 200,000 acts of violence, including more than 16,000 murders before age 18 (Beresin, 2010). Such violence keeps the brain in an unhealthy state of arousal. Such stress on the hypothalamus, pituitary, and adrenal (HPA) gland axis keeps the brain on constant alert status so that the "thinking" part of the brain is robbed of energy. As a result, chronic exposure to toxic levels of stress leads to anxiety and mood disorders (Ratey, 2008).

Treatment implications for residential settings.

Restricting a student from accessing disturbing and exciting images alone represents no cure. Digital media is so pervasive that students retuning to the "real" environment after a stay in a controlled residential setting will inevitably encounter problematic stimuli in their everyday lives.

Traditionally, residential schools and programs have relied on isolation from the world at large and talk therapy as the primary therapeutic approaches for working towards stress reduction with clients. However, recent advances in neuropsychology have opened the way to new and very promising approaches to working with stress including physiologically modulated cardiovascular exercises, learning of complex physical tasks, virtual exposure therapies, yoga, and other non-traditional approaches. These novel intervention strategies, when applied in parallel with traditional milieu and talk therapy practices, may help struggling adolescents develop the tools needed to cope with aversive stimuli through digital media in the real world.

Electronic/Virtual Socialization

Following a steady decline in suicide rates over the previous two decades, researchers report an 18% increase in suicides for youth 20 years of age and younger (AMA Journal, 2008). While the cause of this phenomenon requires further studies, mental health professionals point toward a dramatic rise in virtual/electronic networking among the young (Bridge, et al. 2008). Texting, email, and increasing interaction through social networking services leave children and adolescents far too dependent upon their peer group with a corresponding decline in independent decision making skills (Rosen, 2011). Dependence on electronic forms of communication may further disadvantage youth by inhibiting the development of non-verbal communication and social skills, potentially leading to social isolation (e.g. body language, vocal tones, etc.).

While more research is needed, there is some evidence that suggests young people who are initially free from mental health problems, but who use the internet obsessively are at risk for depression (Harrison, 2010). Another study shows that students using virtual/electronic networking obsessively were 2.3 times as likely to experience depression as those who do not (Lam, 2010). A recent study by Hampton, et al. (2009), shows a direct relationship between the amount of time spent in virtual or electronic networking and social isolation It appears that the more a person attempts to communicate via electronic means, the more lonely they are likely to feel.

Researchers showed that adolescents spend hours in the virtual world with people they do not know in real life (Adams, 2009; Lapachet, 1992). Hence, virtual "friends" are in fact not friends in the traditional sense at all. Virtual networking may create a feeling of getting to know someone, who in reality, one does not know at all. The net effect is that physical contact with friends fades away and the individual slowly becomes disconnected with reality (Stella, 2011). There is a tendency for those who feel disconnected and socially isolated to increase their time in the virtual word in an attempt to relieve their symptoms (e.g. isolation, loneliness, social anxiety, depression) only to find an increase of such symptoms. Ironically, the "cure" becomes the cause (Jordan, et al. 2011).

It is possible that the comorbitity of social isolation and the decline of social skills in negotiating the real world may lead to anxiety and depression with internalizing (e.g. withdrawal, sleep disturbance, depressed mood, etc.) or externalizing (e.g. irritable mood, anger, etc.) symptoms.

Treatment implications for residential settings.

The unavailability of phones and computers in a controlled residential setting has little long-term effect for the child, as those social-networking tools are readily available when the child returns home. In the short term, breaking the addiction by removing such tools is an important first step to eliminate the pathological use of electronic social networking. However, perhaps the greatest contribution a residential setting can make to a youth struggling with an electronic/virtual communication addiction is to boost communication and social skills, in an effort to foster the development of higher self-esteem. Research has shown that extroverted individuals are less likely to fall prey to toxic levels of virtual social networking. Conversely, the introverted individual has a greater propensity for utilizing pathological electronic socialization methods to "stay in tune" with the peer group (Kuss & Griffith, 2011).

Shift from Intrinsic to Extrinsic Goals

The proliferation of anxiety and depression in the young are, in part, related to the shift from intrinsic to extrinsic goals (Twenge, et al. 2010). Intrinsic goals are those that focus inward such as the development of competencies and a healthy self- identity. Extrinsic goals are outwardly focused, such as the acquisition of money or admiration from peers. This shift in value orientation is underscored by a study of college freshmen who indicated that being "well off financially" is more important than "developing a meaningful philosophy of life," a complete reversal of the findings in the 1960s and 70s (Twenge, at al. 2004). Such a shift may be fueled by a clear message from the media, which is increasingly focused on materialism. That message is that "You will not be happy unless you have good looks, are popular and have plenty of material goods" (Burroughs, et al. 2002).

Gray (2010) suggests that an increased societal focus on schooling, with little emphasis on meaningful play and recreational activities are to blame for the shift to the externality. School in this view is simply a means to external prosperity and not necessarily supportive in developing a meaningful philosophy of one's life. Healthcare professionals across the nation draw attention to the fact that sedentary play, such as electronic games are taking the place of cardiovascular or socially interactive play all contributing to both increased levels of anxiety and depression and reduced levels of physical health (Wholley, et.al. 2008).

Treatment implications for residential settings.

The very nature of a controlled and structured setting with limited choices and exposure to media invariably has a positive effect on reversing

the trend toward materialism and narcissism in adolescents. Daily accountability for one's behavior to staff and fellow peers is very important to aid in the shift away from narcissism. In addition, a strategic, systematized approach through formal workshops, classes, seminars on ethics and value, moral education, and volunteer work may further enhance this shift. Processing and solving moral dilemmas, through a variety of media (i.e. movies, video clips, reading, group discussions, group assignments, etc.) have proven to be effective in assisting adolescents to refocus toward intrinsic values (Chu, et al. 1996).

Paradox of Choice

Freedom, autonomy and the ability to choose are critical to the well-being of individuals. In addition, personal control over managing choices effectively and in a predicable fashion is essential to achieving happiness (Schwartz, 2005). Americans of all ages have more choices then ever before. For example, a trip through the grocery store will present the shopper with an apparent endless choice selection of potato chips.

If choice is critical to one's happiness, logic would suggest a direct correlation between the number of possible choices and happiness. However, Harris (1987) showed that in 1966, 9% of consumers were "unhappy" with the choices they had at their disposal and in 1986 that number had increased to 37 percent, even though the number consumer choices have radically increased over that time period.

Explaining this apparent paradox, Schwartz (2005) points toward two closely related issues. First, as the experience of choice and control expands (e.g. the ability to have choices and manage them effectively), expectations expand simultaneously. That is to say that the more choices we have, the more choices we want. Thus, the aspirations and expectations are always greater than our ability to realize them, no matter how liberating the realization becomes. In essence, there is always something more and something better. Second, more choices may not always mean more control. There comes a point at which opportunities become so numerous that the individual feels overwhelmed. Instead of feeling in control (i.e. managing options effectively), the individual feels unable to cope (Schwartz, 2005). Prolonged exposure to these phenomena will expose the individual to experiences of being overwhelmed, anxious and eventually depressed.

Dealing with endless choices requires a corresponding amount of control and this increased level of control requires personal discipline, social and personal maturity (Schwartz, 2005). Youth in the U.S. have more choices than any like age group in the history of the world, but increasingly lack the social competence and coping skills to take advantage of choices. Conversely, rates of anxiety and depression among Amish youth, a close social group with limited choices, are less than one fifth of that of the whole US population (Schwartz, 2005).

Treatment implications for residential settings.

Based on the preceding discussion, it is plausible that adolescents whose symptom acuity has reached a level requiring residential care show higher incidents of poor impulse control, low self-esteem, lack of social maturity and impaired personal discipline than youth not involved in treatment environments. Hence, adolescents in residential treatment may benefit from limited exposure of choices with treatment support to optimally manage the available choices. To choose from an extensive list of recreational activities on a given day or from a long list of food choices for a particular meal does little in making the youth feel more comfortable. Happiness is not related to the number of choices available, but the increasing ability to manage the available choices effectively. The result is often measured in increased self-worth and sense of self, which in turn contributes to the reduction of anxiety and depression.

Cardiovascular/Exercise Activity

The Center for Disease Control and Prevention reports that childhood obesity has more than tripled in the past 30 years and the percentage of children aged 6–11 years in the United States who were obese increased from 7% in 1980 to nearly 20% in 2008. Similarly, the percentage of adolescents aged 12–19 years who were obese increased from 5% to 18% over the same period. In 2008, more than one third of children and adolescents were overweight or obese (CDC, 2009).

Lack of physical activity has proven to be the main contributor to obesity in youth (CDC, 2009). Experts site insufficient physical activity and too much time spent in sedentary behaviors may equal or even exceed diet quality as important contributors to being overweight in adolescence (Patrick 2004; Ebbeling et al. 2002). Hence, mental health experts are lamenting the fact that an increasing number of children and adolescents abandon vigorous cardiovascular activities in favor of sedentary activities like playing video games, virtual networking, watching TV, "hanging-out", etc. (Tremblay & Willms, 2003). Such a shift leaves the developing child exposed to a higher risk for mood disorders in general and depression in particular (Broome & Llewelyn, 1995).

A lack of cardiovascular activity can lead to sleep disturbance, which in turn leads to depression (Fogelholm, et al. 2007). A lack of exercise fosters laziness and can make a child feel physically inadequate, even if he is not obese (Ratey, 2008). Lack of exercise may affect posture, eye contact and how individuals generally carry themselves as well as how they are ultimately received by their peers (Tremblay, et al. 2000). Lack of cardiovascular activity can stunt the development of motor skills and hand-eye coordination. All of these variables, individually or in combination, are proven to have a daunting effect on a child's confidence, self-esteem and identity formation (Tremblay, et al. 2000). The progression towards negative self-image inevitably leads to anxiety and depression (Battle, 1978). Studies suggest that people who are depressed are less likely to exercise, a finding that helps to explain the increased risk for cardiovascular health in this demographic population (Wholley, et al. 2008).

Increased physical activity has proven to have therapeutic effects for mood related problems. A 2007 placebo-controlled trial out of Duke University -- the first of its kind -- found that exercise may be just as effective in relieving depression as the antidepressant Zoloft (Blumenthal, 1999). Ratey (2008) indicates that studies have shown that exercise lifts mood by increasing either endorphin or serotonin levels in the brain. Endorphins are thought to work as natural painkillers while serotonin is believed to affect mood (Ratey, 2008).

Treatment implications for residential settings.

A comprehensive review of meta-analyses has demonstrated an increased positive effect of exercise on the reduction of anxiety and depression when the exercise is aerobic (Landers, 1994). Therefore, activities like running, swimming, or cycling more effectively reduce symptoms of depression and anxiety than non-aerobic activities like walking, flexibility training, weight lifting, etc. Furthermore, cardiovascular exercise programs showed the greatest impact on symptoms of anxiety and depression when the program was longer than 4 months in duration and clients presented with low levels of fitness and high levels of anxiety (Kugler, et al. 1994; Meyer, et al. 1997). Another meta-analysis demonstrated that cardiovascular exercise may produce an anxiety reduction similar in magnitude to other commonly employed anxiety treatments, including relaxation exercises, and offer additional physical benefits (Craft, 1997). Across five meta-analytic reviews, the results consistently show that both acute and chronic exercise is related to a significant reduction in depression (North, et al. 1991).

It is well established that exercise and nutrition have beneficial effects on mind and body. However, recent advances in science have provided some powerful insight into the neurophysiology of how exercise affects mood, anxiety, and learning. This research tells us that through systematic, strategic exercise, one can keep the brain at peak performance (Ratey, 2008). Moreover, research has shown that fitness has a direct effect on scholastic performance (Ratey, 2008). Over the past five years, the California Department of Education (CDE, 2004) has consistently shown that students with higher fitness scores also have higher test scores. As discussed above, toxic levels of stress erode the brain's cognitive functions (Ratey, 2008). Recent research in neurophysiology has found that "exercise unleashes a cascade of petrochemicals and growth factors (insulin-like growth factor GF-1) and vascular endothelial growth factor (VEGF) that can reverse this process (i.e. cognitive impairment due to stress), by physically bolstering the brain's infrastructure" (Ratey, 2008). In sum, when it comes to youth who suffer from anxiety and depressive disorders, fitness is more important than sport (Ratey, 2008).

Diversionary and recreational activities such as walking, riding horses, playing baseball, river rafting, etc. are important aspects in the comprehensive programming for youth in residential settings (O'Marrow, 1971). They break-up monotony and improve quality of life.. However,

to achieve clinically significant positive effects through exercise, available research indicates a systematized, prolonged aerobic exercise program is favorable. Exercise should include skill acquisition (complex tasks such as skiing, kayaking, etc.) and aerobic exercise. The best sports are those that simultaneously tax the cardiovascular system and the brain, such as rock climbing, balance drills, etc. (Ratey, 2008).

Nutrition

Nutritional deficiencies have proven to be a risk factor for depression (Alpert, 1997). Such risk factors include; excessive consumption of sucrose (sugar) (Johnson, et al. 2007), excessive amounts of magnesium or vanadium, amino acids imbalance, excessive consumption of caffeine, deficiencies of folic acid, vitamin B, vitamin C, calcium, copper, iron, magnesium, potassium or biotin (Morrow, 2010).

Diet and nutrition can play a key role in the onset, severity, and duration of depression, including daily mood swings (Holford, 2001). Many of the same food patterns that precede depression coincide with food patterns occurring during depression. These patterns may include skipping meals, poor appetite, and a desire for sweets.

Adolescents, notorious for their poor eating habits and the highest consumer group of junk food, are particularly at risk. Recent research conducted by British and French epidemiologists showed that over-eating of junk food is associated with increased levels of depression. Data collected from study participants (N=3,486) shows that people who ate a junk food diet – one that was high in processed meat, chocolates, sweet desserts, fried food, refined cereals and high fat dairy products – were more likely to report symptoms of depression (Akbaraly, et al. 2009) than people who ate a diet rich in fruits, vegetable and fish were less likely to report being depressed (Zeratsky, 2010).

Treatment implications for residential settings.

Since adolescents typically are not involved in the preparation of the food they eat, they are ill informed about what they eat. The combination of providing nutritious meals with limited or no access to junk food is beneficial. However, in order to increase the level on understanding and insight of how nutrition can affect both mental and physical health, a hands-on approach may prove more effective. Participating in menu planning, shopping for the ingredients, and meal preparation can provide an optimal platform for adolescents to become familiar with the mind-body-food connection. In addition, the youth is in an optimal position to acquire budgeting, cooking, and organizational skills, which likely will have a positive effect on self-worth.

Alcohol and Drug Abuse

The damaging effects of illicit drugs on the developing brain are well documented in the professional literature (Ramage, et al. 2005). A new study, published in Neurobiology of Disease, suggests that daily

consumption of cannabis in teens can cause depression and anxiety and has an irreversible long tern effect on the brain (Gobbi, 2009). The study findings suggest that cannabis may act on two important compounds in the brain – serotonin and norepinephrine – which are involved in the regulation of neurological functions such as mood control and anxiety.

Depression can cause substance abuse (Dorus & Senay, 1980), substance abuse can cause depression, and the comorbitity has well been established (Regier, et al. 1990). While drug abuse in adolescents is often viewed as a way to rebel or fit in with peers, some youth hope to find symptom relief through self-medication (US, NDCP, 2008). Some teens turn to substance abuse because of an underling mood disorder, such as anxiety or depression, which has been discussed throughout this paper. A study involving 424 youths between the ages of 16 and 19 years, shows that the onset of depression is correlated with substance abuse, suggesting that self-medication leads to the development of alcohol or substance abuse (Deykin, et al. 1987).

Adolescents are notorious for having difficulties accepting and/or recognizing that they are depressed and can be treated with medication and psychotherapy (Sodaro & Ball, 1999). A recent study by the US Department of Health and Human Services estimates that as many as 3 million adolescents suffer from clinical depression, but an estimated 2 million are undiagnosed and not receiving proper treatment (SAMHSA, 2009). Youth who do not receive effective treatment show increased levels of self-medication through substance use/abuse, often only serving to exacerbate the problem.

Both alcohol and marijuana have a sedative effect on the brain resulting in diminished cognitive abilities, and such "numbing" effects may provide possible symptom relief (IAHC, 2012). Stimulants, such as cocaine, tend to elevate mood. However, attempts at self-medication often lead to increased symptomology including elevated forms of anxiety and depression as well as maladaptive social behavior like, lying, stealing, deception, and family conflict.

Treatment implications for residential settings.

Duncan, et al. (2009), after reviewing dozens of meta-analyses, suggest that there is no statistical difference among dozens of therapeutic models in treating mental illnesses with the exception of anxiety disorders. Similar findings are emerging in the treatment of alcohol and drug abuse literature. Kelly & Myers (2009) report that there are no scientific studies that support one specific therapeutic approach as the best format for support groups for adolescent poly-substance abusers. The same researchers have found that adolescents participating in 12-step meetings with members closer to their own age attend more meetings, are involved in more active step work, and have better long-term recovery outcomes (Kelly, Myers & Brown, 2005). In addition, they have found that adolescents respond more to the general group support dimension of group dynamics than to

the spiritual aspects of the program or active step work (Kelly, Myers & Rodolico, 2008).

These findings lend credence to the notion that the "change factor" in a recovery group does not lie with a particular treatment approach (i.e. 12-step, N.A., rational recovery, etc.), but with the efficacy of the therapeutic properties of the peer group itself. In sum, peer support and encouragement trump a particular treatment approach. The "art" in creating a supportive peer approach within the context of a treatment group is first and foremost a matter of the skill level of the therapist. Maintaining a supportive relationship with the student, while at the same time demanding accountability, is what matters most.

