



Persons, Situations, and Time: Idiographic Behavior Prediction

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Background

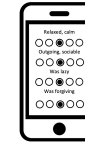
Behavior is often thought to be a function of person and situation factors. Despite this, accurate prediction of behavior has remained elusive, which we argue is due to the level of analysis (nomothetic v idiographic).

Research Questions

(1) Can we predict behavior? (2) Are there individual differences in predictability? (3) Do person or situation factors predict behavior more strongly / frequently and (4) are there individual differences in this? (5) Do some features more frequently predict behavior?

Design

4x / day,
2 weeks



N = 104 (5970 total assm)

72.82% female

Age = 19.49 (SD = 1.31)

Inclusion: >= 40 assm

Variability in training/test sets for each outcome

(Lagged) Features

- Psychological:
 - Personality: BFI-2
 - Affect (PANAS-X)
 - Situations:
 - DIAMONDS
 - Binary
 - Time (e.g., diurnal cycles)
- ## Outcomes
- Procrastination (0/1)
 - Loneliness (0/1)

Conclusions

(1) We can predict behavior at the individual level, but (2) there are individual differences in predictability. (3) Neither person nor situation features dominate but (4) there are individual differences in this. (5) No features dominate but there are also individual differences in this.

Results

3 methods:
Classification Accuracy and AUC

Elastic Net

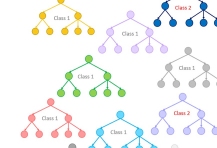


BISCWIT

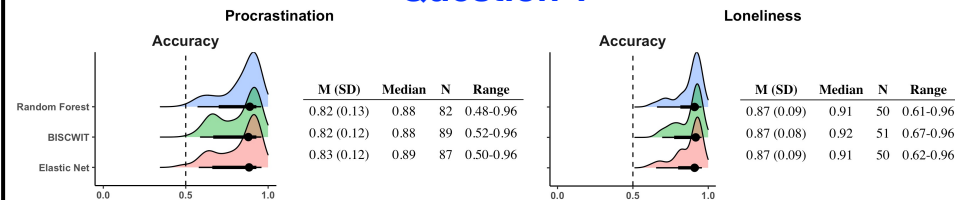
Now that takes the BISCUIT!



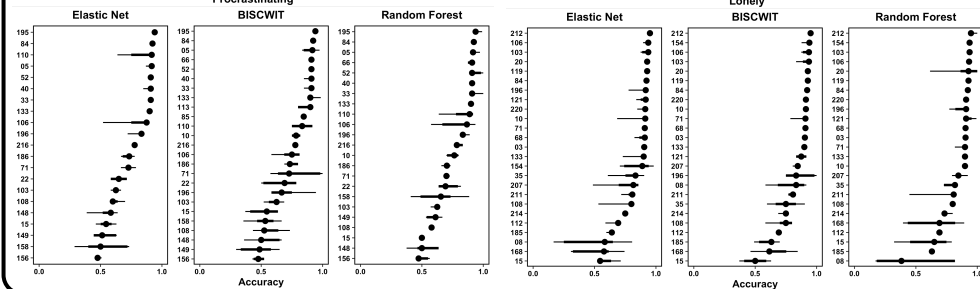
Random Forest



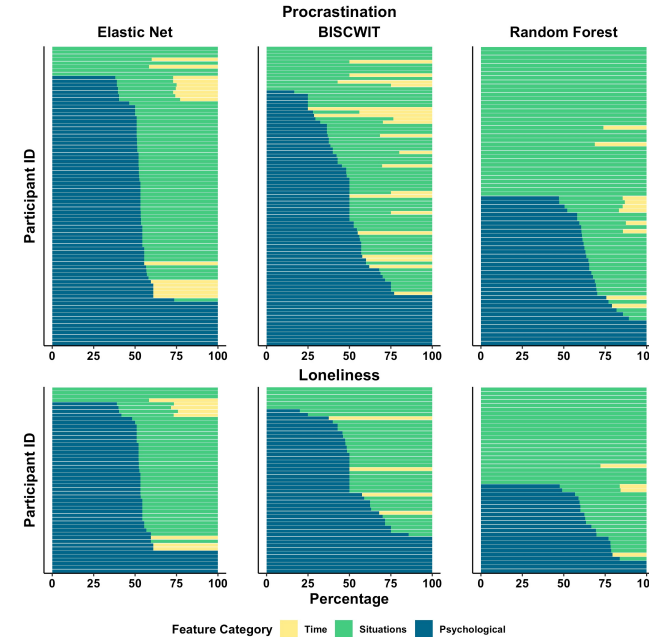
Question 1



Question 2



Questions 3-4



Preprint: <https://psyarxiv.com/syhw5/>
GitHub: <https://github.com/emoriebeck/behavior-prediction>
Shiny App: <https://emoriebeck.shinyapps.io/behavior-prediction/>
OSF: Prereg: <https://osf.io/4nm5p> Rep: <https://osf.io/8ebyx/>

Questions 5

