

Baseline Characteristics Associated with Completion of a Cognitive Behavioral Intervention for Loneliness Among Opioid-Using Adults

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Introduction

Background

- Rates of loneliness are high among individuals using opioids¹ and is a potential point of intervention
- Premature termination of therapeutic interventions has been associated with poor clinical outcomes²⁻³
- Identifying participant factors that increase the risk for premature termination can help align clients with the most appropriate treatments

Aims of Current Study

- To identify baseline factors that best predict study completion among individuals with opioid use disorders (OUD) participating in a study addressing loneliness

Method

Study sample (N = 124)

- Participants were nationally recruited to address loneliness and OUD using Cognitive Behavioral Therapy for Loneliness.
- Participants were randomized to either CBT for Loneliness or Health Education
- Inclusion: must be ages 18+, understand English, have internet access, screen positive for an active OUD on the OUD Module of the Structured Clinical Interview for DSM-5 Research Version (SCID-5-RV), and screen positive for loneliness (at least a T-score > 60 on the NIH Toolbox Loneliness Scale).

Dependent Variable: Intervention Completion

Week	Treatment	Control
Week 1	Psychoeducation	Stress Management
Week 2	Cognitive Restructuring	Healthy Eating
Week 3	Cognitive Restructuring	Exercise and Weight Management
Week 4	Behavioral Activation	Smoking & Alcohol Consumption
Week 5	Behavioral Activation	Sleep Hygiene
Week 6	Termination	Maintaining a Healthy Lifestyle

- Intervention completion
 - Completion of 4+ sessions
 - 1 cognitive restructuring and 1 behavioral activation

Independent Variables (27)

- Demographics
- UCLA Loneliness Scale – subjective feelings of loneliness and social isolation
- Duke Social Support Index – subjective social and instrumental support
- Opioid Risk Behavior Scale – Frequency of risky opioid use behaviors (solitary use, injection history, etc.)
- Penn Craving Scale – Craving to use substances over the past week
- Inventory of Drug Use Consequences – inventory of lifetime physical, social, and psychological consequences of substance use
- PROMIS Measures
- Variety of substance use (e.g., use over past 60 days, NIDA opiate risk)