Family Role and Dynamics

Those in the helping professions who work with families are concerned with significant shifts in parenting styles. They describe the phenomena as *parental induced psychological fragility* (Hara Estroff Maano, 2004). This phenomenon is driven by a berserk-gone approach to prepare the child for an increasingly competitive world. In this misguided fashion, parents are going to extraordinary lengths to take the lumps and bumps out of life for their children. However well-intentioned, parental hyper-concern and micro scrutiny have the net effect of making children more fragile. Hara Estroff Marano (2004) suggests that this may be the primary reason why the young are breaking down in record numbers. The same researcher suggests that many of the strategies parents employ to prepare their young for real life paradoxically leave them crippled, and in need of "training wheels" well into their twenties and thirties.

The net effect of such "hyper-protective" parenting is a young adult with diminished coping skills. Parents who are overly controlling in an attempt to mitigate difficulty, pain, hardship and/or exposure for their young leave the child with inadequate tools to cope with stress. Such a parent will mortgage the child's future for comfort in the present. They want to eliminate the growing pains without realizing they leave the child unprepared to succeed in a stressful environment.

The Perfect Storm

Traditional Contributors

Traditionally, etiology and epidemiology of anxiety, depression and their co-morbid features have been explained in through: a) Psychodynamic and Relational Theories, b) Behavioral and Cognitive Learning Theories, c) Biological Models, and d) the Development Models. While these theories and models remain valid and can be viewed as "traditional factors", the surging levels of anxiety and depression among adolescents and young adults can no longer be explained by these theories and models alone.

Cultural Contributors

An increasing number of mental health professionals are suggesting that the answer to the unprecedented expansion of anxiety and depression

among youths is due to a dramatic rise in environmental stress. More so than ever before, teenagers are bombarded with life stressors on a daily basis. Contributing to this heighted stress level is the fact that the psychosocial maturation processes in contemporary youths are delayed compared to previous generations, resulting in diminished coping skills leaving youth less able to cope with stressors.

Thus, the cultural factors of a) heightened stress through media, b) electronic and virtual networking, c) shift from intrinsic to extrinsic goals, d) paradoxical consequences of choice, e) lack of cardiovascular activities, f) lack of optimal nutrition, g) alcohol and drug abuse, and h) shift in family role and dynamics, also need to be considered when identifying factors responsible for the rapid proliferation of anxiety and depression in the young.

Comorbidity between Traditional and Cultural Factors

The traditional factors based in psychodynamic and relational theories, behavioral and cognitive learning theories, biological models, and developmental models of anxiety and depression, constitute one of the "weather fronts." The co-morbidity of anxiety and depression build a second "weather front," and the cultural factors provide a third "weather front." When all of these fronts converge, they present the "perfect storm", a meta-co-morbidity of sorts.

Youth who require residential based treatment are often caught in such a storm. The symptoms that bring them to this point may have single or multiple origins. Moreover, the origin of anxiety and/or depression may be found in traditional or cultural factors, however, when the child reaches the acuity of requiring residential care, both traditional and cultural factors are inevitably present. The origin of the problem is often obscured because of multiple presenting symptoms. Diagnosis and treatment are further complicated as symptoms of both anxiety and depression mirror each other.

Adolescents caught in this "perfect storm" often exhibit symptoms that a casual observer may interpret as oppositional or purely conduct related. Consequently, such a child may find him or herself in a behavior modification program that does not strategically and mindfully address the underlying stressors. It is not unusual then that such a youth perceives treatment as a punishment for being "bad." Hence, an intense, deliberate approach in addressing all the contributing factors through strategic programming that aims at symptom relief is likely to be far more advantageous.

Implications for Residential Treatment

Historical Perspective

During the 1960s, 70s, and early 80s, adolescents requiring resident care were essentially treated in one of three different settings. First, youth with "mental disorders" were treated in specialty psychiatric hospitals

at a cost of $500 to $1,000 per day (Mechanic, 1985). Youth requiring residential care that fell under the jurisdiction of the juvenile justice system, the Department of Child Services, or other state-run agencies were placed by these respective agencies in long term institutions. Youth, who required residential care, but fell outside of the parameters of the above mentioned groups, were placed in "private" specialty schools and program.

These specialty schools and programs grew out of a combination of character education, drug rehabilitation models and/or milieu therapy. Adolescents who were referred to these settings presented with oppositional behaviors, maladjustment, underachieving, and/or substance abuse. Little or no formal therapy was provided. The term "therapy" was purposely avoided in order to create distance from "mental disorders". Loosely, these provides were labeled as "emotional growth" schools and facilities.

However, with the proliferation of managed care and the subsequent disappearance of most adolescent psychiatric hospitals, parents and professionals were looking to specialty schools and programs to treat the child with needs beyond character education and a "structured environment." Unequipped to provide formal therapy, emotional growth schools and programs were ill prepared to provide optimal services to clinically challenged youth. Subsequently, new providers entered the field that made use of both milieu therapies, while simultaneously providing clinical sophistication to effectively treat youth with diagnosable mental disorders and disturbances. Eventually, after the turn of the century, the majority of "emotional growth" programs followed these early pioneers and added psychotherapists to their staff.

Contemporary Practices

Over the past few decades, differential diagnoses have expanded. Correspondingly, treatments have become more specialized. However, up until the first five years of the new century, residential treatment centers and specialty schools and programs have often attempted to treat an ever widening range of issues and problems. Thus, it is not uncommon for programs to treat all forms of mood disorders, anxiety disorders, pervasive developmental disorders, drug and alcohol problems, personality disorders and disorders that first appear during childhood such as attachment disorder. Following the medical model, some specialty schools and programs have become "general practitioners" with the differentiation between providers often characterized by minutia.

Looking for the next Step

Within the past 2-5 years, a small number of providers have abandoned the "general practitioner" approach in favor of specialization. These specializations, which will likely become increasingly differentiated in coming years, are driven by two factors. First, with the anticipation of the new publication of the fifth edition of the Diagnostic Statistical Manual (DSM V), there will be an ever widening differentiation of diagnoses.

Along with such differentiation comes the need for a greater spectrum of best practice models relative to identified problems. Second, cutting edge treatment and intervention models must take into account the cultural factors described above. While in the past some of these contributory factors have been addressed (i.e. substance abuse, change in family roles), others received little or no attention.

Therefore, advances in modern neuropsychology, continued forays into nutritional science, new models of addiction treatment, incredible breakthroughs in exercise physiology, and new emerging studies on moral and value education must be mindfully and strategically incorporated into the treatment of anxiety and depression. Since the contemporary culture is not likely to roll back to a more pastoral time, residential treatment must consider a mindful, strategic approach to incorporating interventions and methods that attend to both traditional and cultural factors in order to provide a holistic method that is optimized for the treatment of anxiety and depression.

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Poison Apples, Big Bad Wolves and Other 'Happy Ending Spoilers': Overcoming Barriers to Enduring Change Following Youth Residential Treatment

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Abstract

While there is increasing awareness regarding the importance of enduring psychological treatment effects for youth, rigorous examination of the sustainability of therapeutic change has remained limited. This prompted our own study of 125 families (50 youth, 84 mothers, 42 fathers), one to four years after residential treatment. In this manuscript, we report three barriers potentially threatening the 'happy ending' of some youth. These include: 1) A college party atmosphere glorifying alcohol and drugs, 2) The destructive impact of some boyfriends, and 3) An unchanged home atmosphere of parent habits and family patterns. We present these findings to inform a more thoughtful deliberation about the realities facing youth following residential treatment—ultimately suggesting several concrete ways to improve long-term outcomes.

Poison apples, big bad wolves and other 'happy ending' spoilers: Overcoming barriers to enduring change following youth residential treatment

Introduction

Painful challenges facing adolescents across the U.S. have become increasingly evident in recent years. From severe eating disorders and anxiety issues, to debilitating abuse and depression, mounting youth challenges have attracted growing attention among researchers, practitioners, and government leaders (e.g., Pipher, 2005). In response, a wide variety of social services and helping initiatives have been developed to assist youth and their families. These efforts range from traditional out-patient therapy and in-patient residential care for especially troubled youth to collaborative wraparound services and crisis assistance for families in their own homes (McAuley, Pecora & Rose, 2006).

For parents or other guardians deciding what they need in terms of additional help for their child, a clear and accurate view of what happens in an intervention and what kind of results they can expect is crucial. Indeed, as general interest in "finding out what really works" for children and families has increased, outcome and evaluation studies have flourished across youth and family interventions (McKay, 2007; McAuley, Pecora & Rose, 2006). Rather than clarifying the matter, however, contradictory claims, arguments, and proposals have often led to heightened confusion among families: medications work...and they don't, treatment effects last... and they don't, supplements are helpful...and they are harmful. Among other thing, such contradictions have led to greater scrutiny of the research process itself. For instance, Romyn and colleagues (2003) comment that while there is general scholarly agreement that "practice should be based on the best available evidence, there is a lack of agreement [in the research literature as to] a) what the term evidence means . . . b) the ends for which *evidence* is to be sought and . . . c) the means by which it is to be acquired" (p. 184).

One aspect of the research process undergoing increasing examination is the issue of short versus long-term findings. While an increasing number of longer-term studies are appearing across treatments, unfortunately, the bulk of outcome studies (especially in relation to youth and adolescents) continues to reflect primarily shorter-term results. Although a handful of residential treatment studies provide evidence of some enduring effects for youth (e.g., Behrens, & Satterfield, 2007; Hair, 2005; Hong, 2010; Leichtman, Leichtman, Barber, & Neese, 2001), critiques have been raised that most studies "fail to measure outcomes after discharge" (McKay, 2007, p. 74). Gies and colleagues (2006) noted that "despite juvenile justice systems' widespread use of short-term residential placement, little is known about how effective it is in reducing recidivism." Writing of this same outpatient residential care, Knorth, Harder, Zandberg, & Kendrick (2008) stated "it is

remarkable that there are so few reviews and meta-analyses of outcomes of residential child and youth care services," before emphasizing "very little evidence on long-term outcomes," in particular (p. 123).

In the absence of more serious and systematic longer-term research, what can legitimately be said about an intervention's true effects? Specific to residential treatment programs for adolescents, research by Henggeler and Schoenwald (1994) suggests these centers "may affect behavior change in a controlled environment, but are not likely to maintain their effectiveness when the individual reenters his/her unchanged family, peer, and neighborhood environment" (p. 245). Concerns about temporary surface effects have also been raised across other interventions as well, including certain kinds of psychotherapy, medications and community-based educational interventions (Henggeler et al., 1999; Lynam et al., 1999; Hess & Lacasse, 2011).

After reviewing over 4,000 "scientifically rigorous studies of family-based services in children's health and mental health" since 1980, Hoagwood (2005) noted "the range of outcomes that are typically assessed in clinical treatment studies is too narrow to afford an adequate view of the impact of family-based interventions. A broader view of outcomes is needed" (p. 708). Overall, there is a growing realization that for a youth treatment or intervention program to be called "effective," it should be able to demonstrate those effects in more than a limited, brief period of time. Programs thus ought to find ways to document over at least a 6- to 12-month period to what degree changes have endured—that is, "was there a change...that we can plausibly attribute to what we set in motion?" (McCardle & Chhabra, 2004).

When studies do look long-term, focus often remains centered on the logistics and elements of successful treatment (Nickerson, Colby, Brooks, Rickert, & Salamone, 2007; Bettmann, 2009). With a few exceptions, there is less attention to the external barriers youth face upon returning home (Thomson, Hirshberg, & Qiao, 2011).

It is the seriousness of this issue of long-term outcomes that prompted two of our own research studies in recent years. Like other agencies and parents of troubled youth anywhere, we share a desire and concern that improvements will last. Parents who are trusting in the support of any treatment provider deserve to know that the change elicited is both enduring and authentic.

In order to examine this issue thoroughly, we divided our research into two phases. First, we wanted to better understand dynamics involved in the immediate experience of coming home for youth after residential treatment. In order to identify patterns, we interviewed a number of parents and youth who had done especially well upon returning home from Alpine Academy. Findings from that study are reported in a separate manuscript (Hess, Bjorklund, Preece, & Mulitalo, 2012). In our second study, we extended our examination beyond the *immediate* transition home to

the *longer-term* experiences of families years following residential treatment. By interviewing families of youth experiencing both success and struggle, we were able to identify some unique patterns in long-term success. Following a brief discussion of method and study demographics, key themes of those findings are reported below.

Method

Given the large sample size, this study employed both qualitative and quantitative methods. In order to be included in the study, girls had to be home for at least one year after treatment ended. Of the 173 families meeting this criterion, we sought to contact each of them over the course of the next 6 months.

Those families who were reached were invited to participate in a phone interview lasting between 15 to 30 minutes. Participation was confirmed through oral consent, with the entire study supervised by an independent Institutional Review Board. Ultimately, at least one individual in 125 families was contacted, including 50 girls and 126 parents (84 mothers, 42 fathers), totaling 175 individual interviews conducted. This resulted in nearly 100 hours of interviews.

Of the 43 families not interviewed, 5 families were not contacted due to poor program fit (and short stays, such as 1 day), 6 of the earlier families had outdated contact information with no updates available, 8 declined participation and the remaining 23 families did not return calls or e-mails.

Youth demographics. Since 1969, Utah Youth Village has provided shelter, treatment and foster families to children who are wards of the state of Utah. In addition, the agency provides in-home services and parenting classes to families in crisis. In order to help fund its other programs for low-income children, Utah Youth Village opened a private residential treatment facility in 2001, Alpine Academy. Alpine offers family-based residential treatment for teenage girls ages 12-18, emphasizing skills to utilize to stay well once back home.

The average age of girls during their Alpine stay is 15.2 (with approximately 33% of girls in the 12-14 year age range, and 66% in the 15-17 range). Based on statistics across all 245 girls attending Alpine to date, 85% of girls at Alpine are Caucasian, with approximately 15% reflecting the three primary minority groups in the U.S.: Latino/Hispanic [5%], Asian-American [5%] & African-American [3%]. Another 3% of the girls reflected a variety of other cultures (Native American, Eastern European/Russian, Middle Eastern & Pacific Islander).

Prior to Alpine, matriculated girls come from a variety of living situations. The largest percentage arrive directly from their own homes [39%], with a second sizeable group arriving from wilderness programs [27%]. Still others come from hospital/intensive residential care [19%], other residential treatment/boarding schools [14%], and juvenile detention [1%].

At the time of a girl's program admission, approximately 59% of Alpine parents were married, 32% divorced and 9% single or widowed. A high percentage of girls were also being raised by non-biological parents prior to Alpine, with approximately 34% of girls adopted and 66% living with biological parents.

Based on intake questionnaires, girls were admitted to this program for diverse reasons. The most common precipitating problems cited were depression/anxiety (85% of girls) and aggression/defiance (84% of girls). Girls were also rated as frequently struggling with attention problems (84%), psychotic symptoms (77%), risky sexual and criminal behavior (75%), and physical discomfort (62%).

Of those families contacted, time of stay for the girl ranged from very brief (5-18 days) to very lengthy (28-32 months). Approximately half of the families interviewed had a youth graduate from the program, while the youth from the other half of families left prior to completing the program.

Analytic approach. In this study, we take a particular philosophical hermeneutic approach to analysis (Martin & Sugarman, 2001; Polkinghorne, 2000; Rabinow & Sullivan, 1987). In its emphasis on the critical role of interpretation[1] in both the object and process of research, this approach shares meaningful links with interpretive phenomenology (Benner, 1994), constructionist revisions of grounded theory (Charmaz, 1990) and discourse analysis. Similar to these approaches, a hermeneutic analysis moves *beyond* the objective experience of an issue (drugs, boyfriends, home atmosphere) to investigate more closely how individuals *frame and interpret* that experience. These interpretations or narratives, rather than mere "subjective overlays," are understood to be directly relevant to the practice and actual experience of both families and staff moment by moment in tangible ways (Fay, 1996, p. 178). In this way, a hermeneutic approach recognizes the powerful role of interpretation in shaping and partially creating particular experiences (Taylor, 1985), while insisting on meaningful roles for other (non-interpretive) contributors as well.

The goal of this approach is to ultimately make subtle interpretive patterns more accessible to public view — patterns and perceptions that might otherwise remain largely implicit, unconscious and "hidden" (Slife & Williams, 1995). By surfacing and clarifying these patterns in the community discourse, such inquiry may facilitate a more thoughtful public and professional deliberation about treatment and recovery (Schwandt, 1996).

Interviews were transcribed directly and analyzed across a number of issues and questions. Where identifying information appeared, it was removed, with names replaced by pseudonyms. Participating families were

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[1] Although definitional nuances exist in the philosophical literature, "interpretation" is used here in its broadest definition of general "sense-making"—reflecting, for our purposes, other related practices (perceiving, believing, assuming, viewing and holding an attitude).

[2]   In some cases where it was impossible to reach a particular youth, we relied on reports from secondary sources, especially other girls in the program, who were aware of the girl. These informants are indicated by "*inf*" after the number.

then identified by numbers (1-189) and letters (f = father; m = mother; d = daughter[2]), with the number indicating the families' order of intake; to aid in interpretation, this identifier is italicized for graduating youth, and left in normal font for those who completed only a part of the program.

Analysis of the data set subsequently focused on key themes, patterns, and issues evident across interviews. Rather than analyze interview comments in an abstract, detached fashion, this analytic style led to approaching the interview data more like a living document—a multi-layered text that is "listened to" in successive interpretations. Rather than expect every family to comment on the same issues, the semi-structured format also allowed families to focus on the places they felt were most important, similar to a large panel-discussion. This format allowed insights and reflections to emerge that were the *most important* to the families, rather than simply 'fishing' for comments or themes of particular interest.

