

Abstract

Available research suggests that OBH programs are effective at treating a wide range of adolescent psychiatric problems. However, several important limitations exist including participant attrition, lack of parent participation, and consistent data collection. This study used multi-level modeling (MLM) to assess trajectories of change and to identify predictors of outcome during treatment and afterward.

Participants entered with clinically significant levels of emotional and behavioral dysfunction, made significant improvements during treatment and discharged within the "normal" range of functioning. At six and 18 months post-treatment, clients remained in the normal range of functioning.

The in-treatment model accounted for 30% of variance in initial status and 50% of variance in the rate of change. Parents living together; having a mood, anxiety, or behavioral disorder; and high parent scores at intake were significant predictors of a more dysfunctional initial status. However, these factors were not significant predictors of client outcome during treatment. Being female and having healthier parent-reported scores at discharge were the only significant predictors of greater improvements during treatment. Due to insufficient adolescent data through post-treatment assessments, adolescent data were used as predictors of post-treatment parent scores. The only significant predictor of outcome post-treatment was parent-reported change from intake to discharge.

Does Change Last in Outdoor Behavioral Healthcare? Outcomes for Adolescents

Matt Hoag, Ph.D.

Katie Massey, MSW, MSPH

Sean Roberts, MS

Second Nature Wilderness Programs

Introduction

The OBH literature has strong evidence of dramatic improvements in emotional and behavioral functioning from intake to discharge. This study sought to better understand:

- What predicts adolescent improvements?
- Does change last after OBH treatment?
- Are there predictors for lasting change?

