Openness to (Psychedelic) Experience

A Flatiron Phase 3 Project by Jordan Loewen-Colón

Today's Agenda

Business Problem

Goals

Data

Models & Results

Summary and Recommendations

The Problem

The MindSpectrum Research Institute needs participants for its next study and wants a smaller, more reliable group of participants who are genuinely likely to experiment with psychedelics, rather than a larger group with unpredictable inclinations.

Primary Goals

Develop
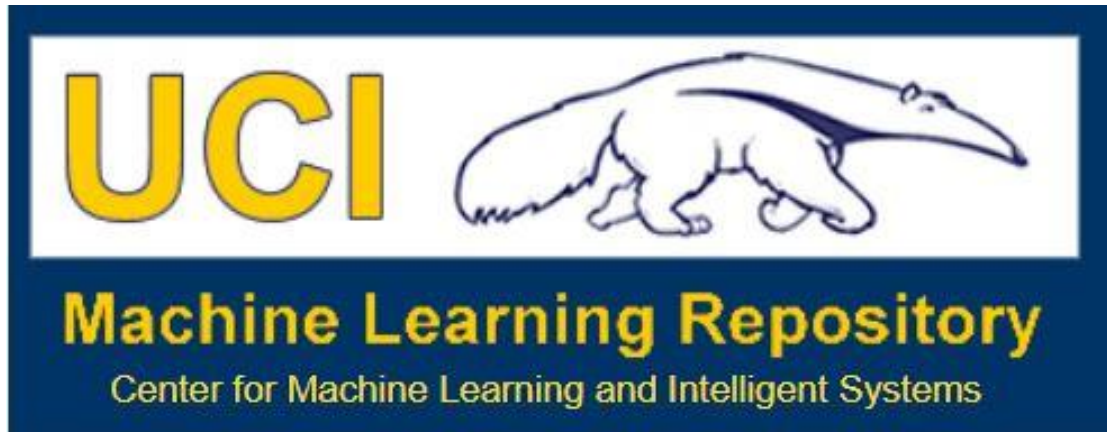A predictive model that targets psychedelic use using personality traits.

Aim
Minimize false positives in identifying potential trial participants.

