

# Using Multi-level Modeling to Better Understand Improvements and Predictors in Wilderness Therapy

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# Research Questions

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

# Methods

- Enrollment:
  - June 2011–June 2012
  - N=659, Participation rate was 85%
  - Four wilderness therapy programs
- Data collection:
  - 4x during treatment
  - 6 & 18 months post-treatment
- Measures: Youth Outcome Questionnaire (parent and self-report)
- Analysis: Multi-level Model to assess trajectories of change and identify predictors

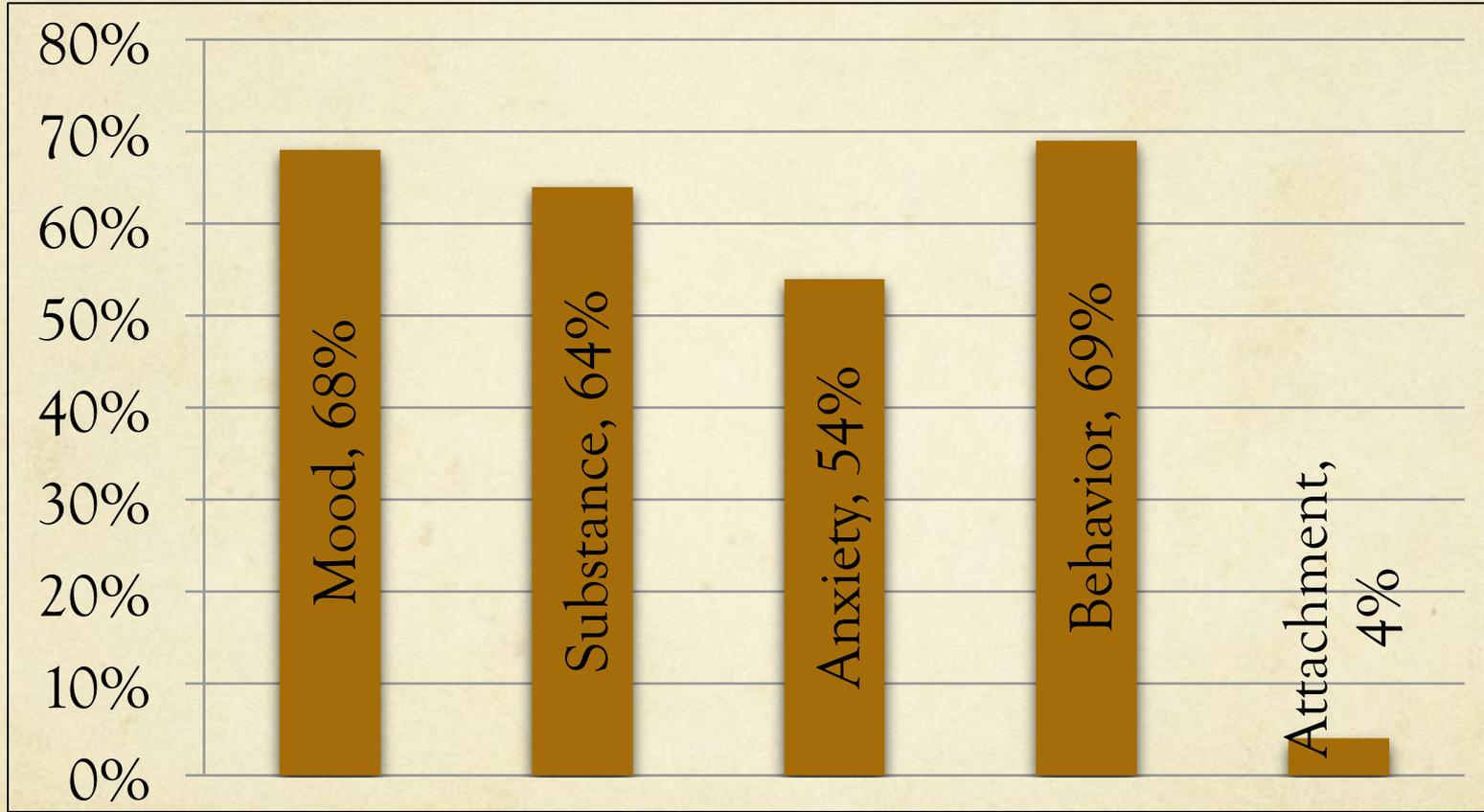
# Why Multi-level Models?