In what follows, quotations are presented largely verbatim, except when a minor edit would clarify the intended meaning of a comment or description.

Results

After classifying girls according to current status, the bulk of the remaining analysis examined what differentiates between outcomes: Why does one girl do well afterwards, while another does not? Rather than one singular influence, the study confirmed and documented a number of meaningful, interlocking factors. This ranged from components internal to Alpine (e.g., staff relationships, accountability structure, academics and nutrition/exercise) to those coming into play when girls leave Alpine and return home (e.g., boys, drugs/alcohol, serious emotional problems & home family dynamics). These analyses resulted in nearly 300 pages of analysis across 9 separate reports.[3] In this manuscript, we summarize our analysis of three major external factors differentiating outcomes, each representing real barriers to reaching a 'happy ending' for some youth: drugs/alcohol, negative boyfriends, and unchanged family environments.

1. Poison apples, drugs & alcohol: 'Just say yes?' Most youth did not report struggling with drugs or alcohol after leaving treatment. However, of the graduates who struggled significantly post-discharge, 54% referred to serious drug/alcohol use of some kind. Several parents spoke of the intensity of a larger atmosphere that can be oriented toward substance use:

- My daughter has been exposed to a lot of the [metropolitan] teen life these past couple years, as all her friends have, and she does smoke pot...It's extremely difficult in [a large city] to avoid everything we, as parents, would like our kids not to get involved with. *(74m)*

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[2] In some cases where it was impossible to reach a particular youth, we relied on reports from secondary sources, especially other girls in the program, who were aware of the girl. These informants are indicated by "*inf*" after the number.

[3] For researchers, practitioners or families who could benefit from reviewing our full results, please contact Shanna Draper to discuss obtaining a copy (sdraper@youthvillage.org).

- It was kind of hard to assimilate back with her friends; her whole life has changed. She didn't have a lot of friends before she left and then to come back this age and to go to a high school where … all the kids were doing drugs and having sex and not wanting to go to college—the peer group was horrible, *horrible* … it was a horrible peer group. They hugely impacted her; that's all she would come home and talk about—'so and so is doing ecstasy' …. She wanted to go to a 'rave.' I didn't want her to be around that all day, every day … when kids are surrounded with that and when that's the majority group, that's hard. (154m)

- At college, she so badly wanted to fit in that she drank too much. (95m)

Two girls likewise admitted:

- Social stuff was hard. There are drugs in every single school you go to— it's really hard to not get into that kind of stuff. (147d)

- Where I live, drinking is all people know what to do … I was never, ever satisfied with that lifestyle, but I did it because all my friends did and nobody is sober in college. *(96d)*

In spite of this culture, many girls made the choice to resist. Parents noted:

- She is independent and doesn't hang around with druggies and drink. (31mf)

- She has been able to stay out of drugs. *(104d)*

- But she's happy, and striving. No drugs/alcohol issues. She's great! (108m)

Youth themselves also report success. One girl said, "Compared to how I used to be, I've done a complete 180. I've been 3 years sober." (134d). Each of these youth cited above had gone on to accomplish things academically, hold jobs and maintain relationships with families.

From disapproval to justification: The role of drug/alcohol beliefs. One of the key patterns in those girls who were able to resist substance abuse is a belief in the value of avoiding it. One girl said, "I don't do drugs, I don't drink just to get drunk and I surround myself with good people who care about me. This year has been a hard one, but I find new ways to rid myself of these "toxins." (73d). Another girl said: "People I tried to make friends with were doing drugs and drinking. But I was more aware of my emotions and reasons attached to drinking (such as anger). I made friends. I'm now in school, doing great and haven't had a drop of alcohol in two years. I also haven't touched drugs in two years—no self-destructive cutting, etc" *(140d)*.

This same value was seen in family members. One mother said, "The family and her boyfriend have been trying to get her into it … and they kept trying to press alcohol on her. Her ability to stand up for herself has pleased me" *(136m)*. One father described committing to giving up alcohol in order to provide extra reinforcement for his daughter's own change: "I haven't had a drink since." He then explained, "It is easy for parents to say, 'She screwed up; my daughter needs to change' … but that's ridiculous … you have to look

at your part in the situation. Each parent individually." (13f).

The opposite disposition was found in other families, however. One parent admitted "letting things go" and "sweeping it under the rug" when new problems arise: "Well, it's just a little pot, booze …every teenager does it." A father said, "Last fall, she started smoking pot; we didn't discourage it, but insisted she needed to be completely responsible about it" (132f).

While the surrounding pressures are challenging enough, it becomes even more difficult when home atmospheres reflect this same culture. Some parents continued to model this same behavior for their children, including parents known to be heavy marijuana users and alcoholics.

While girls of parents abusing either alcohol or illicit drugs were slightly less likely to graduate from Alpine (10-18% less) and to be doing well long-term (12-30% less), these correlations were not robust, with the strongest only mildly significant [X^2 of 7.5 (p=.1**), Cramer's V of .2 (p=.1**)][4]. That a general linkage exists, however, seems clear. Reflecting on her depression diagnosis, one girl whose parents were both involved in drugs said, "I have my mood swings, but not that different from anyone else," then added somewhat wistfully, "but *any* 15 year old girl living with drug abusers is going to have some issues" (54d).

Within such a macro and micro culture, many girls predictably voiced similar justification and minimization about their current or recent drug/alcohol use. One girl said "I don't do *serious* drugs; I drink and smoke cigarettes" *(30d)*. Another girl said: "I did a lot of drugs, but only when I went clubbing, and ones that aren't addictive (mdma, acid, etc) and I smoked weed" (4d). Still another girl said: "I still drank and smoked pot…and haven't made the best choices ever, but I'm fine and live well… I have just found out I am pregnant. I still drank and smoked pot up until I found out I am having a baby *(126d)*.

One girl said: "I was drinking a lot, smoking cigarettes and weed on the weekends . . . I smoke weed every day--4 cigarillos per day," then elaborated to great lengths in justifying how it is *not harmful*—even beneficial:

It has not—moneywise, *it doesn't hurt me*--but in the last couple of months I've been cutting down and saving money up. For me, smoking marijuana is a relaxation thing. When I have trouble, when I get very anxious and have a lot of energy, smoking makes me relax, calm down and ground down to earth . . . and I can still function. I'm still in college and doing my bachelors. I go to school every day. I have straight A's—I work out. I live with my boyfriend and we have a dog. *(162d)*[italics ours].

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[4] The Chi-squared test (X^2), which is referenced throughout the paper, determines how likely it would be to see this distribution of numbers at random. A higher X^2 value indicates the particular numbers observed reflect a valid correlation (confirmed by a p value less than at least .05 to be considered 'statistically significant'). In cases where the chi-squared suggests a correlation is present, the Cramer's V stat indicates the strength of the relationship (ranging between -1 and +1, with numbers closer to 1 reflecting a stronger association). [While most non-significant correlations are not shared in this review, those that seemed relevant to still share are marked by a double asterisk**].

More than simply justification, this can reflect an embrace of the culture. One girl reported "I've started to drink; I just love the party life" *(155inf)*. In our own clinical work with these girls, we have observed how widely accepted drug use had become among peers at home and that it was a "radical idea to party sober."

'Hey, it's not a big deal.' Living out these beliefs. Given these cultural influences, a number of families describe drug or alcohol use that became very serious. Parents and other informants report:

- She sought attention in the wrong ways from guys; She got into partying, and missed lots of school. Within 6 weeks, or shortly thereafter, she started doing drugs again. *(118f)*

- She was clean for 4 months. . . it took her a year to get the point of using heroin. She ended up gravitating towards the wrong people. (121m)

Youth also reported:

- I went back home and got a job and tried to go to a university...but I ended up getting addicted to crack and kicked out of the school. (4d)

- There were a couple of months where I was drunk every single day— plastered. I was crazy...I had a job, but was late all the time. *(96d)*

- I drank and smoked weed. I was binge-drinking. . .These bad behaviours...didn't completely go away. *(107d)*

In the addiction literature, it is well-known that a high percentage of those in treatment relapse at some point (Hoffman & Froemke, 2007)--a reality likely connected to these larger cultural forces reviewed above.

Often, this entails the characteristic up and down pattern of addiction. After another girl got back into drugs, alcohol, pot, and heroin, the mother recounted the following:

We decided to take the gamble and watch for her to hit bottom and hope for a "high bottom." We told her "Jenny, we love you, but figure it out."...She eventually really asked for help, thankfully and...flew out and entered a rehab facility... she was clean and sober for almost 8 months afterwards. She had committed to a 12-step program, got her in an apartment, and started back at school. . . .In May, however, there were little red flags-not showing up to weekly therapy appointments with her therapist, justifying a beer because still going to meetings as a "test to herself." Recently, she just relapsed into another crisis situation. Sometimes it takes 2-5 times of relapsing, until finally waking up and saying, "I'm really going to stop." In the meantime, this mother said, "it is horrific to watch" *(94m)*.

The pain of such an experience for parents was reflected here. A father recounted the impact of the substance use on a girl herself: "In the beginning weeks, she made some new friends and everything seemed good. After that, however...she started finding different friends and began using

drugs again." This father went on to relate the way drugs appear to block his daughter's basic capacity to respond and listen:

> Drugs are the worst thing of all—everything else can probably be dealt with…once they start using drugs or alcohol, however, there's just no talking to them anymore. You have to lock them up. Do whatever you can to prevent drug use; that's the worst . . . it just stops any possible rehabilitation. Drugs cover up the past; there is no hope when drug use is going on . . .The first priority is to stop that. Everything was going so well, but with drug use, the logic, everything became pretty much impossible *(189f)*.

Another mother spoke of a similar impact on her daughter's better qualities: "When she returned home, she got mixed in the same environment with the bad crowd. . . .She got back with the boyfriend who was verbally/mentally abusive and becoming physically abusive. It was bad, bad, bad . . and spiralled [down] to….drugs, alcohol, pot, heroin…..the self confidence goes, self-worth, everything. When she is clean and sober, she has self-confidence; when she is using, her self-esteem is very low" *(94m)*.

'Something clicked': Bouncing back. Even with intensive work and encouragement from families and professionals to avoid substances, then many youth will choose otherwise. On a hopeful note, however, we observed multiple accounts of experience itself ultimately teaching meaningful lessons. For instance, one girl who did fairly well when she got back, eventually started running with "wild" and "out of control" kids "and doing whatever the hell she wanted." After getting back on drugs and getting pregnant, the father mentions "something clicked in her finally." He went on to describe how she went back to school, got her diploma and quit drinking and drugs. She is now married and works on a production plant making a good living and maintaining good relationships with her family (78f).

In another account, a girl herself shares some of what went into her own turnaround:

> You get to that phase where drinking is not the thing to do. Eventually, you see the physical damage—and it's not good: your body throwing up, losing weight . . .my body and mind and everything were just getting exhausted. I was exhausted of that lifestyle . . .mentally and physically it just puts so much on you. There's a point at which my body could not handle it anymore. When my lifestyle started hurting other people's lives, that's kind of the point that I realized "oh, maybe I need to stop." There are nights I would fight with friends and get cops involved . . .and I was like, "I don't want to be known as the one who drinks and hurts people around them. . . How could I be living that lifestyle?" I saw friends throwing up blood all the time because they were drinking . . .and in my mind, I just couldn't handle it all.

This girl went on to share the following realization looking back:

In accepting that pattern of getting drunk and going to work, I wasn't responsible. Where I live, drinking is all people know what to do . . . I was never, ever satisfied with that lifestyle, but I did it because all my friends did and nobody is sober in college. It's easy to do it… it's so much more easier in life to get wasted, and not have to go out in the real world and have fun; not being responsible . . . that responsibility is such a hassle. *(96d)*

This can lead to surprising changes over time. One mother said, "One day she kind of woke up and said she was finished with drugs . . . things got through to her enough and she graduated from high school, now she is going to Berkley. She has been sober for 2 and a-half years. She is also a risk taker in a lot of ways" (66m). Another mother said, "What Cindy learned in college is she doesn't want that college scene. She doesn't want to be with [a] group who goes nuts" (95m).

The alluring party life, of course, includes more than simply substance use.

2. The impact of 'big bad wolf' boyfriends. Among the most powerful influences upon a girl's return home was the role of guys and boyfriends in their lives—for better or worse. This area was not, admittedly, a major worry for everyone:

- In terms of guys, she is not doing everything I would choose, but she had a pretty good boyfriend I liked. . . he was a pretty good guy. . . That's not a major worry. *(28f)*

- I did well when I came home; I'm now studying to be a doctor, with a 3.6 GPA and with a good boyfriend. (54d)

- My boyfriend . . . is a big support. He supports me in being myself; he calls me the 'heart-healer'" *(104d).*

Risky precursors: Excessive yearning to connect. The desire to connect, be accepted and loved, of course, is both healthy and natural. For many girls, however, these general desires can become excessive. One mother said, "My daughter was sweet and gentle . . . but wanted to be accepted. At that age, kids will sell their soul to have a friend" (47m). Another mother said, "My daughter feels if she doesn't have a boyfriend, she's got *nobody*" *(67m).* Speaking from their current knowledge of two former students, two staff members report "she attaches pretty easily to relationships too fast" *(104inf)* and "she had a disagreement with her parents, and moved in with boyfriend . . . rushing into a relationship" *(130inf).* Another mother said, "Her classes afterwards at home required internet...We couldn't put enough structure on that and she just went crazy… meeting people online with total naiveté… She was desperate to find friends" *(142m).*

Obviously, there are dangers associated with this kind of desperation. One mother reported:

She has a difficult time making friends, and struggles with loneliness and isolation. She is extremely vulnerable to online/internet-based relationship, always looking for the prince charming guy to save

her. She recently got her hopes so high with a 50-year old man she interacted with online, that she accepted a marriage proposal . . . without even meeting him in person! *(12mf)*.

The endings of relationships, in a variety of ways, were especially hard for several girls:

- It was a really hard period of time...[when] my boyfriend and I broke up. Other friends also betrayed my trust and I got a little lonely . . . I was binge-drinking . . . I also drank, smoked weed and got back into my behavior of cutting when things get really bad. *(107m)*

- When her boyfriend broke up with her, she was so devastated in the moment that she took 16 aspirins. *(183m)*

'Then she met this boy': Painful consequences. Among those graduate girls struggling post-treatment, problems with boyfriends were mentioned in 54% of the interviews. These men are described in fairly vague terms: the guy is "not good for her" *(92m)*, "not someone we care for" (55m). Whatever they are called, the negative consequences of these relationships was clear across accounts:

- She's had serious times of up and down . . . it has to do with boyfriends, relationships and that kind of thing. (38m)

- She seemed to try to want to do the right thing, but she couldn't; she was too hung up on this one kid. (42f)

- She...started sneaking out at night and shacked up with her boyfriend. (58m)

- She went downhill with boys. . . She has some bad relationships with boys. (133m)

The impact of one destructive male relationship can be striking. After describing an initially positive period following treatment, one mother described her daughter turning 18 and meeting a guy: "Right now, she is pregnant and living with a thug—not someone we care for. Neither have jobs; they are very lazy. Our relationship is very strained" (55m). A father recounted:

We got her tutors and enrolled her into a college prep course. She graduated high school with honors, and reads books so big that people said, 'You didn't read that.' Her computer skills were off the wall. Six months before graduation, however, she met a 31 year old guy on *Myspace* . . . they started to communicate and she poured her soul out to him online. Things got to a point where she was asserting her independence too much . . . After meeting him, she has had no life— we've been so devastated. She has become kind of a slob. *(23f)*

The negative impact ranges from guys addicting a girl to drugs (47, 135), getting her involved in other criminal activity *(135)*, physical, mental and emotional abuse (47, 94), rape (34, 136) and even torture (47).

The sharp impact of a negative romantic relationship can be exasperating to witness, especially after positive changes in treatment. Another parent wondered, "I don't know what changed since [discharge]?. . . She started out good, but I think got overwhelmed with school, crazy kids and she is in love. . . . It worked at first, until she discovered boys; she became less teachable in that situation . . .I don't know how you keep that enthusiasm?" *(113mf)*

This becomes the key question taken up in the final sections of the paper: how to counteract these larger forces and foster a deeper and longer-term shift?

Most narratives that refer to some kind of guy problem reflect either continuing struggle or current serious difficulty. The addictive quality of such relationships is striking. One mother describes placing her child in treatment to get her away from a predatorial drug dealer who her daughter had fallen for, saying "but I love him." After she ran away from treatment, she went back to this same guy. The parents found her and brought her home, and she went right back. Even then, the girl went back two more times before she quit 'him' (47m).

Similar to substance abuse, some girls have to eventually learn from hard experience the truth about bad guys. One girl said, "Guys say a lot of things to manipulate females—to get what they want sexually . . .I learned that if a guy treats you like a princess, it doesn't necessarily mean he has good intentions" (95d).

Overall, however, the presence of these kinds of difficulties with guys appears to be a second common pattern in stories of sustained struggle. Understanding the impact of these relationships on a post-discharge trajectory begs the follow-up question: What more can be done? The third section and ensuing discussion take up this crucial issue.

3. An unchanged home atmosphere of overall family patterns. A final challenge to the 'happy ending' for a youth involves the family's atmosphere at home-a theme that was intimately connected to whether the first two issues above end up arising in the first place. This can range from the accountability structure in the home to the nature of relationships within the family.