Focus
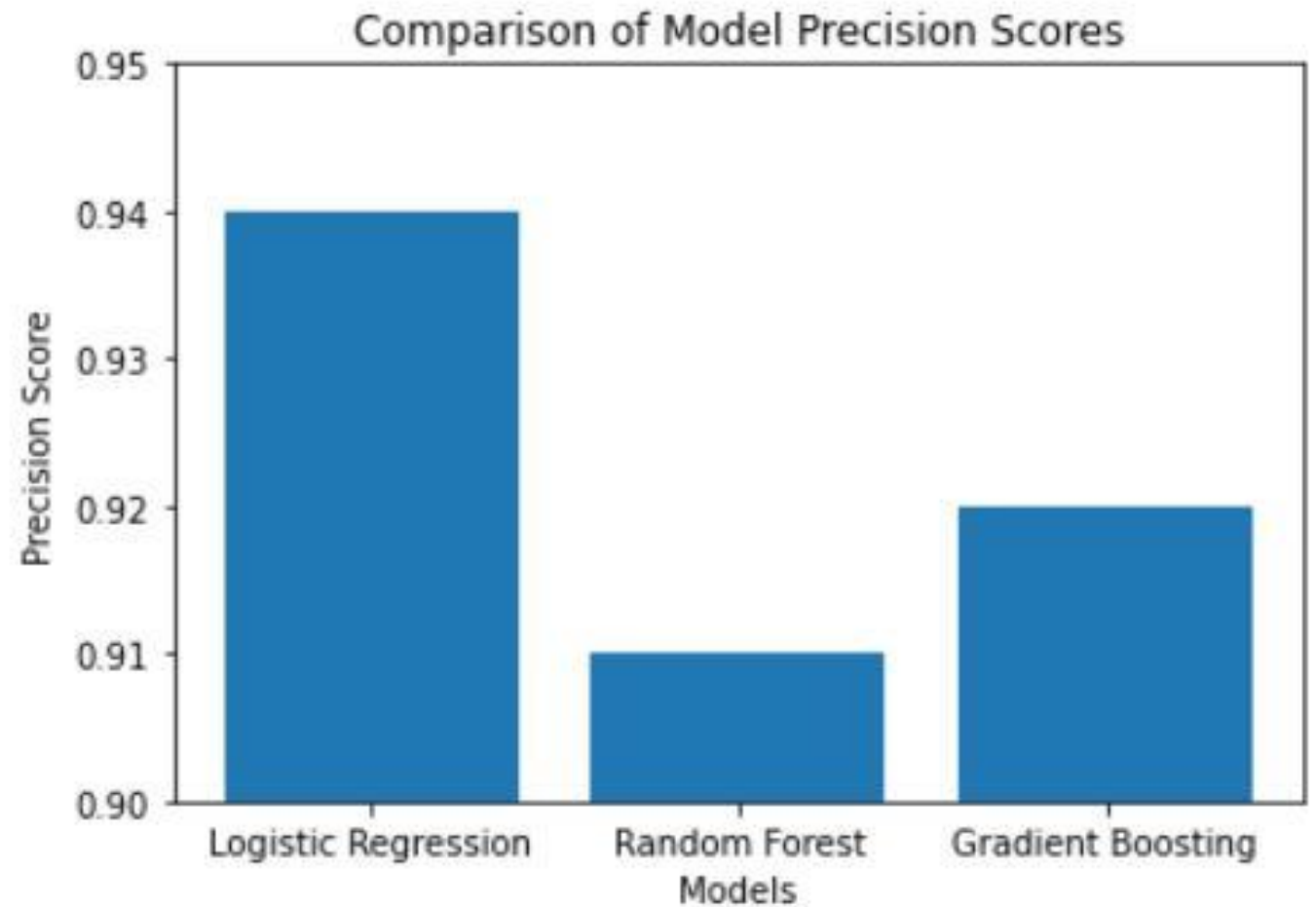'Precision' as the key performance indicator for our models.

The Data

- 1884 entries and 31 columns.

- Personality scores measured on a Likert-based scale ranging from 0 to 4 and then rendered as a float.

- The demographics have various sub-categories.