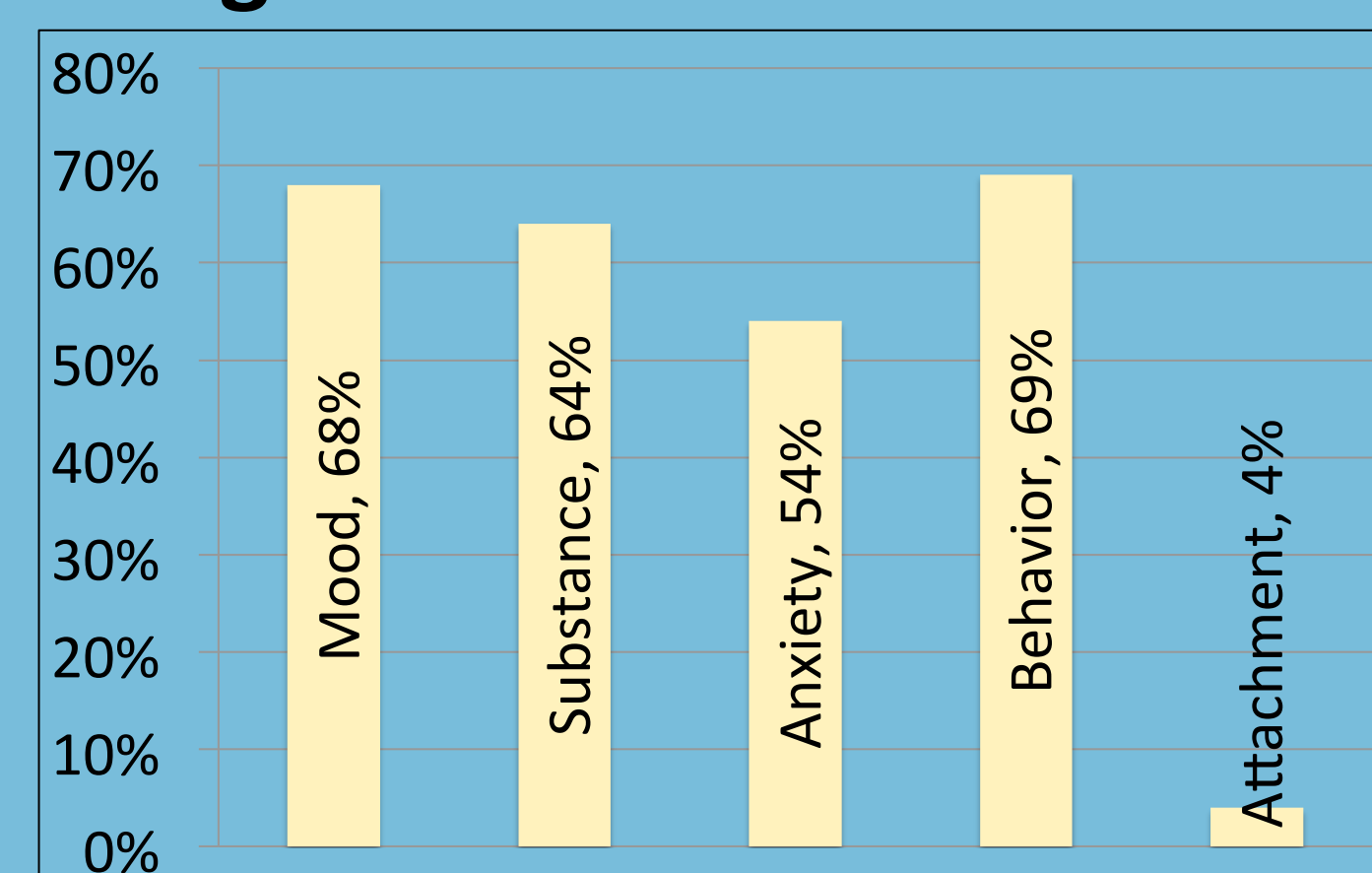
Methods

- Enrolled adolescents at four wilderness therapy programs from June 2011–June 2012 (Participation rate was 85%, N=659)
- Collected data four times during treatment and at 6 and 18 months post-treatment
- Conducted multi-level models to assess trajectories of change during and post-treatment
- An additional regression was run on the predictor of post-treatment change

Participants

- Average age = 16.3 years
- Gender: 29% Female, 71% Male
- Parents living together = 65%
- Average length of stay = 10.4 weeks
- Adopted = 18%

Presenting Issues



Measures

The Youth Outcome Questionnaire has 64 items assessing interpersonal distress, somatic symptoms, interpersonal relations, critical items, social problems, and behavioral dysfunction.

Adolescent self-report YOQ-SR

- Reliable change index = 18 points
- Community functioning cutoff score = 47

Parent report YOQ 2.01

- Reliable change index = 13 points
- Community functioning cutoff score = 46

Results

In-Treatment Sample			
	n	Mean (SE)	SD
YOQ SR Intake	619	64.83 (1.37)	34.15
YOQ SR 3 Week	602	50.76 (1.39)	34.15
YOQ SR 5 Week	585	38.71 (1.36)	32.92
YOQ SR Discharge	534	28.33 (1.34)	30.11
YOQ Parent Intake	501	97.55 (1.22)	27.26
YOQ Parent Discharge	398	32.90 (1.57)	31.32
I-D YOQ Youth Change	509	-36.82 (1.55)	35.03
I-D YOQ Parent Change	338	-64.48 (1.84)	33.85



Post-treatment Sample			
	n	Mean (SE)	SD
YOQ SR Intake	100	66.71 (3.65)	36.46
YOQ SR Discharge	94	28.57 (3.14)	30.46
YOQ Parent Intake	90	100.29 (2.68)	25.41
YOQ Parent Discharge	106	31.26 (3.10)	31.96
I-D YOQ Youth Change	90	-38.92 (3.81)	36.16
I-D YOQ Parent Change	90	-69.35 (3.32)	31.45
YOQ Parent 6 Month	99	32.54 (2.92)	29.07
YOQ Parent 18 Month	106	38.05 (3.48)	35.91

Predictors of greater dysfunction at intake (YOQ-SR)

- Mood Disorders***
- Parents living together*
- Anxiety or Behavioral disorder*
- High parent dysfunction score*