Data Analysis

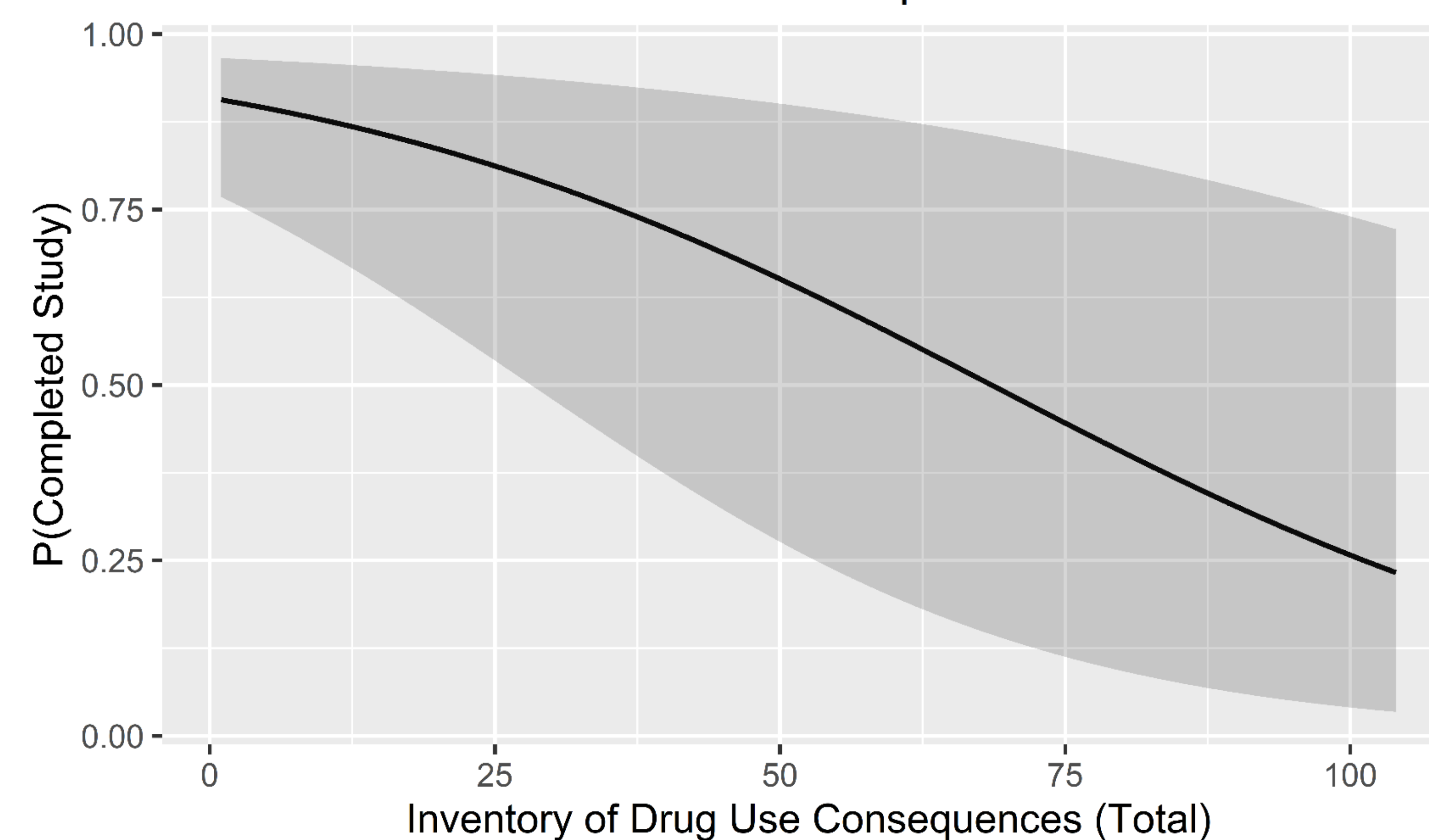
- Logistic regression: Machine learning framework
- Aim 1: Covariate reduction – identify a subset of variables most relevant to study completion
- Aim 2: Classification
 - Training set (70%), testing set (30%)