Accountability problems. When compared with the comprehensiveness of residential treatment, the difficulty of maintaining an atmosphere of accountability at home was a common theme of interviews. Parents admitted, "It is hard in a typical home to be that consistent" (101m) and "when there are working parents and she is home alone, it is difficult to retain that kind of control" (99f). One mother said, "She responded well to the accountability and the discipline at Alpine—which is critical," before admitting:

> I didn't do well with these things at home, however. I would tell her, "You're not going out unless your room is clean." Then someone

would call to ask her out and I would think, "Oh, I want to give her this chance," so I would let her go . . . and she would promise it would be done the next day. I was so caught up in the emotional part of being a Mom and wanting her to be happy. . . . That's the hard part at home—the discipline and consistency (67m).

As evident here, even for parents with more time and attention available, there can be strong inclinations to let go of basic structure, standards and rules after treatment. One girl whose father let up on accountability said her parents assumed it would not be needed after Alpine: "I asked my Dad, 'Why did this change? Why weren't you as supportive?' He responded, 'Well, you needed to be in the real world—and I figured if I was harsher . . . it would help.'" She went on to emphasize the following:

> Consequences need to stay in place. You can't let the girls slide for anything. If anything is done wrong, she needs a consequence . . . even if it is a small consequence; it can be in proportion to the action, but still needs to be there. If curfew was 12, and I was back at 1, something should happen—maybe not grounding for a whole week—but consequences do need to stay in place. When you first get home, things are set in place similar to Alpine. We talked and established rules; we basically wrote out a contract thing. . . . There were consequences for bad things, and rewards for good ones—both are key for any person's life, whether at Alpine or as a 5 year-old kid (158d).

In some cases, there is literally *no structure* at home. In one divorced family, a father recounted how initially "rules were not in place with her mother; she allowed guys to come and sleep over." He continued:

> Their mother gave the children everything they wanted . . . "Here, take it." She wanted to be loved and accepted, but forgot to be a parent. They understand that with me there are rules, that I don't just allow anything. My daughter told me, "I know if I come with you, I have to follow the rules". . . . So I came back with handwritten rules and made her sign it. (26f)

Another girl described struggling after returning to a home without structure: "To not have structure after years of different residential treatment, I didn't know what to do. . . . My parents tried to set up things, but it didn't matter so much. At Alpine, if I didn't do a certain thing, I would get negatives . . . and consequences. But at home, I don't have [a system in place]." She continued, "I feel bad for my parents. If they had set up a plan-something like, 'she will act out, so what should we do to motivate her to not want to act out and make sure she doesn't fall behind?'" If they set up a plan "with my being a part of it, they would have had structure already there for me," she added. "For instance, if I had a lot of things I wanted that were taken away and have to work back for them." In contrast to these ideas, the girl related what happened upon her return:

> I was given everything when I got home, because my parents were so happy for me to be home. I wish I had been told, "you need to go back to school, and get a job." Instead, I got whatever I asked for; I didn't have to do anything. I felt sometimes they were tiptoeing around me because they didn't want me to fall back. But parents need to realize that I'm going to slip back a little bit, but they need to stay strong . . . and stick by the rules. (7d)

Many families who reported struggling with structure also reported girls not doing well long-term. The girl last quoted as encouraging parents to "stick by the rules," went on to summarize what happened in her own family:

> I came home with no structure and spiraled; I started to go back to feeling depressed, not wanting to get out of bed and not caring what parents wanted me to do. Nothing mattered…there was so much freedom. I eventually went into another treatment center. (7d)

Another girl started her interview saying, "Right after Alpine. . . . my parents were [already] bending the rules" (162d). After describing how positive effects seemed to "wear off" in her daughter, one mother admitted, "There was no one behind her saying . . . 'we do this as a group'—there was none of that happening. So basically, she fell back, because there was no group thing to follow or . . . a great amount of structure" (83m). From parental attitude towards treatment to overall parenting style, the short and long-term impact of a more passive, indulgent family approach was born out statistically as well:

➢ Girls of parents identified as largely passive and uninvolved during treatment were 41% less likely to graduate from Alpine (p=.001) and 32% less likely to be doing well long-term (p=.01) when compared with girls from more proactive and involved parents (N=101).

➢ Girls of parents identified as largely permissive[5] in their parenting style were 25% less likely to graduate from Alpine (p=.04) and 22% less likely to be doing well long-term (p=.08**), when compared with girls of a parent reflecting a more balanced ("authoritative") style (N=115).

The parents depicted above do not necessarily struggle with providing enough emotional affection. Rather, it is the accountability and structure that is lacking. One girl said, "At Alpine, we had to keep our rooms clean and bed made, but when I got home, I didn't have to…it didn't matter. It was like, 'no one's really going to stop me now'" (176d).

Among other things, this pattern can prompt situations where youth largely dictate the conditions within their own families. One mother whose daughter was currently doing well described other families she observed in her community as follows, "The funniest thing is . . . that kids run the household." She continued, "Our own daughter ran the household for a long time until we realized, 'No! We're running the household.'

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[5] As defined by Baumrind (1967/1991), in her classic typology of parenting styles.

Parents need to learn how to be the bosses of their own household . . . and realize they need to take charge in their own home" (114m).

Quality of family relationships. While accountability at home makes a difference, so also do overall relationships. On the one hand, positive family relationships made a clear impact for good on youth upon returning home. One girl said, "One of the things that really needs to keep up after treatment is support—people just *being there* just to talk to you . . . it is so easy to revert back to things if you are not supported. This includes positive incentives, encouragement and praise" (158d). Several parents commented on seeking this kind of an atmosphere:

- When she calls, we're just being there and reminding her she can do it, reminding her that we are there (18m).

- Coming home, she had my total support. She absolutely knew I was there. . . . I hope she felt that way. . . . My children come first . . . that's my mantra and it underlies everything for me. (30m)

One mother spoke of the importance of "finding ways of connecting"—and "being so solid with her that she experiences with us slowly the ability to trust and experience that people are on her side" (18m). Another mother said, "she had a loving family who supported her. . . . We had a strong family and great marriage and we got through it." She then reflected, "Where the damage is done is where family members go into their own unhealthy behaviors instead of supporting each other" (25m).

The lack of this kind of relationship is an obvious risk factor for youth's long-term well-being. More subtle, perhaps, is the impact of parents' own relationship together on the well-being of their child. One woman said "I can see why many marriages don't survive [this kind of experience]; it is very heart-wrenching. It pulls you apart at all your seams." Comparing their marriage to "two strong pillars leaning against each other" she noted: "to be able to have someone you can lean on is very, very important...As long as neither one of us fell down too far, [we knew] it would be okay. We could talk with each other, as well as our solid network of friends, family and acquaintances" (17m). The impact of marital quality was clear in our own statistics:

- ➢ Girls of parents in an unhappy parent relationship were 21% less likely to graduate from Alpine [X^2 of 3.1 (p=.2**), Cramer's V of .16 (p=.2**)], and 37% less likely to be doing well long-term [X^2 of 14.31 (p=.007), Cramer's V of .35 (p=.007)], when compared with girls of parents with a happier relationship together (N=110).

- ➢ Girls of parents in a 'cooperative' (post-divorce) relationship fared better, slightly less likely (6%) to graduate from Alpine (p=.2**), and 17% less likely to be doing well long-term (p=.007), when compared with girls of parents with a happier relationship together [statistical details are the same as above].

➢ Girls of parents in a 'happy' marital relationship fared the best, 14% more likely to graduate from Alpine (p=.2**) and 27% more likely to be doing well long-term (p=.007), when compared with girls of parents with either an unhappy relationship or a cooperative post-divorce relationship together.

As reflected here, there was a full *37% difference* between girls doing well long-term, when comparing happy and unhappy marriages. As evident here, the quality of parent relationships is relevant during treatment and after treatment as well. One mother said, "If you don't have both parents on the same team, it is a great disservice to your daughter during treatment" (134m).

Overall, the larger impact of marital conflict on children has been widely documented (e.g., Wallerstein, Lewis & Blakeslee, 2000). One mother summarized:

Even if things are not perfect in the family, for a child there is something about having a Mom and Dad that you belong to and they belong to you. When that breaks, anything can break. It does tremendous destruction to these kids. [Family conflict] really sends them into tailspin. . . . It completely breaks their security and trust. It's like, for adults, you get up every morning and the sky is blue and every night the sun sets and moon comes out. It would be like all of a sudden, you get up and there is no moon or sun anymore. Youth depend on the family so much . . . But we [many adults in today's society] take that from them; their whole base of security . . . shattering. You look at some of the stuff that goes on in these families, and think—how could these kids not go crazy? (47m)

Of course, genuine change in a parent can be as challenging as genuine change in a youth. One mother spoke of making efforts to change afterwards, "I try to listen to her a lot more when she talks instead of just blowing it off (178m). In a separate interview, however, this woman's own daughter said,

My Mom didn't stick with it . . . she acted like she wanted me to be back, saying "I'm going to support you and help you with this and do what I can.". . . But when I came back, things kind of went back to normal… including weird control things. . . She made efforts at first, but kind of gradually went back to normal. (178d)

In a similar story, another girl spoke of some larger factors potentially influencing such "slipping back" over time:

The first 6 months are easier because your family is still in the Alpine mindset for at least the first 6 months (the really supportive mindset). For the first 6 months, my step-mom was *really* supportive of me. If I did something similar to pre-Alpine days, she would call me out, but not get upset--and we would work on it. They were supportive like that for the first 6 months. After a certain amount of time, though,

they started to slip back...into old behaviors, and when that happens, the girls follow suit. Parents start reverting to old behaviors and girls can only last so long before they revert back too....After a certain amount of time, it was like, "Alpine was good for that time, but now we don't really need to look at it." If I bring up stuff from Alpine now, Dad is like, "oh, I remember" but we don't really talk about it (158d).

Consequences for youth. Several other individuals warned of the consequences of the larger family atmosphere not changing. One father warned that if parents treat their daughter the same way they did before, "what advantages you gained will shrivel away." His wife said, "If parents have not bought into working on the family and just saying, 'okay, you just need to fix my daughter,' ...it is a recipe for disaster. If they are not willing to change, the same triggers are there and the manipulation will come back." Others similarly cautioned:

- Consider the family...consider what girls have to go back to. Even if they made some incredible changes, if the family hasn't adjusted, it can be hard. (38m)

- It doesn't do any good for a kid to go to some kind of intensive therapy and go back home to parents who haven't changed one bit and haven't learned to communicate. (67m)

- A major aspect of treatment is, "yes the kids have to do it ...it's their deal." But if they go home and the family hasn't changed a lot, they will fail....If the family is not willing to change, then change will not occur on all levels. (144d)

- It is very important when a child comes home to have a stable environment and parents trying to do things in a different way, because if they don't, she's going to relapse. (154m)

Another father was cited as saying, "We all have issues—whether we admit it or not. We're all messed up. If the child gives 110% and admits she has issues and works on them—and the parents give 110% ...*it works*. If the parent says, it is not my problem—and the child comes home, *it won't work*. When both parties admit they have a piece of the problem, it works. It's that simple. *No more words*" (99f).

Discussion

We present these findings to inform a more thoughtful deliberation among families and professionals about the realities facing adolescent females following residential treatment. Especially across the first two issues above, one clear theme emerges. In the 1995 book "Reviving Ophelia," therapist Mary Pipher reviews many in-depth accounts of adolescent girls living in the U.S., who were brought to her as therapy clients. After admitting her bewilderment and frustration, she said, "these feelings led to questions":

Why are so many girls in therapy in the 1990s? Why are there

more self-mutilators? What is the meaning of lip, nose and eyebrow piercings? How do I help thirteen-year-olds deal with herpes or genital warts? Why are drugs and alcohol so common in the stories of seventh-graders? Why do so many girls hate their parents?

She then provides her best answer to her own series of questions:

> Girls were living in a whole new world . . . Girls today are much more oppressed. They are coming of age in a more dangerous, sexualized and media-saturated culture. They face incredible pressures to be beautiful and sophisticated, which in junior high means using chemicals and being sexual. As they navigate a more dangerous world, girls are less protected. As I looked at the culture that girls enter as they come of age, I was struck by what a girl-poisoning culture it was. The more I looked around, the more I listened to today's music, watched television and movies and looked at sexist advertising, the more convinced I became that we are on the wrong path with our daughters. . . Increasingly women have been sexualized and objectified, their bodies marketed to sell tractors and toothpaste . . . America today limits girls' development, truncates their wholeness and leaves many of them traumatized (pp. 11-12, 27).

It is this "toxic" culture, of course, that threatens youth before and after residential treatment. As reflected in the findings above, the same culture that socializes children into destruction is waiting for youth upon their exit from the safe treatment setting.

Reflecting on this atmosphere, two fathers asserted, "Girls are growing up in a terrible world" (42f) and "raising children today is a minefield" *(23f)*. One mother said, "there is a complete degradation of the culture kids have to deal with; at least in the past, there was more stability, more accepted norms . . . you can go into Kohl's now and have bras for pre-teen girls. Why would you want a 10 year old walking around with big boobs?" (47m)

The culture has changed so much in recent years that the American Psychological Association (APA) convened a special task force recently (2007) to conduct an exhaustive review of the scientific research literature regarding the "sexualization" of women. Among other things, this team of scholars found an alarming increase in the prevalence of sexualization across U.S. culture—which they defined according to several criteria. In contrast to healthy sexuality, "sexualization" occurs when:

✓ A person's value comes only from his or her sexual appeal or behavior, to the exclusion of other characteristics;

✓ A person is held to a standard that equates physical attractiveness (narrowly defined) with being sexy;

✓ A person is sexually objectified—that is, made into a thing for others' sexual use, rather than seen as a person with the capacity for independent action and decision making;

✓ (And/or) sexuality is inappropriately imposed upon a person.

The researchers added, "Virtually every media form studied provides ample evidence of the sexualization of women, including television, music videos, music lyrics, movies, magazines, sports media, video games, the Internet, and advertising."   The lead author of the study, psychologist Eileen L. Zurbriggen, professor of psychology at the University of California-Santa Cruz, went on to highlight consequences of this culture for youth: "Ample evidence indicates that sexualization has negative effects in a variety of domains, including cognitive functioning, physical and mental health, sexuality, and attitudes and beliefs" (Zurbriggen et al., 2007b, pp., 20-21).

As evident above, the role of our surrounding toxic culture is hard to under-estimate in girls' downfalls: as drugs, media, and friends become more and more destructive, they start to act like a tornado, in many cases, sweeping individuals away. In a professional culture inclined to focus on individual pathologies ('what is wrong with the kid'), these surrounding forces are crucial to consider.

Action steps: Okay, so what can be done? In light of this theme, the question naturally arises, what can be done? Ultimately, the goal of this study was to surface and clarify patterns in girl and parent accounts in a way that makes interpretive patterns more accessible to public view. By surfacing patterns and perceptions that might otherwise remain largely implicit, unconscious and "hidden" (see Slife & Williams, 1995), our hope is that such inquiry can potentially facilitate a more thoughtful public and professional deliberation about treatment and recovery (see Schwandt, 1996).

The impact of any one of us acting upon the larger culture will remain limited and difficult for now. However, the culture within our own organizations and homes remains within our reach. For residential treatment facilities, this includes finding ways to deepen change and further support families in their transition back to post-treatment 'normal' life. This remains among the most crucial discussions treatment providers can have. In light of these findings, our own organization has explored a variety of options for richer change and better preparing of youth for the realities of the larger culture. These include deepening teaching approaches, refining treatment practices and integrating the family into the change process even more.

Much more research and attention is needed. A separate manuscript explores the immediate fears and challenges of families returning home (see Hess, Bjorklund, Preece & Mulitalo, 2012).

In addition, families can do much within their own homes as well. The APA study above also emphasized the impact of family and home in either mitigating or amplifying the larger messages of the culture. To conclude, we review two areas of potential action-at-home from interviews that may make a difference for the sustainability of change:

a. Whole-family change. For any parent of a troubled child, it can be tempting to attribute the source of emotional problems primarily to internal pathologies. Commenting on her treatment experience, another girl said:

I just remember saying, "I don't need to be here; my parents are the ones causing my problems; *they* need to be in therapy, not me." Even though the intent was not right at the time I said it . . . if you think about it, there's something to it. I definitely needed to be in therapy, but they did as well. We *all* did. I really do believe . . . that if the kid has to go into treatment, the parents should [as well]. . . . They should take at least a week or two to be in a similar setting and try to understand what was going on. (158d)

Some parents appear to do precisely this, as they seek their own change concurrent with their daughter's treatment:

- I credit Alpine staff teaching me how to be as a parent and how to respond to a lot of situations, introducing new ways of being to shift our patterns. We tried to get as much out of it as our daughter. . . It was wonderful! (18m)

- I had to do a lot of soul-searching myself, a lot of consciousness changing to help me understand the whole milieu of both of my kids and how they process and how they grew up, including what holes were created in them [by tough family experiences] and how they tried to fill them with other things. (38m)

- The whole time she was there in therapy, my husband and I regularly went to therapy and family sessions. . . . We'd say things, for instance, and it sounded accusatory; we learned the ways to say things to encourage the communication instead of . . . coming across as accusing. (67m)

- Alpine helped me help her too. I saw other parents willing to make changes and it gave me strength. . . . I needed to put my values in their proper context. (54f)

Several other girls reported similar shifts. For instance:

- Alpine impacted my parents. We worked more as a team and there was not as much triangulation. . . . They learned how to talk with me . . . and a more natural way to confront me and learn how to do things. And I would listen to them, feel better and follow instructions. (7d)

- Our family relationships are definitely better—nothing like they used to be . . . My Mom used to be physically and verbally abusive and she hasn't done any of that since Alpine. . . . She's just trying to be the best Mom she can and she's been trying to have a relationship with me that we never had. My Dad is also more supportive and open; Alpine impacted my parents to make those changes. (164d)

In some cases, one parent makes shifts, while the other parent does not. One girl said, "Some parents will work on it, and some won't . . . My Dad was pretty supportive of treatment...If I mention something, he will work on it...We have been continuing to process and work." But she added:

> My step-mom refused to go to therapy after Alpine, "the only reason she was doing the therapy," she said, "was because . . . I was in therapy and she had to." So it was saying "I don't have issues—you have issues". . . It was kind of an "I was only there to support you and change you" mentality. But my whole family had issues—I had issues, my Dad had issues . . . no one gets off scot-free. My Dad was willing to admit that.