Predictors of higher rate of change during treatment

- Gender**
- Parent discharge*

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

Predictors of healthier functioning post-discharge

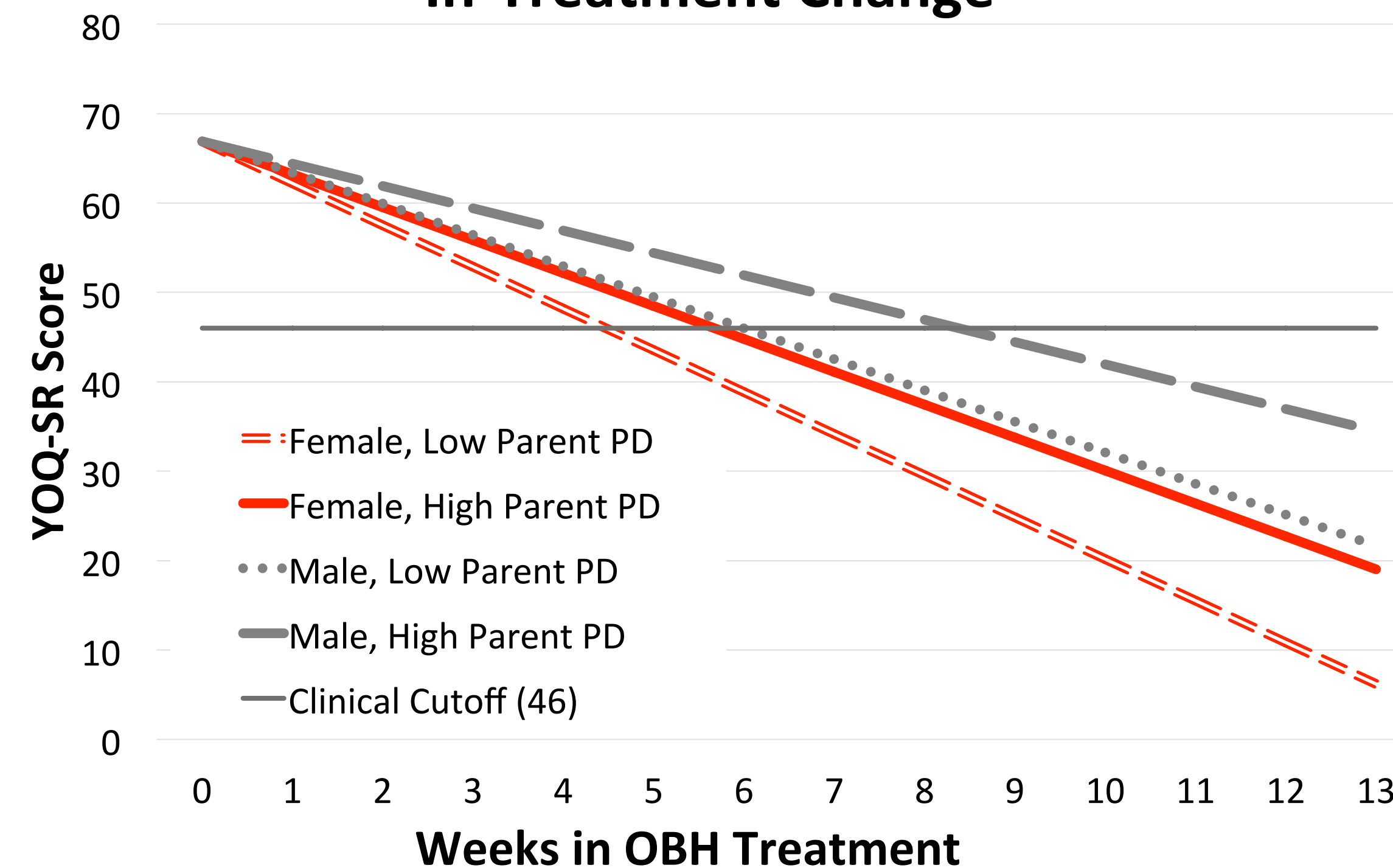
- Parent-reported change from intake to discharge during OBH treatment***

Factors associated with parent change (intake – discharge)