- OBH data and longitudinal data is clustered in groups and related to each other.
- Traditional regression methods assume that observations are independent and can lead to an overstatement of statistical significance.
- MLMs better account for missing data

# Participants

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

# Presenting Issues



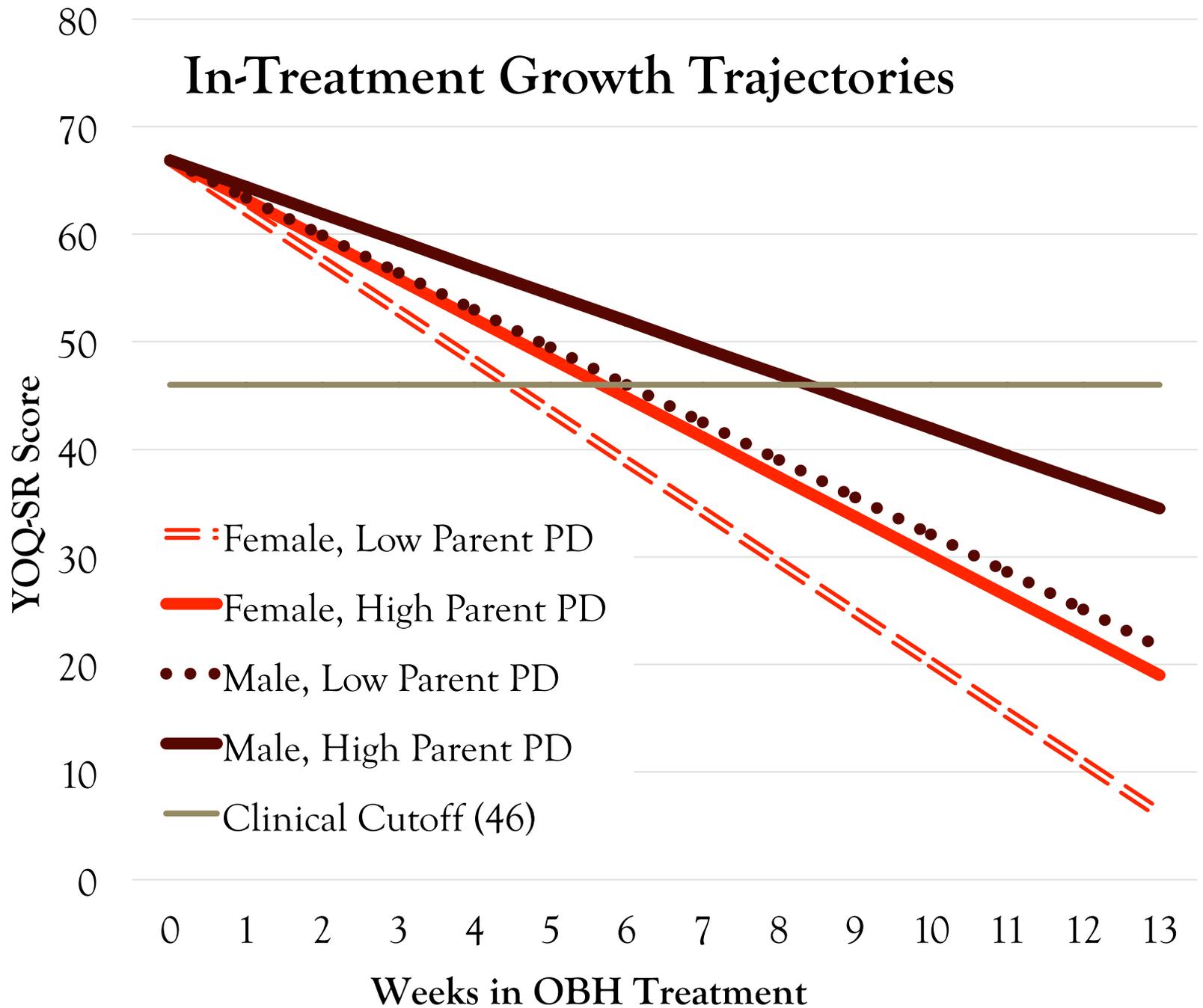
# General Results

- Participants entered with high levels of dysfunction and made significant improvements during treatment.
- Clinically & statistically significant change on parent and self-report, and discharged within the “normal” range of functioning.
- At 6 and 18 months post-treatment, clients remained in the normal range of functioning.