Results

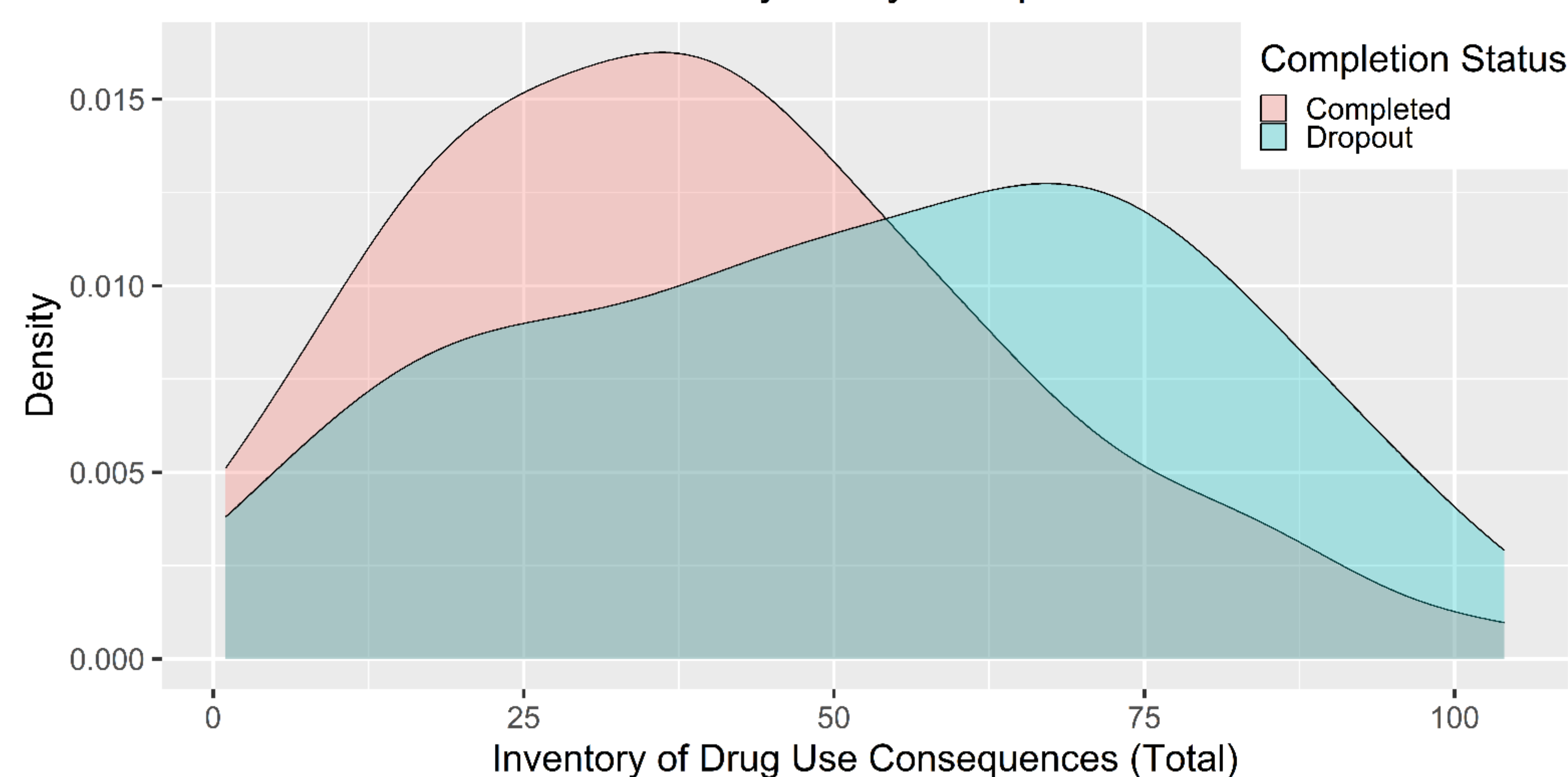
Optimized Predictors of Study Completion

Variable	B (SE)	p-value
Inventory of Drug Use Consequences	-0.03 (0.01)	.001
PROMIS Depression	-0.12 (0.06)	.057
PROMIS Fatigue	0.13 (0.07)	.060
% of last 60 days abstinent from substances	-16.11 (12.67)	.204
% of last 60 days using illicit substances	17.34 (12.79)	.175
% of last 60 days abstinent from opioids	18.05 (12.73)	.156
% of last 60 days using illicit opioids	-20.29 (12.87)	.115
Race (white = 1, nonwhite = 0)	-0.87 (0.47)	.063
Education (college or more = 1, hs or less = 0)	0.63 (0.45)	.158

Probability of Completing the Intervention as a Function of Perceived Consequences of Substance Use