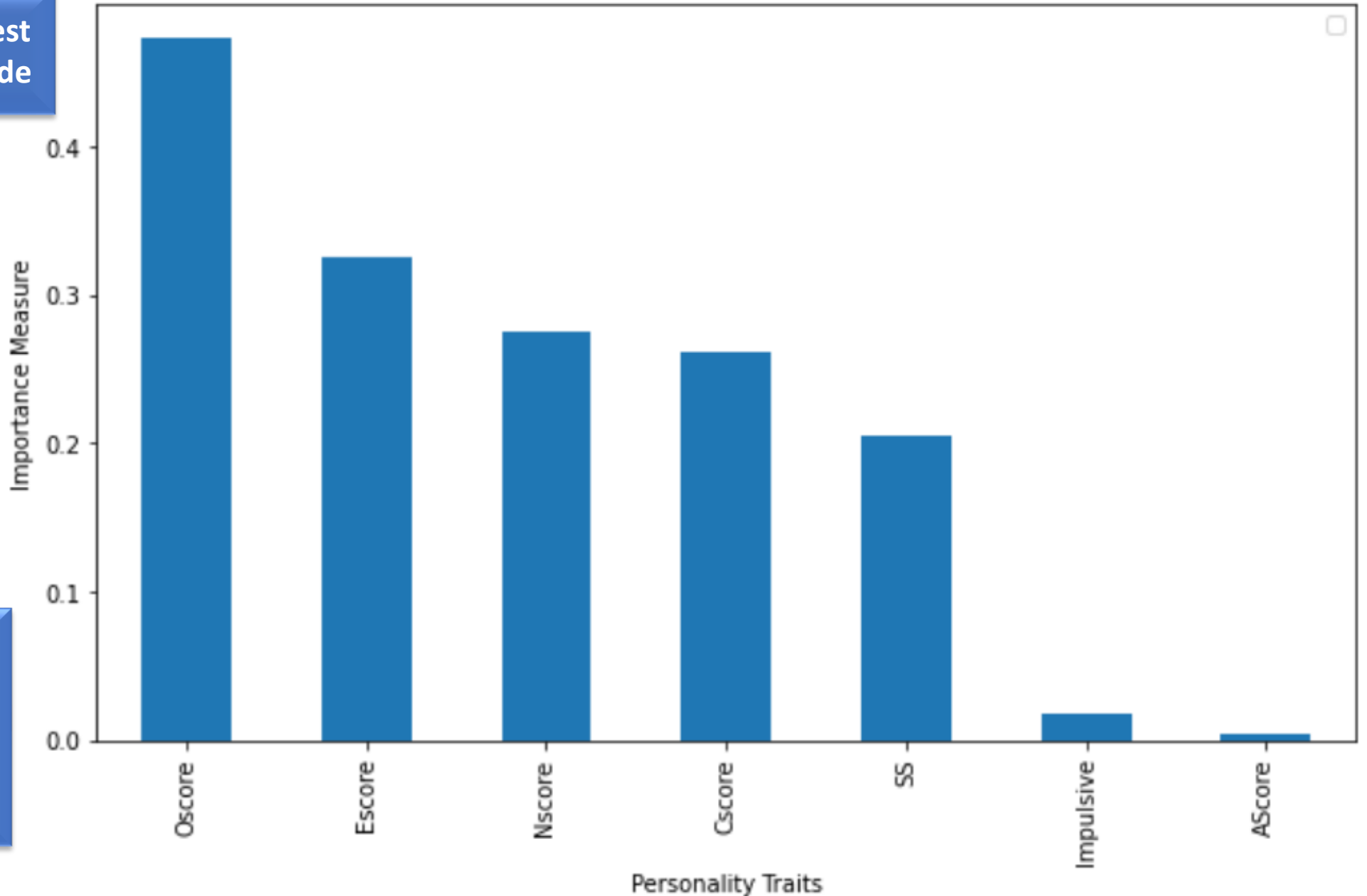- Drug values measured by recency (if ever) that the substance has been consumed.