She continued:

> I was expecting my Dad to be the one who said, "I don't need it." My Dad was prideful—he didn't like to think that he was doing anything wrong. But as soon as he realized I needed help, he realized that he probably did have something to do with it. He humbled himself and has changed a lot. My step mom, however, stayed the same . . . blaming me for needing a divorce . . . Mom went right back to how she was before Alpine. (158d)

When the larger family changes do happen, the impact on a youth can be substantial. In one especially poignant story, one father described committing to giving up alcohol in order to provide extra reinforcement for his daughter's own change. He explained, "It is easy for parents to say, 'She screwed up; my daughter needs to change' . . . but that's ridiculous … you have to look at your part in the situation. Each parent individually." He continued, "The family dynamics need to be fully modified…otherwise, there will be regression" (99f).

This father's action appeared to reinforce the rest of the family doing the same. In a separate interview, his wife admitted that they had made mistakes earlier, before adding with excitement "but we changed!" She reflected, "We can do research, we can learn and change…that was the key: loving your child enough that you do it. We were motivated to change ourselves so it could help change our daughter" (99m). In a separate interview with the daughter, she retold the story of her father quitting alcohol for her, with a sense of love and pride. Then likewise remarked, "Parents need to work on themselves [too]…it's not a one-way change; everyone has to change" (99d). Not incidentally, girls whose family reported parental change generally show indicators of doing well long-term.

As reflected earlier, however, not everyone in a family seeks change and not all of these shifts are necessarily genuine. One mother said, "If you're not authentic—if you don't really mean it . . . kids are smart. They know if you're just doing what you're supposed to do . . . and going through the motions." She illustrated with the challenge of "*really* listening—not just hearing what people say, but taking it in . . . taking the time to do that. It is easy to go about life and not pay attention to whether you are listening, or whether you are present with them . . . making them feel important and not being afraid to say you're sorry if you're out of line as a parent." She elaborated:

> Kids know if you are… just practicing the skills, or whether you are *living*

the skills. At a certain level, you have to assimilate them both—she has to and we have to. . . . If we haven't done that, we're still going through the motions. In your everyday life—not just in dealings with child—taking in everything you've done and changing yourself . . . otherwise, [the skills/lessons] are not in your core, not who you are . . . and not genuine. I think you have to start by practicing them. The more you do that, the more they don't become practice—they become the way you live . . . your way of being (143m).

b. Setting some kind of accountability and standards as a family. For families willing to make changes, one specific step can be especially helpful: setting up some kind of rules, standards and guidelines as a family. In the first two sections above, the lack of clear messages at home sometimes contributed to drug and boyfriend problems. And in the third section, the overall lack of accountability became a contributor to long-term problems. Here, we turn to what it would take to actually establish some kind of clear accountability structure at home.

Culturally, this kind of move is often stereotyped as a quality of only religious families. Some fear the setting up of one's own views becoming an imposition on their child, or harming the relationship. An amusing story is told of a family having dinner together with their younger children. As the mother tried to encourage her young son to eat a balanced meal, she pointed to a small serving of green beans remaining on the plate that he adamantly disliked. When the mother picked up the fork to persuade him further, the boy had enough, exclaiming, "Look, Mom, don't foul up a good friendship!" (Perry, 2003, p. 40).

It has become a popular idea among some families that a good parent is one who is, essentially, a 'good friend' to their children. As long as continual affection is communicated to a child, the belief is that they will basically turn out well. Rules or strict standards, from this vantage point, can be seen as an excessive imposition of a parents' will on a child, with the more enlightened notion being to let a child choose for themselves, unfettered by parental directives. In this way, it is thought that youth can choose what they believe, value and want, without undue parental interference.

As a result, youth sometimes have little or no guidance from parents in crucial areas. While attractive to many on the surface, this kind of "nondirective" parenting style has been associated with as many negative outcomes as an over-controlling, authoritarian one. It has consequently come to also be labeled an "indulgent" or "permissive" approach to parenting. As Baumrind (1991) writes, these parents are "nontraditional and lenient . . . allow considerable self-regulation, and avoid confrontation" (p. 62). According to one parenting organization, parents with an indulgent style "avoid punishment, [since] it . . . makes them feel uncomfortable. They need to be liked by their child and don't want to risk the child's rebellion and anger." They summarize this approach with two phrases, "I don't do punishment!" and "I don't do rules!" (Frances, 2010).

Rather than reflecting love and affection, the lack of such structure and direction can be re-framed as reflecting an absence of a crucial kind of love, an attention that lends to a child's well-being. Likewise, rather than competing with or diluting family love, such structure and direction may be re-framed as a *further expression* of caring and affection by parents—the kind that cannot bear to see a child go out in the world without appropriate guidance. Teaching families to establish clear accountability is one of the emphases at Utah Youth Village, and we believe, one of the most beneficial things that treatment providers can do. Indeed, those families in our own study who implemented these kinds of changes were more successful in helping their daughters avoid both drug and boy pitfalls.

In general, when families create an alternative, healthy atmosphere in their own home, this can be an important influence for youth resisting the larger culture. The power of conveying simple principles in teaching can be seen in additional vignettes from homes at Alpine Academy--specifically, in relation to the values taught about self-image and relationships. One mother, for instance, reported that "some of the conversations and interactions that the family teacher[6] had with our daughter helped her to see things in a different way" (143m). Another girl said, "The thing that impacted me a lot was my conversation with Brad and Corrie before I graduated: They told me that beauty on the inside was more important than beauty on the outside…and reassured me that there were great things I can do for the world…and that there is someone out there in the world that loves me, but that I first have to have love for myself" (104d).

In a cultural landscape where a language of 'values' and 'morality' have been co-opted by political agendas, Pipher (1995) offers a helpful clarification on why the terms hold a broader relevance than typically viewed:

> These are emotionally loaded, under-analyzed words exploited by demagogues, mocked by some people and candy-coated by others. It's almost impossible to use them without falling into one polarized pit or another. But morality is not the property of any one political party, race, religious group or segment of the population. And morality refers not only to sex and violence, but also to the use of power, time, and money. Broadly defined, morality is about making decent and wise choices about how to be in the universe. It implies purposeful action for the common good (p. 16).

From this perspective, the teaching of values and morals is a universal task of parenthood, despite political or religious orientation. In this regard, while spoken lessons are obviously important, the lessons from example itself seemed to have made an equally lasting impression on girls. Speaking of teaching while in treatment, one mother said, "they modeled for my daughter what life can be" (25m), with a second parent saying likewise that Alpine helped their daughter in "seeing how life can be through a positive adult that she really respected and liked" (12mf). A third mother felt that seeing a positive model of family relationships at Alpine "will help her be able to choose a companion that will respect and love her." She

continued, "I loved the role-modeling. When girls are in a bad place, you pick the bad boys, because that's how you feel about yourself. But as you can see a young married woman and child with a helpful, loving man... (you would never see Jason disrespecting his wife... It was endearing to see the closeness of the family teachers).... My daughter said, 'I want to find a man who treats me like that.'"

Although all involved in a youth's recovery (therapists, front-line staff, doctors) have responsibility for affirming and supporting the new life of healing for a youth, the greatest power lies in the dynamics of the original home atmosphere that reared a child and will continue to shape him or her into the future. As reflected above, Pipher (1995) notes, "Ideally, the education of the heart is done in families. Ideally, children learn from their families what to love and value." She then qualifies, "Some parents have the impression that they shouldn't impose their values on their children. But if parents don't teach their children values, *the culture will.* Calvin Klein and RJ Reynolds teach values.... Our children are growing up in a consumption-oriented, electronic community that is teaching them very different values from those we say we value" (emphasis ours). Revisiting the previous themes, she continues:

> We must remember that all television is educational. It teaches values and behavior. Children are manipulated from the time they can sit in front of a television.... The average child is exposed to four hundred ads a day, which will add up to more than four million ads in a lifetime. ... Children learn these things from ads: that they are the most important person in the universe, that impulses should not be denied, that pain should not be tolerated and that the cure for any kind of pain is a product. They learn a weird mix of dissatisfaction and entitlement. ...The television, which Leanard Cohen called "that hopeless little screen," teaches values as clearly as any church. We may try to protect our own children from such nonsense, but they live in a world with children who have been socialized into this value system ... [in a kind of] corporate colonialism (pp. 11, 14-15, 225).

In light of these trends, the issue seems to be not *whether* to have values taught to your children, but instead *what* values those end up being. From this vantage point, teaching is understood as an inescapable aspect of parenting, since even the parent who says or does nothing, *teaches much.* In light of these consequences, the good news remains that parents can adjust their parenting style over time. Several parents spoke of learning how to revise their previous tendencies with structure:

- We learned to set boundaries a little as well, I think ... and to expect more from her. We continued to support her and hold her accountable. (31f)

- Alpine helped support our being consistent—we know that is part of our downfall: not being consistent.... In the scheme of everyone's life, it is hard—especially in a divorced, remarried, blended family. In

the midst of that all, it is hard to be consistent. You get worn down; you get beat up. But in the Alpine experience, I was reminded of how important it was to be consistent. (94m)

While accountability can be crucial, like all good things, even that can be overdone. In the companion research report, we review consequences of over-monitoring and panicked oversight in parents. Across transition stories, the level of both trust and freedom/space varied widely. In many cases, a pattern of fearful over-control appeared to prompt some of the very behaviors the parents were fearing, while the opposite extreme of little oversight fares little better (Hess, Bjorklund, Preece & Mulitalo, under review).

Even so, the crucial need for accountability remains. Pipher (1995) notes, "Good parents are what Ellen Goodman called counterculture; they counter the culture with deeper, richer values." Reflecting several themes above, one staff member reiterated, "Often these girls are severely neglected. The number one thing they need are parents who are consistent, who provide structure, and who will love them no matter what."

By making changes as a whole family and establishing some clear standards and rules in a home, parents can take steps to contribute towards a sustainable and enduring change. By being aware of these and other post-treatment challenges, providers and therapists can also find additional ways to deepen change and support parents and youth in the crucial transition to life back home.

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Waiting for What: An inquiry into the fundamental of how to fix adolescent mental healthcare

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Abstract

Improving the effectiveness of mental health and substance abuse care for young Canadians is a complex and pressing issue. Currently, there is a focus on reducing wait times and facilitating "system integration" as proposed solutions to the crisis in mental health care. As resources are being allocated toward pursuing those two solutions, the authors argue that the more fundamental challenge to addressing the crisis in mental health care for Canadian adolescents is to urge treatment providers and agencies to clearly define the goals and mechanisms of treatment while evaluating program impacts in order to generate knowledge about effective approaches to treatment. In essence, the authors suggest asking two fundamental questions: What are we treating? And what works?

Drawing from insights gained through the creation of a mental health treatment center at Pine River Institute and the development of subsequent collaborations with various clinical and research communities, the authors outline the importance of clarifying the goals and mechanisms of mental health treatment and creating better definitions and measures of treatment success as a strong foundation for moving toward decreasing wait times and increasing system integration. More specifically, they suggest that the government's most effective role is to increase system capacity by setting standards for excellence. The government can increase system capacity by requiring accountability through accreditation and outcome evaluation; increasing resources for program evaluation; and encouraging innovation by funding research into potentially effective treatment that can contribute evidence to the field of adolescent mental health and substance abuse treatment.

We have heard countless personal stories from desperate parents about what it is like to watch their child in a downward spiral marked by issues with mental health, substances, and life- threatening behavior. Their stories are compelling, real and terrifying, and they put the issues of adolescent mental health care in perspective. These families run from psychiatrist, to family doctor, to addiction counselor, to foster home, to police station and to youth shelter. Parents prowl through back alleys in the middle of the night, in -20°C weather, hoping to find their child alive. They resort to begging youth court judges to hold their child in a detention center so at least they know the child is safe. They implore gatekeepers of secure psychiatric units to keep their child until they can find some follow-up treatment that will provide the containment required to allow time for healing. No one holds the hands of these parents while they weave through the confusing maze of treatment options, and there is little support while they are waiting for access to care.

There is no question that the "system" of mental health care for young Canadians is in dire need of improvement (Kirby, 2006). The statistics tell us that one in five Canadians will experience a mental illness in any given year (Health Canada 2002); the majority of mental illnesses begin during adolescence and young adulthood (Health Canada 2002); and in 2007–2008, $14.3 billion of public expenditures was spent on mental health services and supports in Canada (Jacobs et al. 2010). For those families who do access treatment, current approaches include brief intervention, outpatient treatment, limited residential treatment, psychopharmacology, substance substitution, brief incarceration or brief hospitalization. Still, there is very little evidence about which treatment modalities work (Brannigan et al. 2004; Hair 2005; Hoagwood et al. 2001; Plant and Panzarella 2009; Williams and Chang 2000) and very little consensus and understanding about the purpose of different treatment approaches or the effectiveness of currently used approaches. Many professionals and policy makers – like the desperate families they wish to serve – are reacting to the challenges of simply accessing treatment without pausing to evaluate what we propose are more fundamental and critical questions: What are we treating? And what works?

Access Is Not a Sufficient Measure of Success

The response to the crisis in mental health care from those who contribute to mental health policy is currently on improving timely access to assessment and treatment by *reducing wait times* and increasing system integration by making *every door the right door*. Although such changes would be welcomed, they are premature if we cannot answer the questions of what we are treating and what works. A component of access is the ability to receive quality treatment, with demonstrated effectiveness. A helpful analogy might be to imagine a patient with acute appendicitis. Let's say that there is centralized access and the patient is referred to one of five hospitals, each with a different conceptualization of appendicitis, and each with a different treatment approach and no evidence of treatment effectiveness. What would the rationale be for referring the patient to any particular hospital unless the medical problem is clearly understood and the particular hospital's treatment approach is explicit and supported by evidence?

Now consider the problem with an adolescent struggling with severe substance use, who is likely in the midst of a global breakdown that includes chaotic family relationships, compromised physical and mental health, running away, hospitalizations, trouble with the law, declining or abandoned academic careers and a consistent problematic substance use. Referring agents are faced with varied treatment programs, each with a host of elements that differ on treatment approach, duration, location, family involvement, academic involvement, medical involvement and so on. Without clear specification of what is being treated or evidence of treatment success, what rationale does the referring adult – parent or professional – have to place faith (and the health of the adolescent) in a program, or to make a choice among programs?

Imagine the variety of responses if the following list were circulated to all professionals who treat these young people, asking the question, "What is being treated in an adolescent struggling with severe substance use?"

- ☐ Drug or alcohol toxicity
- ☐ A bad habit
- ☐ Chronic, incurable disease
- ☐ Addiction, a disease marked by relapse
- ☐ Developmental disruption/immaturity
- ☐ Depression
- ☐ Anxiety
- ☐ Post-traumatic stress disorder/trauma
- ☐ Obsessive compulsive disorder
- ☐ Oppositional defiant disorder
- ☐ Substance use disorder
- ☐ Adolescent addictive behavior
- ☐ Family dysfunction
- ☐ Homelessness
- ☐ Genetic disease
- ☐ Attention-deficit/hyperactivity disorder
- ☐ Juvenile delinquency
- ☐ Criminality

Now ask them the question, "What is your mode of treatment?"

☐ Detoxification	☐ Music therapy
☐ Breaking bad habits	☐ Adventure-based therapy
☐ Brief intervention	☐ Life skills education
☐ 12-step program	☐ Developmental opportunities
☐ Psychopharmacology	☐ Health education
☐ Substance substitution (e.g., methadone)	☐ Academics
☐ Cognitive behaviour therapy	☐ Behaviour modification
☐ Dialectical behaviour therapy	☐ Family therapy
☐ Psychotherapy	☐ Family program
☐ Psychoanalysis	☐ Self-help group, peer mentoring
☐ Recreation therapy	☐ Group therapy
☐ Art therapy	☐ Motivational interviews

The decision about where to refer an adolescent and family in need of care is difficult to make unless there is a clear conceptualization of the problem to be addressed and reliable information about which method(s) of treatment are most effective for the identified problem. Only with clear conceptualization of the problem can the best mode of treatment be determined. Efforts to shorten wait times will not address issues that arise when adolescents are placed in programs that are not effective in treating an identified problem. Shortening the wait time or smoothing the path from one facility to another through system integration is not likely to improve the treatment outcome. While access to treatment may be one measure of success for a system, *it is not a sufficient measure of success* when evaluating the effectiveness of mental health treatment from the client or patient perspective.

Basis for Success

Success is based on defining the problem of what we are treating, defining measures of success (i.e., outcome indicators) and measuring outcomes. Process measures (e.g. number of clients served, how quickly and at what cost) are the only measures that are currently required in Ontario's performance evaluation of mental health care and addiction treatment agencies. These measures serve as predictors and potentially surrogates for ultimate outcome measures. These are the only measures that are currently required in Ontario's performance evaluation of mental health care and addiction treatment agencies. Outcome measures that are patient-centered would include measures of clients' ability to function, their mental health and the robust- ness of their response to treatment. This article proposes that the most important contribution to improving mental health and substance abuse treatment programs will be achieved by policy and resources that encourage programs to measure their outcomes, evaluate what works and introduce change and innovation that

improves treatment outcomes. The case study that follows is based on the experience of only one program, and is offered as an example that we hope will influence other programs to evaluate their outcomes, share knowledge of what works and contribute to the advancement of this field.