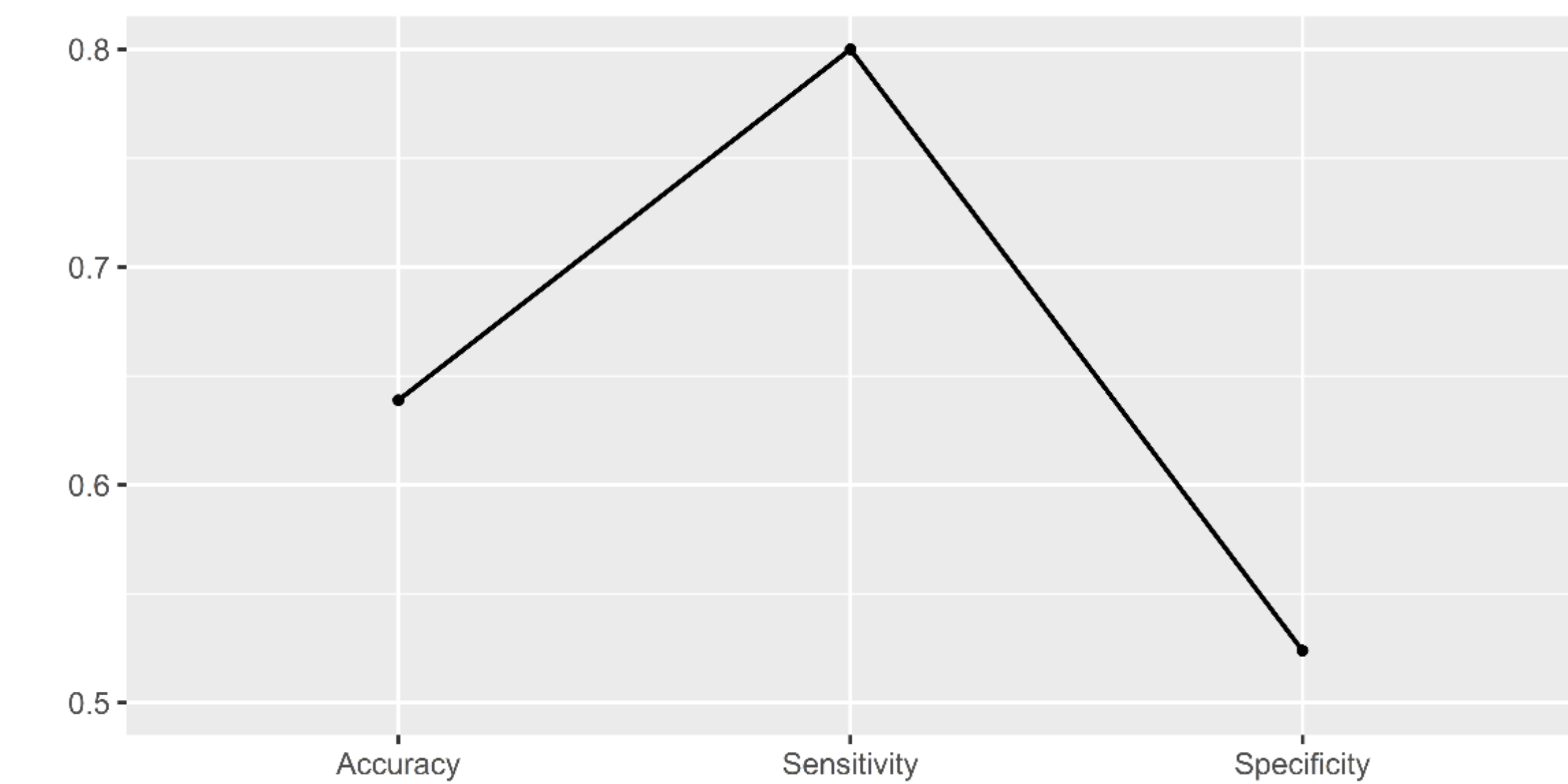


Distribution of Inventory of Drug Use Consequences Scores by Study Completion



Results

Sensitivity, Specificity, and Accuracy of Model



Confusion Matrix

N = 36	Observed	
	Dropout	Completed
Predicted		
Dropout	11	10
Completed	3	12

Discussion & Conclusions

- Participants reporting greater physical, social, and psychological consequences of their substance use were less likely to complete the intervention
- Inventory of Drug Use Consequences scores have been positively correlated with the frequency and severity of substance use⁴
- Greater consequences of substance use may also be associated with less hopefulness that things can change
- More intensive interventions than 6-session telehealth interventions to engage individuals with greater severity may be needed
- The model did better at classifying completers
 - Many factors are related to dropout
- Condition was unrelated to dropout – participants tolerated the treatment as well as participants in the control condition
- Baseline loneliness was also unrelated to dropout
 - Telephone based intervention may have been more accessible for this sample

Limitations & future directions

- Sample size – ideally we would have had at least several hundred
- Future directions include testing baseline predictors of who responds to treatment

References

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