OBH paper draft

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Potential Predictors of OBH Client Success

Analysis of adolescents attending Outdoor Behavioral Healthcare (OBH) programs which are part of the National Association of Therapeutic Schools and Programs Practice Research Network (NATSAP PRN) in the United States. For more information visit natsap.org and obhcouncil.com.

The following is detailed explanation of a working paper to be submitted for peer review to the Journal of Residential Treatment for Children & Youth.

Objective

To determine if there are any significant predictors of if a given adolescent client will succeed in OBH treatment. All clients were given the Youth Outcome Questionnaire (YOQ) at both intake and discharge, a peer reviewed measurement frequently used to assess mental health functioning in adolescents. Finding the change between the intake and discharge scores can be used to determine if the client met the Reliable Change Index (RCI). Previous studies have found that meeting the RCI corresponds to a clinically significant change in the individual, that is a behavioral and mood change that is apparent both to the individual and those in contact with the individual.

"Success" in this paper is defined as a client meeting the Reliable Change Index (RCI) when their intake and discharge scores were compared.

Data Setup

To view the cleaning script for this file, please visit "OBH cleaning.R" on Github

Sample

Predictor Variable Selection

Predictor variables used in this study were selected based on presence in other OBH studies.

- gender
- adopted
- attention_issue
- autism

- conduct_disorder
- depression
- substance_abuse
- trauma_related_issue
- program_need
- change_desire
- prior_prog
- progress_need
- Routine Monitoring Status
- transport
- Rel01 intake difference z score

Demographics

Only dichotomous variables that were present in more than 5% of the sample were included in this study.

variable	response	n	percent
gender	FEMALE	881	35.67
gender	MALE	1537	62.23
gender	NA	52	2.11
adopted	0	2088	84.53
adopted	1	382	15.47
attention_issue	0	2082	84.29
attention_issue	1	388	15.71
autism	0	2282	92.39
autism	1	188	7.61
anxiety	0	1610	65.18
anxiety	1	860	34.82
conduct_disorder	0	2151	87.09
conduct_disorder	1	319	12.91
depression	0	1491	60.36
depression	1	979	39.64
substance_abuse	0	1888	76.44
substance_abuse	1	582	23.56
trauma_related_issue	0	2159	87.41
trauma_related_issue	1	311	12.59
rom	0	2204	89.23
rom	1	266	10.77
transport	No	1039	42.06
transport	Yes	1173	47.49
transport	NA	258	10.45

Reliable Change Index (RCI)

The dependent variable used in this study was whether or not the client met the RCI cutoff from intake to discharge according to their own self report YOQ-SR scores. The dummy variable, "rci" was coded as "Yes" for adolescents who showed a change of 18 points or more after the intervention and coded as "No" for adolescents who reported a change of less than 18 points, in congruence with the defined RCI for the YOQ Youth Self Report.

rci	n	perc
0	1122	45.43
1	1348	54.57

Clinical Change Categories

```
# Note, this is already done preemptively on rds file, just to see process

example_formula <- obh %>%
  mutate(change_cat_client =
           case_when(delta_client <= -18 & client_YOQ_20SR_D0_SCORE <= 46 ~ "rec", # recovered
                     delta_client <= -18 & client_YOQ_20SR_D0_SCORE >= 47 ~ "imp", # improved
                     delta_client >= -17 & delta_client <= 0 &
                       client_YOQ_20SR_D0_SCORE >= 47 ~ "unch", # unchanged
                     delta_client >= 1 & client_YOQ_20SR_D0_SCORE >= 47 ~ "det", # deteriorated
                     delta_client >= -17 & delta_client <= 0 & client_YOQ_20SR_D0_SCORE <= 46 ~ "nocl",
                     delta_client >= 1 & client_YOQ_20SR_D0_SCORE <= 46 ~ "nocl"))
```

YOQ Mean scores by RCI

Likert Variable Mean Scores by RCI

```
## # A tibble: 2 x 9
##     rci program_need_mean program_need_sd change_desire_mean change_desire_sd
##   <dbl>             <dbl>           <dbl>              <dbl>            <dbl>
## 1     0              4.31            3.34               7.79             2.65
## 2     1              5.23            3.24               8.05             2.48
## # ... with 4 more variables: prior_prog_mean <dbl>, prior_prog_sd <dbl>,
## #   progress_need_mean <dbl>, progress_need_sd <dbl>
```

Variable Setup

Intake Difference Variable Setup