# In-Treatment Change

- Predictors of greater dysfunction at intake (YOQ-SR)
  - Mood Disorders\*\*\*
  - Anxiety or Behavioral disorder\*
  - Parents living together\*
  - High parent dysfunction score\*
- Predictors of greater rate of change during treatment
  - Gender\*\*
  - Parent discharge\*

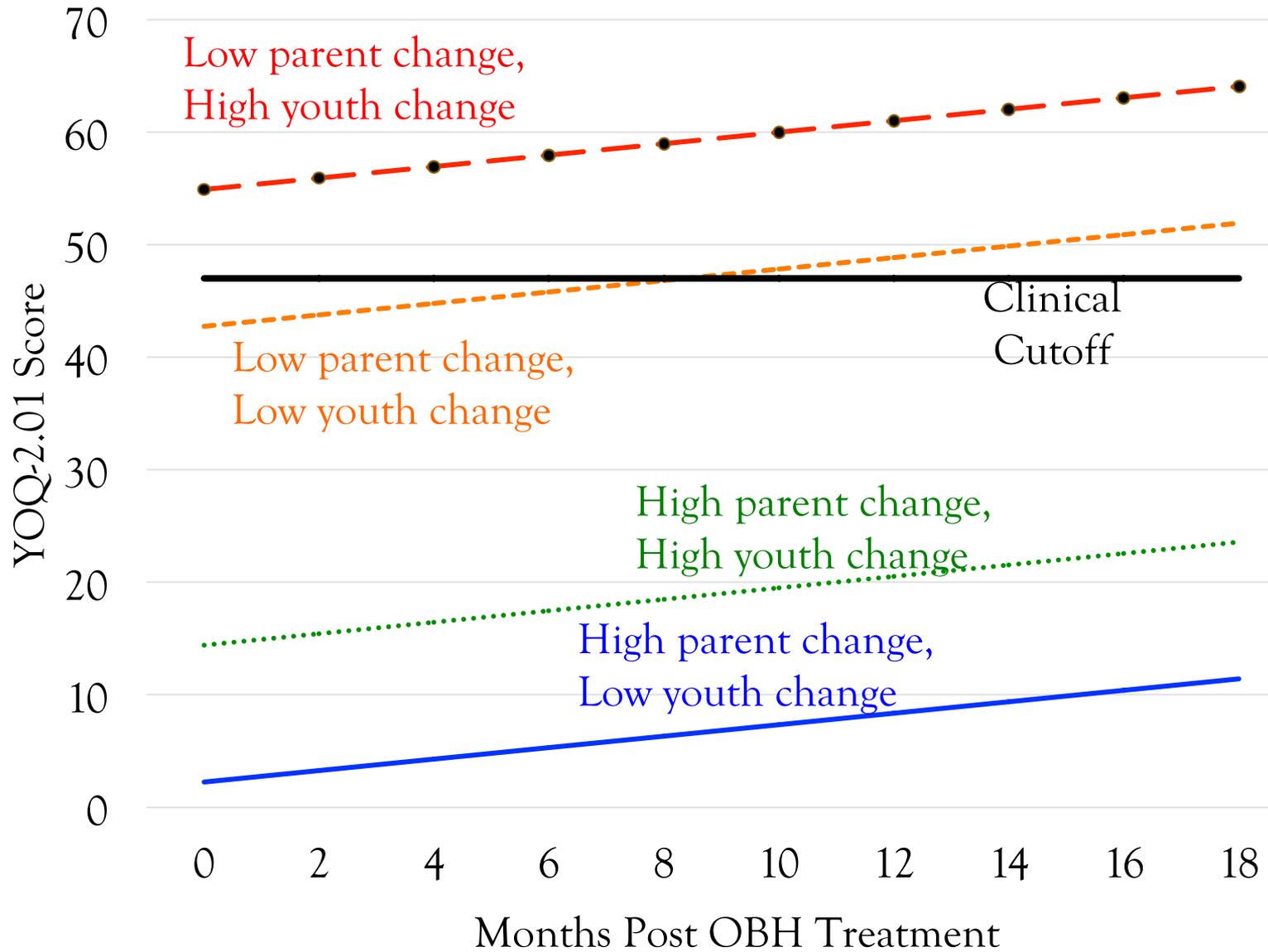
# In-Treatment Growth Trajectories



# Post-Treatment Change

- 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\*

# Post-Treatment Change Trajectories.



# 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.

# Discussion

- Adolescents make significant improvements during treatment and maintain progress afterward.
- Females appear to gain more from wilderness than boys, though they represent less than 1/3 of the population.
- Presenting issue does not appear to have a significant impact for youth-change during treatment.
- Parent perception appears to have a great impact in outcome.