An Example from the Field: Pine River Institute

In the past decade, professionals at the Pine River Institute (PRI) have talked to thousands of parents who have hit the wall – parents wondering how they should intervene when their 14-year-old moves in with a drug dealer; when their 17-year- old falls down the stairs dead drunk; when their 16-year-old cuts herself, steals from them and crashes the car; when their 13-year-old flies into a rage at the slightest provocation, and the babysitter says he is dealing drugs from the basement.

The need for more effective services for these adolescents and families was the impetus for establishing PRI, a residential treatment center developed to respond to the gap in treatment for adolescents struggling with mental health and specifically substance abuse. The challenge to "raise rock bottom" and improve the system of care for these youth led the founders of PRI on an international search for treatment options and literature on best practices. Innovative programs in other jurisdictions where Canadian youth were being sent by parents who could afford the cost of these private programs were included in the review. By 2001, the Ontario government began to provide financial support to families on a case-by-case basis through the out-of-country program to these same programs. Early on, the founders learned that there is little consensus in Canada on approaches to the problem and its treatment. Canadian "best practice" guidelines drafted in the late 1990s are based on limited literature reviews and consultation (Health Canada 2001). The evidence-based literature in this field remains sparse (Hoagwood et al 2001; Plant and Panzarella 2009).

Extensive research and consultations informed the development of the current PRI model, a multi-component develop- mental-systemic approach to adolescent substance abuse, where substance use is conceptualized as a symptom of individual and family system challenges that have consequences for healthy development. Additionally, a commitment to outcome evaluation and research was established early on.

The PRI model addresses adolescent substance use problems within the broader context of impaired functioning across multiple domains. Complex interactions among biological (neurodevelopment, genetic vulnerability), psychological (trauma, mental illness, learning disability) and social (family and peer dynamics) domains are seen as contributing to adolescents' impaired functioning, substance use and failure to advance developmentally.

This treatment approach provides a context for accelerated development within which adolescents can increase multiple capacities, including emotional and behavioral regulation, abstract thought, pragmatic

future orientation, empathic healthy relationships, individuation and social ethics. Such important developmental achievements facilitate and sustain desired treatment gains including decreased substance use, increased functional living and improved quality of life.

What Are We Treating?

From the beginning, the leaders at PRI have attempted to explicitly define and articulate the core conceptualization and assumptions regarding the focus of treatment. The PRI model is based on the conceptualization of the adolescent as existing within a complex system along a developmental trajectory. The model is based on the assumption that significant problematic substance use and the behaviors often associated with it cause development to essentially "arrest" in many areas of the child's life, including emotional, social, academic (intellectual) and even physical development (consider the impact of poor nutrition, school dropout/disengagement, poor sleep habits, numbing of emotions and failure to engage in healthy relationships). The developmental systemic frame for conceptualizing adolescent substance use is based in part on the works of Drs. John McKinnon and John Santa, clinicians and researchers in the United States who are encouraging the leaders of American treatment programs to reflect on the assumptions that inform their definitions of successful treatment outcomes (McKinnon 2008 and 2011; Santa 2009).

The PRI model is also informed by neurological research indicating that the brain is plastic and that neurological changes caused by substance use may be part of the explanation about why it is hard to quit an addiction (Doidge 2007). Because recent research has revealed that the brain undergoes a marked period of re-pruning, development and growth during adolescence, the potential impacts of any experiences during those years may have significant effects on the actual structures and functions of the brain (Dahl 2004; Lubman et al. 2007). In fact, due to the accelerated rate of brain development, any impacts (positive or negative) are augmented proportionately to the rate of growth. Thus, although prolonged and chronic substance use will likely have augmented negative effects on brain development, the phenomenon of neuroplasticity coupled with the increased rate of brain development during adolescence means that "healing," as a result of stopping substance use and improving nutrition and other healthy behaviors, can actually occur (Chambers et al. 2003; Weisz and Hawley 2002).

At the systemic level, substance use is conceptualized as a manifest symptom and maladaptive coping strategy to deal with individual- and systems-level problems. More specifically, substance use is viewed as a strategy being employed by the adolescent to cope with individual-level problems (e.g., depression, trauma, attention-deficit/hyperactivity disorder or other mental illness) and/or dysfunction within the system (e.g., family dysfunction, victimization at school). The many complex factors that exist in the life of adolescents (biology/genes, person- ality, immediate family, peers, school environment, community, broader social culture and

media), including their relationship to the various parts of the system, are considered when formu- lating individual approaches to treatment.

What Works?

The treatment goal at PRI is to help each adolescent and family identify and address systemic factors that may contribute to the young person's desire to use substances, while teaching the youth and family alternative ways of coping with the identified problems at both the individual and systems levels. Additionally, because engaging in a lifestyle of problem substance use can result in disrupted and delayed development, adolescents at PRI are provided with the opportunities they need for "accelerated" development across the spectrum of areas affected (McKinnon 2011). The PRI approach assumes that accelerated development can best be accomplished through carefully considered therapeutic experiences coupled with guidance from professionals who are trained in promoting child development and dealing with the challenges that these youth face in "catching up." Treatment for these young people goes beyond relieving symptoms. In other words, in addition to addressing the substance use and under- lying issues, these adolescents need opportunities, guidance and time to mature. Because so little is known about "what works" for these young people, PRI's core structure was designed to include program and outcome evaluation, with a strong commitment to building a culture of integrated research and practice. An International Research Advisory Committee brings expertise from universities, research centers and other programs, and participation in an international research consortium out of the University of New Hampshire allows for collaborative research.

The process of identifying indicators for treatment success forced leaders at PRI to more clearly and explicitly address the question, what are we treating? PRI treats substance use, individual- and systems-level problems and relative immaturity. The definition of success is based on functional living and quality of life of youth and families who participate in the program. As a result, outcome evaluation is based on a range of functional living and quality-of-life indicators, including substance use, academic status, crisis behavior, future orientation and family participation, among others.

PRI's leadership and staff are committed to making a meaningful contribution to the limited research on evidence- based treatment for this population. Process and outcomes are measured on an ongoing basis through careful documentation, reflection and review, and data have been analyzed every six months since the program opened in 2006 (PRI 2010). The PRI treatment model remains dynamic and continues to evolve, responding to the results of the ongoing outcome and process evaluations, and developments in the field, in an effort to answer the question of what works in assisting young people and their families as they transition to healthy adulthood.

Proposed Solutions

Enforce Basic Safety Standards: Licensing and Accreditation

Requiring accreditation by nationally or internationally recognized accreditation agencies would contribute to ensuring a basic level of performance and risk management in child and youth residential treatment programs. Increasingly, these programs demand evidence of "performance quality improve- ment" and encourage program and outcome evaluation on an ongoing basis. They also require an explicit statement of treatment models and assumptions. Government's role is not to accredit but to encourage and require accreditation and to provide agency funding to support this process.

Treatment Success Needs to be Based on Constantly Evaluating Goals and Outcomes

The developmental-systemic construct, which goes beyond a narrowly defined medical construct, is not broadly held as a way to think about adolescent mental health and addiction treatment. The recent trend in research funding at the National Institute of Mental Health indicates that there is interest in advancing adolescent mental health research that takes a developmental-systemic approach in a field that currently relies predominantly on outpatient, short-term, symptom-targeted psychiatric and psychopharmacological interventions (NIMH, 2008). Treatment success and knowledge about what works can only be based on ongoing outcome evaluation and research that is grounded in a clear definition of what is being treated and the corresponding indicators for success.

Payers and Regulators Should Expect Outcome Evaluation

Recent documents outlining Ontario's 10-year strategy for mental health and addiction articulates the need for promoting accountability at the leadership level (Ministry of Health and Long-Term Care 2010; 2011). Only with reliable treatment outcome studies will payers and regulators (i.e., government) be able to make informed decisions about how best to invest resources toward effective mental health treatment. Additionally, ongoing evaluation of treatment goals and outcomes is the process through which treatment innovations can be trans- formed into evidence-based practices and policies.

Payers and Regulators Also Need to Understand That This Process Takes Resources

There was no government funding in the initial stages of PRI's development, so private donors and foundations contributed the funds to allow the start-up of a small and innovative operation, including basic evaluation research. Government funding for a pilot project was provided a year after opening, with early results from outcome evaluations indicating that clients were responding to the treatment provided. This pilot funding allowed PRI to build service capacity by making services accessible to a

larger number of young people and their families. In addition, the Ontario Centre of Excellence on Child and Youth Mental Health provided some funding and technical assistance to build outcome evaluation capacity. Only with support from the government and community did PRI have the capacity to develop and evaluate an innovative service in Canada. Government must be prepared to dedicate resources to support program evaluation capacity in mental health treatment programs.

Only After Knowing What Works Can We Get into the Business of Dealing with Access Issues

PRI staff have been joined by other Canadian colleagues in an interdisciplinary dialogue among researchers, practitioners and policy makers to deepen the conceptual framework that informs our assessment, intervention and evaluation of adolescents struggling with mental health and addictions (Pine River Institute and The Hospital for Sick Children 2010). What are we treating? How do we measure success? What works? The shared goal is to learn ways to promote the increased uptake of outcome evaluation in adolescent mental health and addiction treatment, and a dialogue has been initiated that includes the Canadian Centre on Substance Abuse, the Ontario Centre of Excellence on Child and Youth Mental Health, SickKids Hospital, the Centre for Addiction and Mental Health, Hincks Dellcrest and PRI. Knowing what works is the necessary foundation for effective solutions to access issues.

Conclusion

Introducing innovation for a more robust system of care for child and adolescent mental health must be based on a carefully considered conceptual framework. Any responsible interventions in the children's mental health field will be based on this foundation. Taking accountability for articulating our frame- works, identifying what success looks like and measuring the outcomes are the building blocks for system change. Reducing wait times or attempting to create system integration would be the next steps, but not the first. *If you don't know where you are going, any road will take you there.* The voices of parents, youth, professionals and policy makers are calling for a fundamental change of approach to remedy the critical lack of support for troubled teens who are at risk of not making it to adulthood. We are optimistic that the demand for change has become a productive one that calls for accountability and excellence, not just more of the same. And we are heartened when our colleagues in well-established institutions are calling for standards of excellence that will build robust and meaningful system capacity.

The most appropriate role of government in this venture will include ensuring that all treatment programs that they fund are licensed or accredited by a nationally or internationally recognized accreditation organization. While government cannot take on the task of measuring outcomes of the programs and services it funds, it can contribute to building system capacity to define treatment models and outcome

indicators and to measure the results. While these fundamental actions are taken for granted in physical medicine, they are not widely practiced in child and youth mental health and addiction treatment. Only when we understand what we are doing and how well we are doing will it make sense to tackle system integration and wait times. In the meantime, raising the bar for excellence will save more lives than any process reforms, by addressing the fundamental challenge of defining what we are treating and by evaluating our outcomes.

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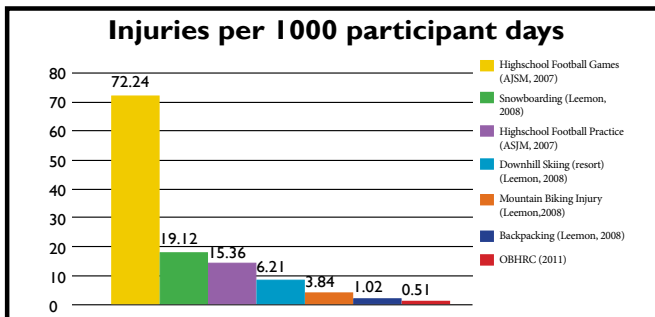
Accident Rates/Trends in Outdoor Behavioral Healthcare Industry Council (OBHIC) programs

December 1, 2012

Summary

Public perception of outdoor behavioral healthcare programs can be misconstrued as dangerous and unsafe. This perception can often be linked to a lack of knowledge regarding this innovative method of treatment, unfamiliarity with the extensive risk management techniques used in such programs, the inappropriate practices of less developed yet seemingly similar programs, and the vulnerable and problematic states of many of its clients. While no treatment can guarantee the total safety of any child, adolescents participating in OBHIC programs are actually at less risk than adolescents not participating in these programs. (Gass, Gillis, & Russell, 2012). In fact, in 2011 OBHIC program clients were three times less likely to go to a medical emergency room for an injury than if they were at home. Risk management data has been collected on OBHIC programs for the past 11 years, the longest operating multi-program database in the fields of behavioral healthcare or adventure programming.

The following graph illustrates the comparison of OBHIC injury rates to those of other common activities. One example comparison is that injuries during high school football games are over 140 times greater than injuries experienced in OBHIC programs:

Injuries per 1000 participant days

- Highschool Football Games (AJSM, 2007): 72.24
- Snowboarding (Leemon, 2008): 19.12
- Highschool Football Practice (ASJM, 2007): 15.36
- Downhill Skiing (resort) (Leemon, 2008): 6.21
- Mountain Biking Injury (Leemon, 2008): 3.84
- Backpacking (Leemon, 2008): 1.02
- OBHRC (2011): 0.51

OBHIC Client Injury Data

Organizational members of OBHIC served 1,230 clients in 2011, resulting in 70,028 annual client field days and 30,001 annual guide field days in 2011. When injuries requiring OBHIC clients be removed from regular programming for 24 hours or more were counted (including some treated in the field as well as those who were evacuated to emergency rooms/medical attention), the OBHIC injury rate was 0.11 per 1000 days in 2011, or one injury requiring medical attention for every 9,091 client days. The U.S. Center for Disease Control and Prevention estimated the national average rate of injuries for adolescents treated in U.S. hospital emergency rooms was 0.38 per 1000 days in 2010 (WISQARS, 2011). Therefore, in 2011, OBHIC program clients were about three times less likely to go to a **medical emergency room for an injury than if they were at home.**

Further information on OBHIC Client Illnesses, Therapeutic Holds, and Restraints

The total client illness rate for OBHIC programs was the lowest it has been since data collection began in 2001, at 0.26 illnesses per 1000 client field days, or one illness for every 3846 client days of programming. On average, illness rates have shown a downward trend since 2001, suggesting that OBHIC member programs continue to be on the forefront of improving healthy living and sanitation practices with clients in the field each year.

The OBHIC therapeutic hold and restraint rate continued to decrease for the fifth consecutive year in 2011, dropping to 1.31 per 1000 client field days, or 1 hold for every 763 client days of programming. For comparison, the average adolescent in US inpatient mental health services was about four and a half times as likely to be restrained as an OBHIC client in 2010 (NASMHPDRI, 2010), while adolescents in inpatient treatment in Ohio were 26 times as likely to be restrained as OBHIC clients in 2010.

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OBHIC programs include the following organizations: Anasazi Foundation, Legacy Outdoor Adventures, Mountain Homes Youth Ranch, OMNI Youth Services, Open Sky Wilderness Therapy, Outback Therapeutic Expeditions, Redcliff Ascent, Second Nature Cascades, Second Nature Entrada, Soltreks, Summit Achievement, and Wendigo Lake Expeditions.

For further information go to: www.obhrc.org/risk-management

10-Year Incident Monitoring Trends in Outdoor Behavioral Healthcare: Lessons learned and future directions.

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Risk in Outdoor Programming

Risk is an inherent and requisite element of wilderness and adventure-based programming, intentionally used by skilled facilitators and therapists to create a state of eustress in clients to support positive development (Russell & Harper, 2006). Providers of adventure programming strive to minimize inappropriate risks in client experiences while maintaining appropriate levels of actual and perceived risks sufficient to create the adaptive dissonance necessary to support positive change (Gass, Gillis, & Russell, 2012; Priest & Gass, 2005). In addition to physical risks, Outdoor Behavioral Healthcare (OBH) programs provide clients opportunities to confront social, emotional, and behavioral risks through Adventure Therapy (AT) interventions. This involves the prescriptive use of adventure activities by mental health professionals to kinesthetically engage clients on affective, behavioral, and cognitive levels (Gass et al, 2012). The key to this process is to manage risks so that clients are engaged in these experiences enough to foster functional change while limiting their exposure to inappropriate dangers.

One important method professionals use to manage such risks is to track incidents occurring while clients are in the field so they may better understand the factors that lead to accidents and other negative incidents. This is done to enable OBH professionals to adapt programming to reduce the likelihood of similar incidents in the future. There have been considerable efforts to assess injury and illness rates in outdoor programs over the past 20 years (Boulware, Forgey, & Martin, 2003; Auerbach, 1992).

One of the most comprehensive analyses of incidents in adventure activities comes from data developed through the WRMC/AEE Incident reporting project conducted from 1992 – 2008. This project provided

insight into the types and severities of incidents commonly occurring in guided adventure activities, and established industry-wide injury and illness rates by activity (Leemon, 2008). While this information can serve as a benchmark to compare OBH incident rates, several differentiating factors must be considered. OBH clients differ from most clients in other forms of adventure programming in two significant ways: (1) OBH clients are primarily drawn from at-risk adolescent populations and can be placed in program against their will and (2) training in high –risk adventure activities is not the primary focus of OBH programs (Russell and Harper, 2006). It is possible that these differences in client and program level characteristics may be related to higher or lower incident rates, therefore direct comparisons of OBHIC to WRMC/AEE or other expeditionary education providers such as the National Outdoor Leadership School (NOLS) are not ideal. In addition, the WRMC data does not track incident data regarding physical restraints, a practice that is often associated with behavioral healthcare programs.