Results

The logistic regression had the highest precision
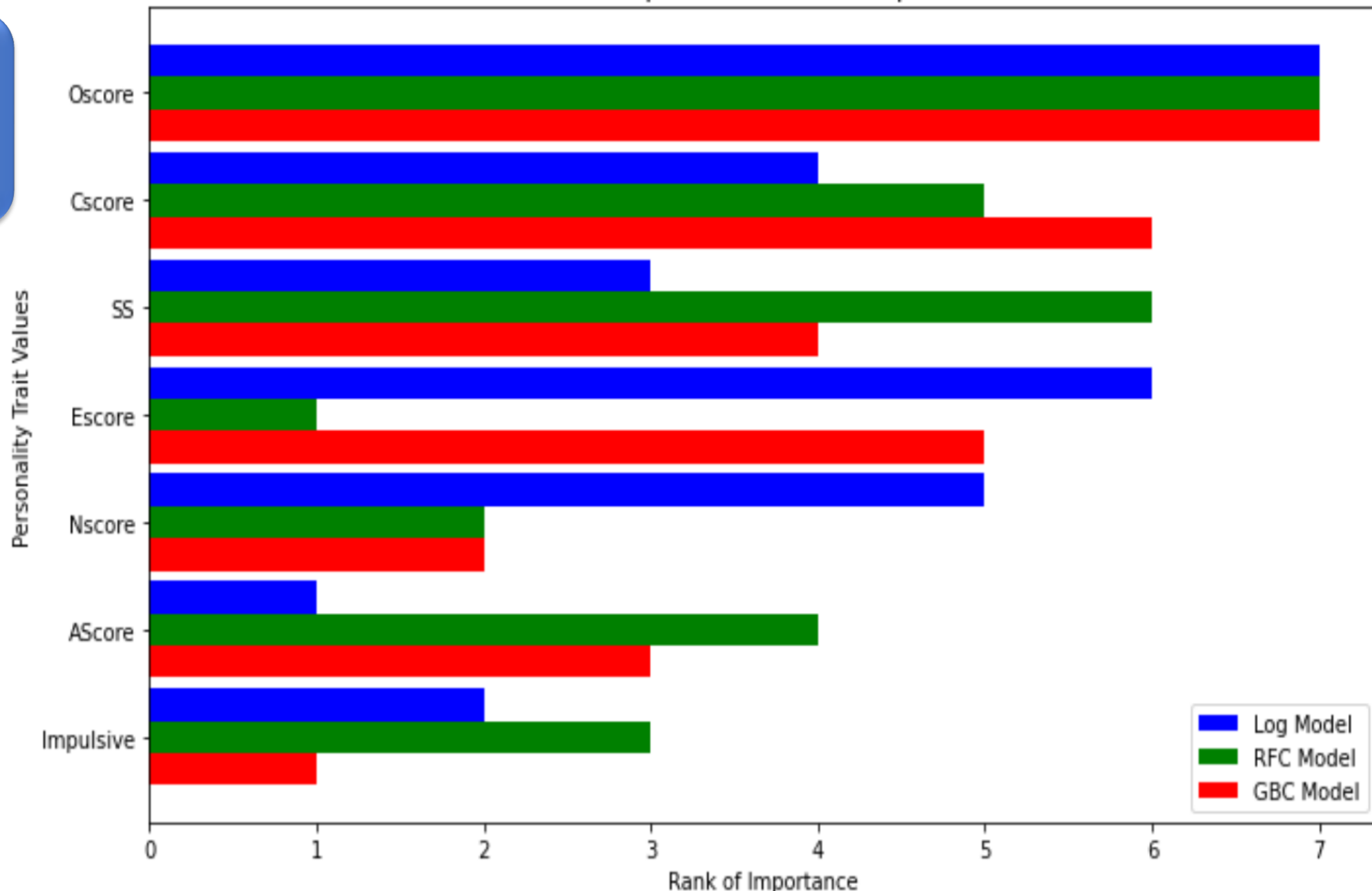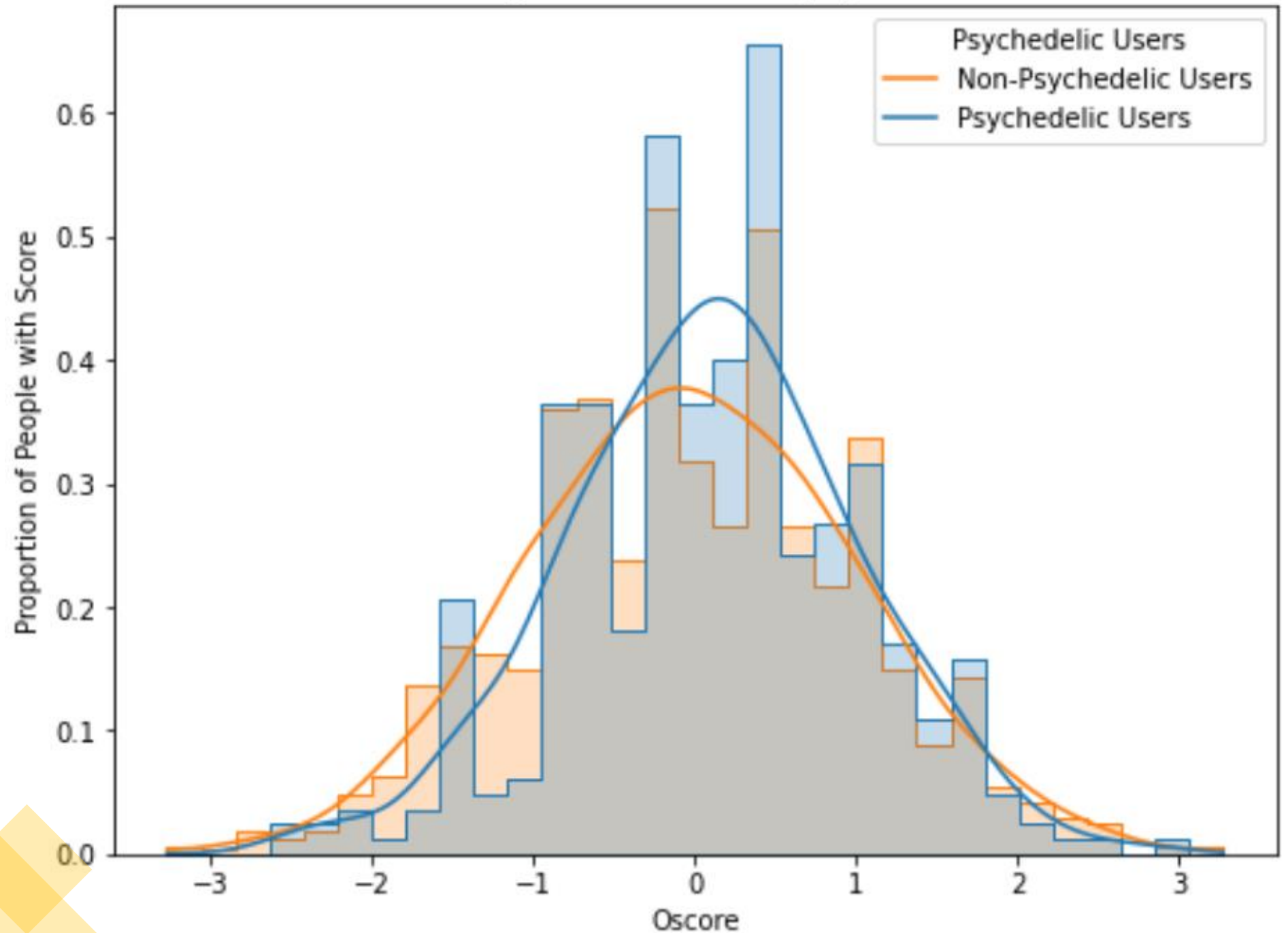
Feature Importances for the Logistic Regression