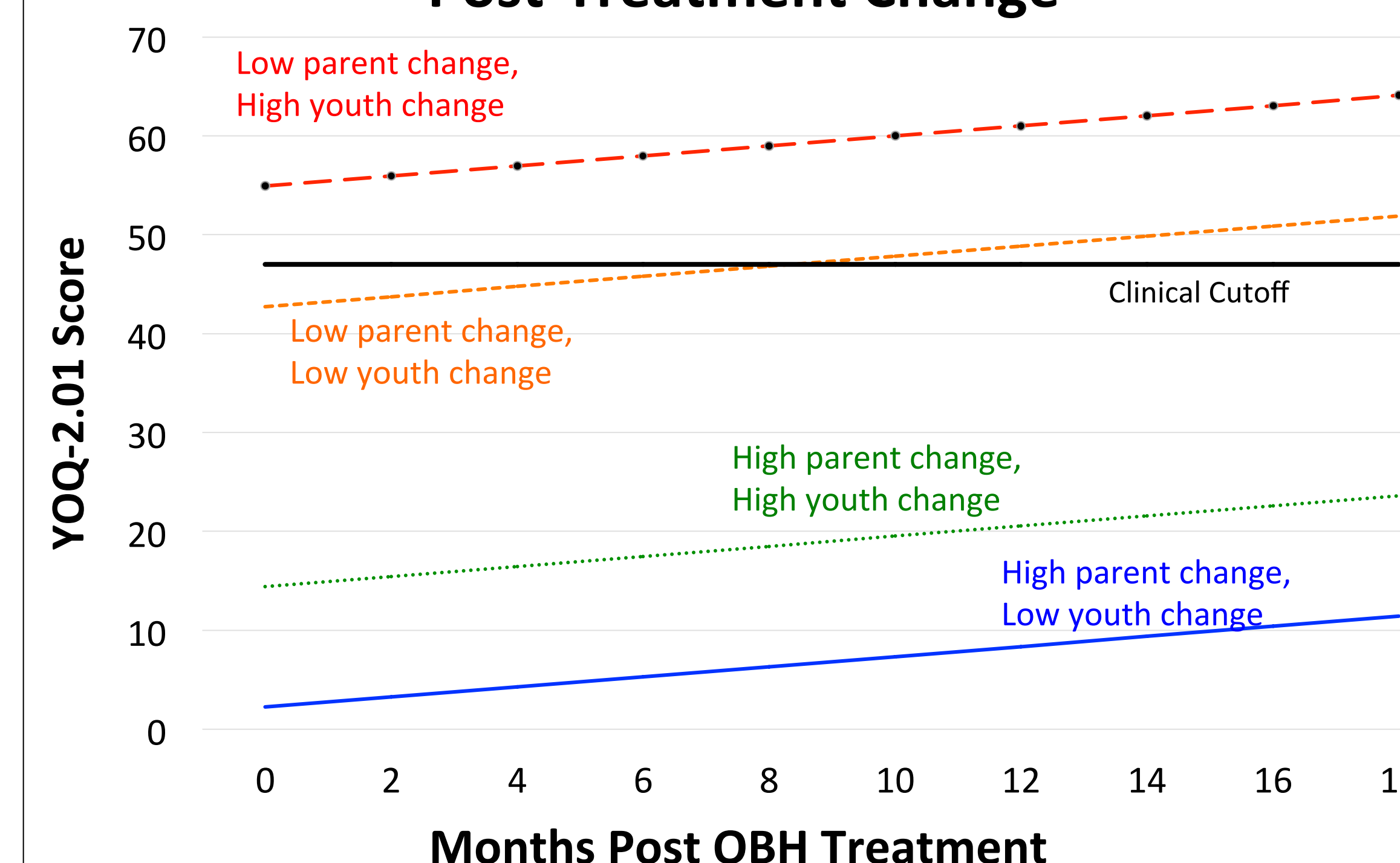
- Higher parent intake scores***
- Attachment diagnosis (negative relationship)***
- Higher youth-reported change intake to discharge*
- Substance-related* or Anxiety diagnosis*

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

In-Treatment Change



Post-Treatment Change



Discussion

- This study affirms multiple findings in OBH literature including: **adolescents make significant improvements** during treatment and maintain progress afterward; **OBH is effective at treating acute dysfunction and complex problem issues** in adolescents; and **gender plays a unique role** in OBH outcomes.
- **Mood Disorders were the single greatest predictor of initial status** and the second most common diagnosis (68%).
- OBH literature consistently finds **females making greater change** during treatment. Reasons for this are unclear though theories suggest that the communal and social nature of OBH treatment is more powerful with females, and that the impact on self-efficacy and esteem may be more impactful.
- **Parent perception appears to have a great impact during treatment and afterward.** Healthier parent scores at discharge predicted a greater rate of change for adolescents, and higher parent-reported change from intake to discharge predicted healthier post-treatment outcomes.

Limitations

- No control or comparison group.
- Post-discharge sample for adolescents was too small to model variation in rate of change following treatment.
- The four programs were connected by management and have traditional wilderness therapy models, therefore generalization to all OBH is limited.

Future Directions

- Three-year follow-up using incentives with random selection of 200 from 18 month follow-up as well as an additional 100 adolescents
- Investigate subscales
- Study on young adult clients

What is Outdoor Behavioral Healthcare?

The prescriptive use of wilderness experiences provided by mental health professionals to meet the therapeutic needs of clients (Tucker, Smith, Gass, 2014; AEE, 2014)

Essential therapeutic elements include

- Extensive wilderness and primitive living
- Relational growth through group living
 - Group and individual therapy
 - Strong ethic of care and support
- Task accomplishment to promote self-efficacy