Physical Restraints

The use of physical restraints is a frequent intervention in inpatient mental health settings (Prinsen & van Delden, 2009). A review of the literature prior to 2000 reports prevalence rates of 28% -60% in psychiatric facilities serving children and youth (De Hert, Dirix, Demunter, & Correll, 2011). There is some evidence that physical restraint is an acceptable practice with children and adolescents when they in in danger of causing harm to themselves and others (Dean, Duke, George, & Scott, 2007; Delaney, 2006). However, the majority of evidence supports the contrary, showing restraints to be physically and emotionally harmful to both staff and clients (De Hert, et al., 2011; Masters et al., 2002; Miller, Hunt, & Georges, 2006). Nunno, Holden, and Tollar (2006) reported 45 fatalities related to restraints in child and adolescent mental health facilities between 1993 and 2003, and there is significant ethical concern from the national and international community about these practices (Steinert et al., 2010).

In 2003, the Substance Abuse and Mental Health Services Administration (SAMHSA) published a National Action Plan for reducing the use of restraints in mental health services. The plan suggested changes in policy to empower staff to use treatment approaches that discouraged the need for restraints, and called for improved monitoring of restraint interventions in the mental health industry (SAMHSA, 2003). Several programs have been developed to address these goals, and evidence found significant decreases in restraint rates in child and adolescent mental health facilities following their implementation (LeBel et al., 2004; Martin, Krieg, Esposito, Stubbe, & Cardona, 2008; McCue, Urcuyo, Lilu, Tobias, & Chambers, 2004; Miller, et al., 2006). Despite significant reductions in restraint rates in such programs, the National Association of State Mental Health Program Directors Research Institute (NRI) reported the national restraint rate for youth ages 13-17 in inpatient mental health care was 8.4 hours of restraint per 1000 client days, with 10.8% of all clients being restrained

during treatment as of December 2009 (NRI, 2010). Given the Miller Bill's (Stop Child Abuse in Residential Programs for Teens Act, 2008) claims that wilderness therapy programs were excessively dangerous and frequently overused physical restraints, it became extremely important for OBH programs to examine the validity of these claims and accurately document restraint rates while working to reduce them as much as possible.

OBHIC Risk Incident Tracking

The Outdoor Behavioral Healthcare Industry Council's (OBHIC) risk management database specifically examines incidents, illnesses, and restraint rates in residential Outdoor Behavioral Healthcare (OBH) programs, and has contributed to this knowledge base since its inception in 2001 (Outdoor Behavioral Healthcare Research Cooperative (OBHRC), 2011; Russell & Harper, 2006). Previous analyses of OBHIC data have shown promising trends in OBH program incident, illness, and restraint rates (OBHRC, 2011). The OBHIC injury rate has been relatively stable since 2001, the illness rates have shown a consistent decreasing trend (OBHRC 2011), and the OBHIC restraint rate in 2010 was more than four times smaller than that found in inpatient mental health facilities serving youth in the United States (Gass, et al., 2012). Although the OBHIC data has clearly described incident types and frequencies, information about the circumstances surrounding each incident has not been included in the database to this point.

A deeper understanding of the factors related to incidents and actual incident rates in Outdoor Behavioral Healthcare programs is essential to practitioners seeking to improve their own risk management practices. Such findings may have substantial practical application for OBH practitioners, for once patterns in incident rates are established for OBH programs, practitioners can make informed decisions about when to increase staff to client ratios, alter programming to provide appropriate levels of physical and emotional challenges, and change timing for meals, technical skill lessons, therapeutic processing, and reflection in order to more effectively manage or reduce exposure to actual risk in the field.

The purpose of this study was to: (1) identify trending in OBHIC incident rates since data collection began in 2001; (2) explore the relationships between injury, illness, restraint, and runaway rates in OBHIC programs and time of day, current activity, and percentage of the program completed at the time of the incident; and (3) evaluate these results in the context of injury and illness data from the WRMC/AEE incident tracking project (Leemon, 2008), traditional expeditionary programming for youth, and national restraint and injury rate estimates for adolescent in inpatient treatment centers.

Methods

The following criteria were established for incidents to be included in the annual report to the risk management database . Level one injuries and illnesses were defined as any such incident requiring a client to spend more than 12 hours out of regular programming (including time spent at rest in

the field). Injuries and illnesses were categorized as Level two if the incident required the client be removed from regular programming for more than 24 hours. Runaways were similarly divided, with Level one runaways referring to clients who were away from regular programming for 12 hours or more, and Level two runaways referring to incidents when clients were away from their group from 24 hours or more. Restraints were defined as any action that restricted a client's freedom of movement against their will, even in the absence of physical or chemical restraint devices. While OBHIC has historically categorized such actions into three categories based on duration of the hold, they were collapsed this year to allow for easier comparison to restraint rates in other programs.

All injuries and illnesses (guides and clients), as well as runaways and restraints (clients only) meeting these criteria were recorded by OBHIC member programs for 2011 (n = 12) and submitted to the OBHIC incident database at the University of New Hampshire. Note that data was not collected in 2005. Starting in 2011, the activity the client/guide was engaged in, weather, number of client days in program, time of day, and date at the time of each reportable incident, as well as total client and staff field days, average length of stay, total clients enrolled, and total clients completing treatment were reported. In 2011, 181 client incidents were reported over 70,028 client field days, with an additional 28 guide incidents over 30,001 guide field days, for a total of 209 incidents over 100,029 user days.

Client and staff injury and illness rates, as well as client restraint and runaway rates, were calculated in terms of incidents per 1000 client/guide field days, where one field day was defined as a 24 hour period in a program for one client. In addition, total OBHIC incident and illness rates were calculated by aggregating client and guide incident data. Incident rates were calculated by combing Level one and Level two data in all categories. OLS regression analyses were conducted on all incident rates by year to identify trends in incident rates over time. Data was further disaggregated by activity, time of day, and percentage of program completed (based on average length of stay) at the time of incident. Data about activity duration was not collected in 2011, and therefore incident rates by activity could not be calculated. Frequency data was further explored through histograms.

Results

Injuries

The total client injury rate in OBHIC member programs for both Level 1 and 2 injuries was 0.51 per 1,000 client field days in 2011, or one client injury for every 1,961 client days of programming. When only Level 2 injuries were calculated, including both those that were field manageable and those that required evacuation for medical attention, the injury rate fell to 0.11 per 1000 client field days, or one injury every 9,091 client days. The average client injury rate for programs contributing to the OBHIC database since 2001 was 0.52 injuries per 1000 client field days, or 1 injury for every 1,923 days of client programming. Figure 1 illustrates OBHIC incident rates by year since 2001. Regression analysis indicated a slight positive trend in

the incident rate since 2001, estimating a negligible increase of 1 additional client injury every 58,824 client field days per year. Note however that the regression coefficient of this increase was not significant (β = .018, p = .34). This suggests that with the currently available data time was not a significant prediction of client injury rate.

The guide injury rate on OBHIC ranged from a high of 0.83 injuries per 1000 field days in 2011 to a low of 0.32 injuries per 1000 guide field days in 2001 (see Figure 1). The 10-year average guide injury rate was 0.55 injuries per 1000 guide field days, or one guide injury for every 1,827 guide field days. Regression analysis indicated a slightly positive, but again insignificant trend in guide injury rate since 2001 (β = .023, p = .107).

Figure 1. Client and guide injury rates per thousand client/guide field days between 2001 and 2011

Total OBHIC annual injury rates are displayed in Figure 2. The average total injury rate in OBHIC programs since 2001 was 0.53 injuries per thousand field days, or about one injury for every 1,887 field days. The total injury rate ranged from a low of 0.36 per thousand field days in 2003 to a high of 0.75 injuries per thousand field days in 2007.

Figure 2. OBHIC total injury and illness rates per thousand participant days (clients & staff)
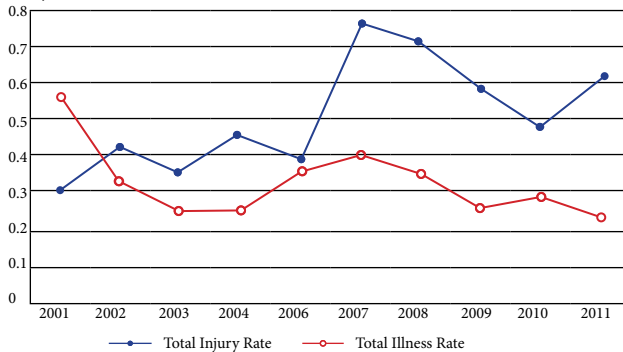
Illnesses

Client illness rates (see Figure 3) have ranged from 0.26 per 1000 client field days in 2003 and 2011 to 0.69 illnesses per 1000 client field days in 2006. Practically speaking, this range indicates at the highest point in 2006 there was one client illness for every 1449 client field days, while at the lowest illness rate in 2003 and 2011 there was on client illness every 4348 client field days. The average illness rate in OBHIC programs since 2001 was 0.40 illnesses per 1000 client field days or one client illness for every 2,529 day of client programming. Regression analysis indicated a slight negative trend in illness rates since 2001, estimating a decrease of one illness for every 71,429 client field days per year. As with the injury analysis, the regression coefficient was not significant (β = -.014, p = .287), indicating that time is not a significant predictor of illness rate with the available data.

Guide illness rates are displayed by year in Figure 3. The 10 year average guide illness rate in OBHIC programs was 0.22 illnesses per 1000 guide field days, or one guide illness every 4,632 days. The guide illness rate reached its lowest historical level in 2011, when there was one guide illness every 10,000 guide field days. Regression analysis indicated a slightly negative, but statistically insignificant trend in guide illness rates (β = -.017, p = .189).

Figure 3. Client and guide illness rates per thousand client/guide field days from 2001-2011
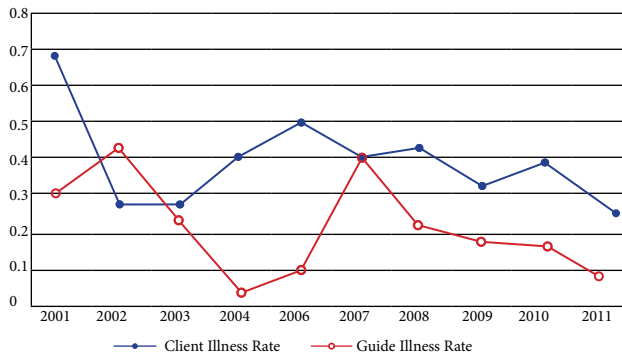
Client Restraints

As illustrated in Figure 4, OBHIC restraint rates have been decreasing since 2006. It is of note that when OBHIC reported their highest restraint rate in 2006, one program reported 42% of all restraints. Since 2001, the OBHIC programs have reported an average restraint rate of 1.95 restraints per 1000 client field days, or one restraint for every 513 client days. In 2011, OBHIC reported the lowest restraint rate since 2001, with one restraint occurring every 763 days. Regression analysis suggested a slightly positive but statistically insignificant trend in restraint rate since 2001 (β = .010, p = .828).

Runaways

The OBHIC runaway rate has ranged from a low of 0.32 per one thousand client days in 2004 to a high of 1.54 runaways per thousand client days in 2010. This translates to one runaway for every 3,125 client days in 2004 and one runaway every 649 client days in 2010. The increased runaway rate in 2010 can be largely attributed to one program reporting 82% of the runaways that year. The average OBHIC runaway rate since 2001 was 0.73 per thousand client days, or one runaway every 1,368 days. Excluding data from 2010, this rate fell to 0.63 runaways per thousand client field days or one runaway every 1,599 client days. Regression analysis indicated a relatively stable trend in the OBHIC runaway rate since 2001, though the relationship was statistically insignificant ($\beta = .005, p = .886$).

Figure 4. Client restraint and runaway rates per thousand client field days between 2001 and 2011
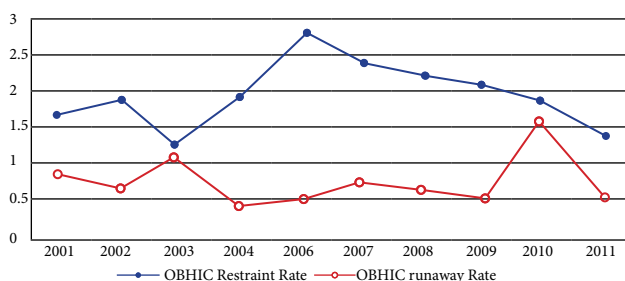
Incident Frequency and Time of Day

Figure 5 illustrates the frequency of restraints, runaways, injuries, and illnesses for both clients and staff by time of day. Client injuries did not occur before 9:00am, and they reached their greatest frequency between 9:00-10:00am. There were additional increases in injury frequency between 3:00-4:00pm and 5:00-6:00pm. Frequency of staff injuries also peaked early in the day between 7:00am and 8:00am, with a second increase between 3:00-5:00pm.

While there were insufficient staff illnesses data to identify any trends, the most frequent time of onset for client illness was 8:00-10:00 am, with additional increases in frequency around lunch and dinner time. Restraint frequency was very low before 9:00am, and most frequent between 12:30-1:30pm and 4:00-6:00pm. Runaway frequency was also highest between 12:30-1:30pm, and exhibited secondary increases from 9:00-10:00 am and 4:00-6:00pm.

Figure 5. OBHIC incidents by type, person, and time of day for 2011
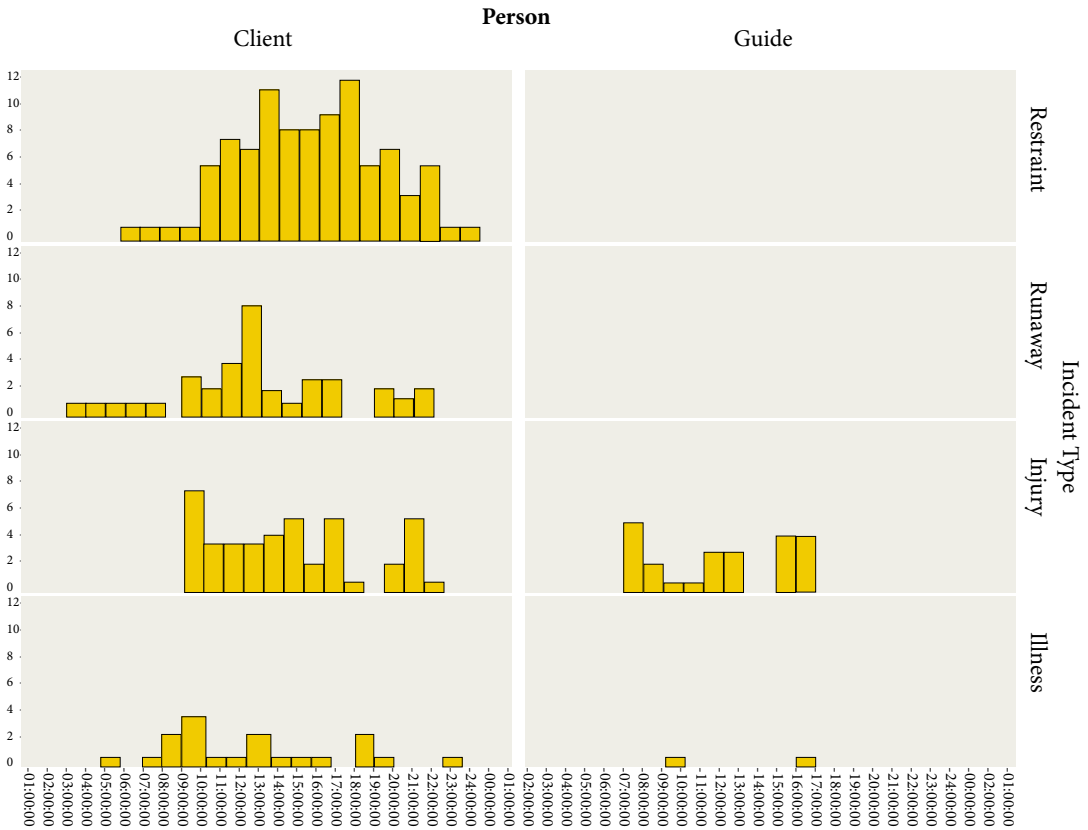
Incident Frequency and Percentage of Program Completed

Figure 6 illustrates incident frequency by the percentage of the program the client had completed at the time of the incident for 2011. Incidents that occurred when the client had been in the program for longer than that program's average length of stay at the time of the incident were coded as 105% of the program completed. Data regarding staff days in program were not collected, and so the results refer only to client incidents for 2011.

Injury frequency was also greatest earlier in the program for clients, but unlike restraint and runaway frequencies, peaked between 6% and 20% of average treatment time. Injury frequency increased again slightly at 50% of average treatment time, then tapered off, with the exception of a small increase in injury frequency for clients who had been in treatment longer than the average length of stay for their respective program.

Illness frequency peaked early in the program, and tapered down over

the first 20% of average time in treatment. There was a slight increase in illness frequency at the 40% program completion mark, followed by very few illnesses until the final 20% of time in treatment. There was a slight increase in illnesses reported for clients who had been in treatment longer than the average length of stay at their respective program.

Restraints most frequently occurred at the very beginning of treatment, with about 41% of all restraints reported during the first 6% of average treatment time and 64% of all restraints reported during the first 20% of average treatment time. There was a small increase in restraint frequency for clients who had been in treatment longer than the average length of stay for their respective program.

Runaways were also most frequent at the beginning of the program, with about 31% of all runaways reported during the first 6% of average treatment time and 57% of all runaways reported during the first 20% of average treatment time. As with injury, illness, and restraint frequency, there was a slight increase in runaway frequency for clients who had been in treatment longer than the average length of stay for their respective program.