Rank Comparison of Feature Importance

All three models agreed the **Oscore was the most important** personality factor

Oscores of Psychedelic and Nonpsychedelic Users

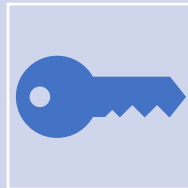Psychedelic users are more likely to have a higher Oscore than non psychedelic users

Oscore does not appear until rank 29

FEATURE	COEFFICIENT	RANK
Legal Highs (Never Used)	1.79	1
Nicotine (Never Used)	1.59	2
Amyl Nitrites (Never Used)	1.54	3
Cocaine (Never Used)	1.37	4
Amphetamines (Never Used)	1.34	5

Summary

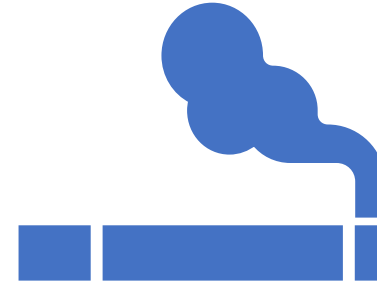Above 90% precision rate among all three models is great!

Oscore is a key factor, but not sufficient

Recommendations

#1 **Incorporate the assessment of Oscore** into the screening process to further refine the selection of potential participants.

#2 **Target higher Oscores** and individuals who have never having taken legal highs, nicotine, or amyl nitrites.

Thank You

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