Figure 6. Client incidents by incident type and %age of program completed at time of incident for 2011
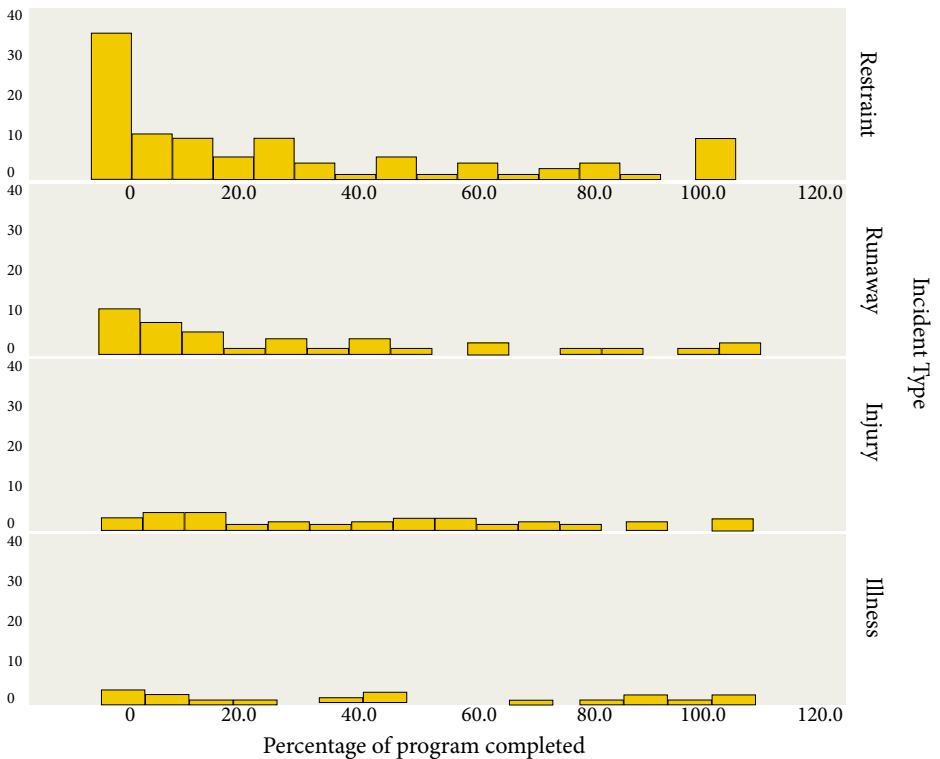
Incident Frequency and Activity

Activity data were available for 166 of 182 client incidents and all 28 staff incidents in 2011. About 56% of all client incidents and 54% of all staff incidents (see Table 1) on OBHIC programs in 2011 occurred during times of transition or while hiking. No comparative analyses can be made about the relative safety of individual activities, as the number of participant days devoted to each activity listed was not reported in 2011.

In 2011, client injuries most frequently occurred while clients were hiking (51.5%), in transition from one activity to another (24.2%), and while breaking camp and obtaining water (3.1%). Staff injuries were most common while staff were hiking (36%), in transition from one activity to another (16%), or were caused by a client (8%). Client Illnesses were most commonly reported while clients were hiking (29.4%), during meal time (23.5%), and while clients were sleeping (17.6%). Staff illnesses were most frequently reported while hiking (67%) and while hiking (33%), however, only three staff illnesses were reported in 2011. More data are needed before a definitive pattern in staff illnesses by activity can be established.

Restraints were most frequent while clients were in transition from one activity to another (37%), hiking (14.8%), and during the intake process (9.9%). Runaways were most frequent while clients were hiking (34.3%, in transition from one activity to the next (20%), and while sleeping (11.4%).

Table 1: Client incident frequencies by incident type and activity*

| | | Client | | | | | Staff | | | Total |
		Restraint	Runaway	Injury	Illness	Client Sub-Total	Injury	Illness	Staff Sub-Total	All Incidents
Activity at time of incident	Hiking	12 (14.8%)	12 (34.3%)	17 (51.5%)	5 (29.4%)	46 (27.6%)	9 (36.0%)	2(66.7%)	11 (39.3%)	57 (29.4%)
	Solo	0	1 (2.9%)	0	0	1 (.06%)	0	0	0	1 (0.5%)
	Group	1 (1.2%)	1 (2.9%)	0	1 (5.9%)	3 (1.8%)	0	0	0	3 (1.5%)
	Latrine	0	2 (5.7%)	0	0	2 (1.2%)	0	0	0	2 (1.0%)
	Breaking Camp	0	1 (2.9%)	1 (3.1%)	0	2 (1.2%)	1 (4.0%)	0	1 (3.6%)	3 (1.5%)
	Transition/In Camp	30 (37.0 %)	7 (20.0%)	8 (24.2%)	2 (11.8%)	47 (28.3%)	4 (16.0%)	0	4 (14.3%)	51 (26.2%)
	Meal Time	5 (6.2%)	0	0	4 (23.5%)	9 (5.4%)	1 (4.0%)	0	1 (3.6%)	10 (5.2%)
	Getting Water	6 (7.4%)	1 (2.9%)	1 (3.1%)	0	8 (4.8%)	1 (4.0%)	0	1 (3.6%)	9 (4.6%)
	Intake	8 (9.9%)	0	0	0	8 (4.8%)	0	0	0	8 (4.1%)
	Medical Procedure	3 (3.8%)	0	1 (3.1%)	0	4 (2.4%)	0	0	0	4 (2.1%)
	Sleeping	0	4 (11.4%)	0	3 (17.6%)	7 (4.2%)	0	0	0	7 (3.6%)
	Camp Set Up	1 (1.2%)	1 (2.9%)	1 (3.0%)	0	3 (1.8%)	0	0	0	3 (1.5%)
	Med Run	0	2 (5.7%)	0	0	2 (1.2%)	0	0	0	2 (1.0%)
	Other	7 (8.6%)	0	1 (3.0%)	2 (11.8%)	10 (6.0%)	2 (4.0%)	1 (33.3%)	3 (10.7%)	13 (6.7%)
	Group/Staff Change	1 (1.2%)	0	0	0	1 (0.6%)	0	0	0	1 (0.5%)
	Transport	3 (3.8%)	0	0	0	3 (1.8%)	0	0	0	3 (1.5%)
	Therapy (Indiv)	2 (2.5%)	0	0	0	2 (1.2%)	0	0	0	2 (1.0%)
	Bed time	1 (1.2%)	0	0	0	1 (0.6%)	0	0	0	1 (0.5%)
	Cooking	0	0	1 (3.0%)	0	1 (0.6%)	0	0	0	1 (0.5%)
	Using Tool/Knife	0	0	1 (3.0%)	0	1 (0.6%)	3 (12%)	0	3 (10.7%)	4 (2.1%)
	Horses	0	1 (2.9%)	0	0	1 (0.6%)	1 (4.0%)	0	1 (3.6%)	2 (1.0%)
	Surfing	0	1 (2.9%)	0	0	1 (0.6%)	0	0	0	1 (0.5%)
	Canoeing	1 (1.2%)	1 (2.9%)	0	0	2 (1.2%)	0	0	0	2 (1.0%)
	XC Skiing	0	0	1 (3.0%)	0	1 (0.6%)	1 (4.0%)	0	1 (3.5%)	1 (0.5%)
	Caused by Client	0	0	0	0	0	2 (8.0%)	0	2 (7.1 %)	2 (1.0%)
Total		81	35	33	17	166	25	3	28	194

Discussion

The purpose of this study was to address the following research questions:

1. What were the trends in OBHIC annual incident rates since 2001?

2. What were the relationships between OBHIC client and staff incident frequencies and time of day, percentage of program completed, and activity at the time of an incident?

3. How does the OBHIC incident data compare to data established through the AEE/WRMC incident monitoring project (Leemon, 2008), traditional expeditionary education courses for youth (NOLS, 2011), and national restraint/injury data for youth in inpatient mental health services?

10-Year OBHIC Incident Trends

While regression analyses of OBHIC incident rates over time did not show any significant relationships between incident rate and time, they did indicate that injury, illness, restraint, and runaway rates appear relatively stable over the 10 year history of the OBHIC incident tracking project. Despite this, there are some variations in the data that warrant attention. First, in 2007, when the peak client injury rate was reported, OBHIC programs also experienced record high enrollment. It is possible that in order to accommodate this, there were more new staff than usual in the field, or that staff experienced less down time between shifts than in other years, leading to an elevated injury rate. Further exploration of the impact of guides' level of experience and duty cycles are warranted in future analyses.

Second, when OBHIC reported their highest restraint rate in 2006, it was the only year where a program that worked exclusively with adjudicated youth participated in the incident reporting project. This program reported 40% of restraints lasting 30 minutes or longer, while another program reported 45.6% of all restraints lasting less than 30 minutes. It is possible that different standards of practice in the adjudicated youth program, and inconsistencies in restraint reporting from the other outlier program, significantly impacted the restraint rate for 2006. Future research should include analysis of client and program level characteristics to better understand their relationship to incident trends.

OBHIC Incident Frequencies and Time of Day, Percentage of Program Completion, and Activity

The incident trends by time of day displayed in Figure 5 reflect anecdotal trends commonly reported by field staff. Injury and illness frequency increase significantly early in the day, or about the time when OBHIC groups break camp and begin the day's travel. While restraint and runaway frequencies also increase at this time, they are highest around lunch time, when clients were often transitioning from a meal at rest back to travel. Restraint, runaway, and injury frequencies all increased again in the late afternoon, when clients are often coming to the end of a long day of travel, or in transition before the evening meal. This data suggests that

programs may benefit from exploring ways to help clients better manage transitions from states of relative rest to travel.

The majority of OBHIC incidents occurred early in a client's stay in program ; 56.9% of all restraints, 54.3% of all runaways, and 40% of all injuries occurred during the first 20% of clients' time in treatment. There also was a significant increase in incidents for those clients who had been in treatment longer than the average length of stay for their program. This suggests that programs could benefit from developing strategies to better help clients transition into program. It is possible that increased staff to client ratios, contact time with clinical staff, and reduced intensity of travel early in the program might help to further decrease incident rates early in treatment, and should be further explored.

Although the present results do not allow for the calculation of incident rates by activity, and no statements about the relative risks of each activity type can be made, there are some clear trends. That the majority of injuries occur while groups are hiking is not surprising; the WRMC/AEE Incident Reporting Project showed that the most common type of injury during wilderness-based programming with youth were athletic injuries such as sprains and strains (Leemon, 2008). That incident rates are also elevated during transition times on OBHIC programs suggests that it would be beneficial for programs to explore strategies to help clients better cope with these times of change. Further research into factors related to incidents occurring during these times is warranted.

OBHIC Incident Data in Relation to Comparative Injury Rates

The U.S. Center for Disease Control and Prevention estimated the national average rate of injuries for adolescents treated in U.S. hospital emergency rooms was 0.38 per 1000 days in 2010 (WISQARS, 2011). The rate of injuries in Outdoor Behavioral Healthcare programs in 2011 was 0.51 injuries per 1000 days, only increasing the actual risk of injury to an adolescent by 0.13 incidents per 1000 days (or 1 additional incident every 7692 participant days). Given that most clients who participate in Outdoor Behavioral Healthcare programs are generally involved in higher risk behaviors than the general population statistic reported above (e.g., substance use, reckless driving, self-abusive behaviors), it is quite plausible to state that given the high risk behaviors of these clients, and the current state of risk management practices in Outdoor Behavioral Healthcare, there is less actual risk for these youth while on OBHIC programs than while in the general population (Gass, Gillis, & Russell, 2012).

Note this conservative Figure used by OBHIC includes injuries that were treatable in the field, and did not require additional medical attention. When only those injuries that required OBHIC participants be removed from regular programming for 24 hours or more were counted (including some treated in the field, and some who were evacuated to emergency rooms/medical attention), the OBHIC injury rate fell to 0.11 in 2011, or one

injury requiring medical attention every 9,091 client days. The U.S. Center for Disease Control and Prevention estimated the national average rate of injuries for adolescents treated in U.S. hospital emergency rooms was 0.38 per 1000 days in 2010 (WISQARS, 2011). Therefore, in 2011, OBHIC program clients were about three times more likely to go to the emergency room for an injury at home as they were while on program.

The National Outdoor Leadership School (NOLS) offers wilderness-based expeditionary education experiences to youth and adults, with a focus on technical and leadership skill development. While OBHIC injury rates cannot be directly compared to NOLS because of differences in client characteristics, purpose of programming and definitions for medical incidents, NOLS is viewed as a leader in wilderness risk management; until more longitudinal incident data is compiled by OBHIC, NOLS can serve as a benchmark to quality. The NOLS incident definitions are more inclusive than OBHIC's, so Figure 7 compares the NOLS medical evacuation rate (injuries and illness) to the total medical incident rate of OBHIC programs (all injuries and illnesses, including those managed in the field) for 2011, five year average, and 10 year average values. The comparison suggests that OBHIC injury and illness rates are slightly below those of traditional educational expeditionary programs for youth.

Figure 7. OBHIC medical incident rates vs NOLS medical evacuation rates in 2011, 5-year and 10-year averages
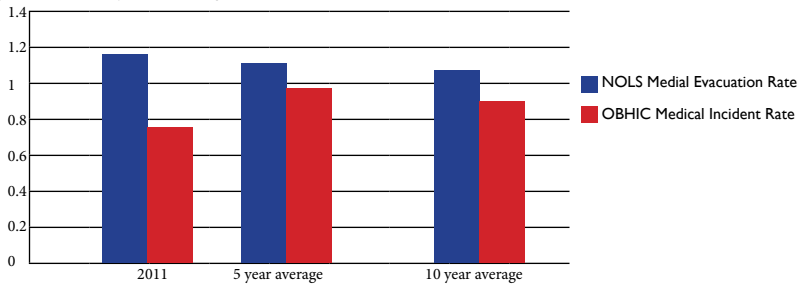
This analysis clearly supported OBHIC programs, contrary to claims made against wilderness therapy programs in the Miller Bill (Stop Child Abuse in Residential Care Act, 2008). OBHIC program members have been able to provide quality wilderness-based interventions to clients without exposing them to undo levels of risk. Further support for the ability of OBHIC programs to effectively manage risk to clients was apparent when comparing OBHIC incident rates to those of more common activities and guided outdoor pursuits (see Figure 8). Participants on guided backing, mountain biking, downhill skiing, and snowboarding courses are about 1.5, 5.5, 10, and 33 times as likely to be injured as OBHIC clients respectively (Leemon, 2008). When compared to traditional team sports, high school football players are 30 times more likely to be injured during a practice, and 141 times as likely to be injured during a game as an OBHIC client in treatment.

Figure 8. OBHIC 2011 client injury rates compared to incident rates in organized outdoor activities
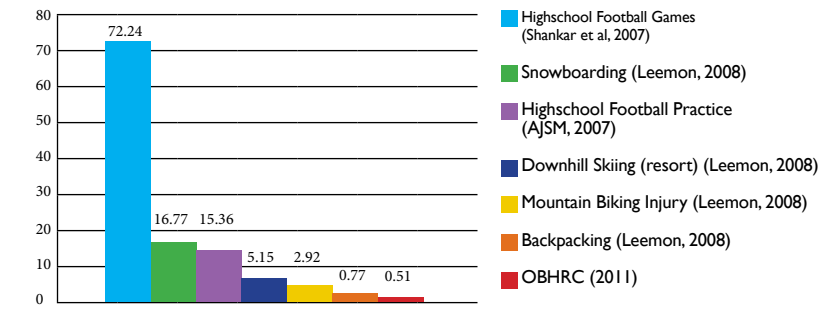
A further charge against wilderness therapy providers in the Miller Bill is the overuse of physical restraints in the treatment process. When compared to existing national data on restraint rates in inpatient treatment facilities youth (assuming the average length of restraint in these facilities was 60 minutes), OBHIC clients were more six times less likely to be restrained in treatment than youth in inpatient mental health care in the US (NRI, 2010). While it is necessary to consider the population served by inpatient facilities likely presented with higher levels of symptom acuity than clients of OBHIC programs, this comparison provides compelling evidence against the claims in the Miller Bill.

Limitations

While the study results are promising, there are several limitations that need to be considered. First, the programs participating in the OBHIC Risk Incident Monitoring Project have not been consistent throughout the history of data collection. Additionally, some contributing programs are much larger than others. Both of these variables may have led to inconsistencies in the results, and also limit the extent to which study conclusions can be generalized across programs. As stated earlier, programmatic differences may have a significant impact on incident rates, and such differences were not accounted for in this analysis.

Second, although data collection was based on a common set of incident definitions, reporting was generally done at the end of the year and it is possible that staff across different organization had different interpretations of the incident definitions. This may have led to some inconsistencies in the data. OBHIC will be transitioning to live online incident reporting starting in 2013, which may help to address this concern.

Data collection did not include any identifying information, and as such, it was impossible to identify clients involved in more than one incident. Future research should include some method for tracking this, and potentially linking incident data to individual level demographic and outcome assessments.

Third, this data was only collected for those programs participating in the OBHIC research database. Generalization of the findings needs to be restricted to those programs participating in the study and those following the risk management procedures of OBHIC programs.

Finally, this study did not allow for comparisons of the relative risk associated with participating in different activities while on OBHIC programs. Future studies should include information about the time spent in each activity to improve the understanding of the risks associated with different activities and methods of travel for OBHIC clients and guides.

Conclusions

The OBHIC Risk Incident Project is the longest-operating active risk management database tracking incidents across multiple programs for any outdoor pursuits, including wilderness therapy. Despite the limitations of this study, results indicated OBHIC programs provide wilderness-based treatment programs to clients without exposing them to relatively low levels of physical risk. Continued expansion of the data collected through this project will continue to expand understanding of the factors related to incidents in OBH programs. OBH service providers can greatly benefit from participating in this project, and from sharing their methods for addressing risk in the back country, especially in those situations shown to be related to higher incident frequencies. Continuing risk-related incident research in OBH programs is essential, and may help inform programmatic changes to further reduce clients' exposure to inappropriate risks in the future.

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