

# Behavior Analysis:

What it is and why it matters

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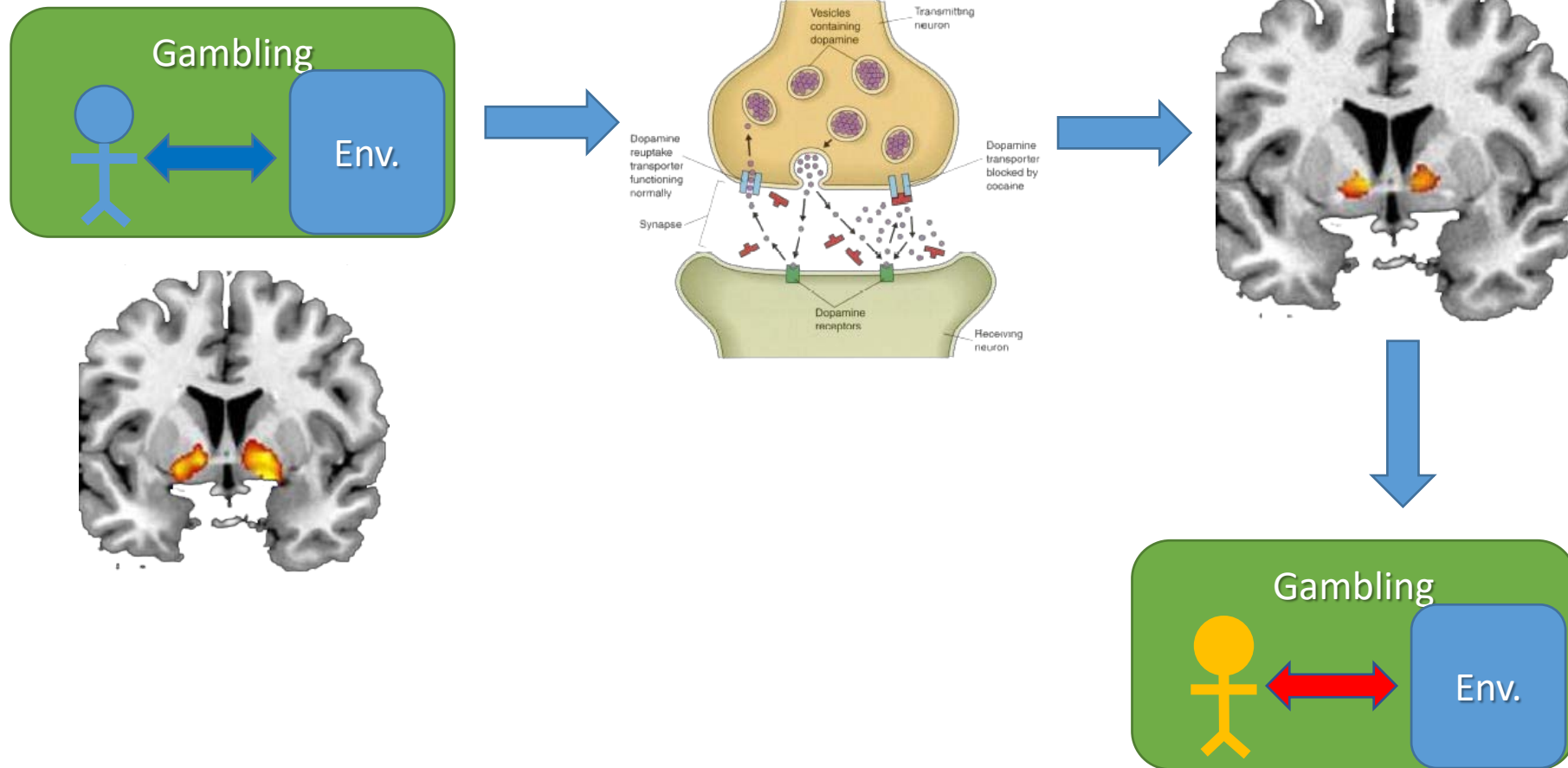
# Behavior Analysis

- Natural Science approach to human behavior
  - Knowable, observable universe
  - Naturalistic subject matter

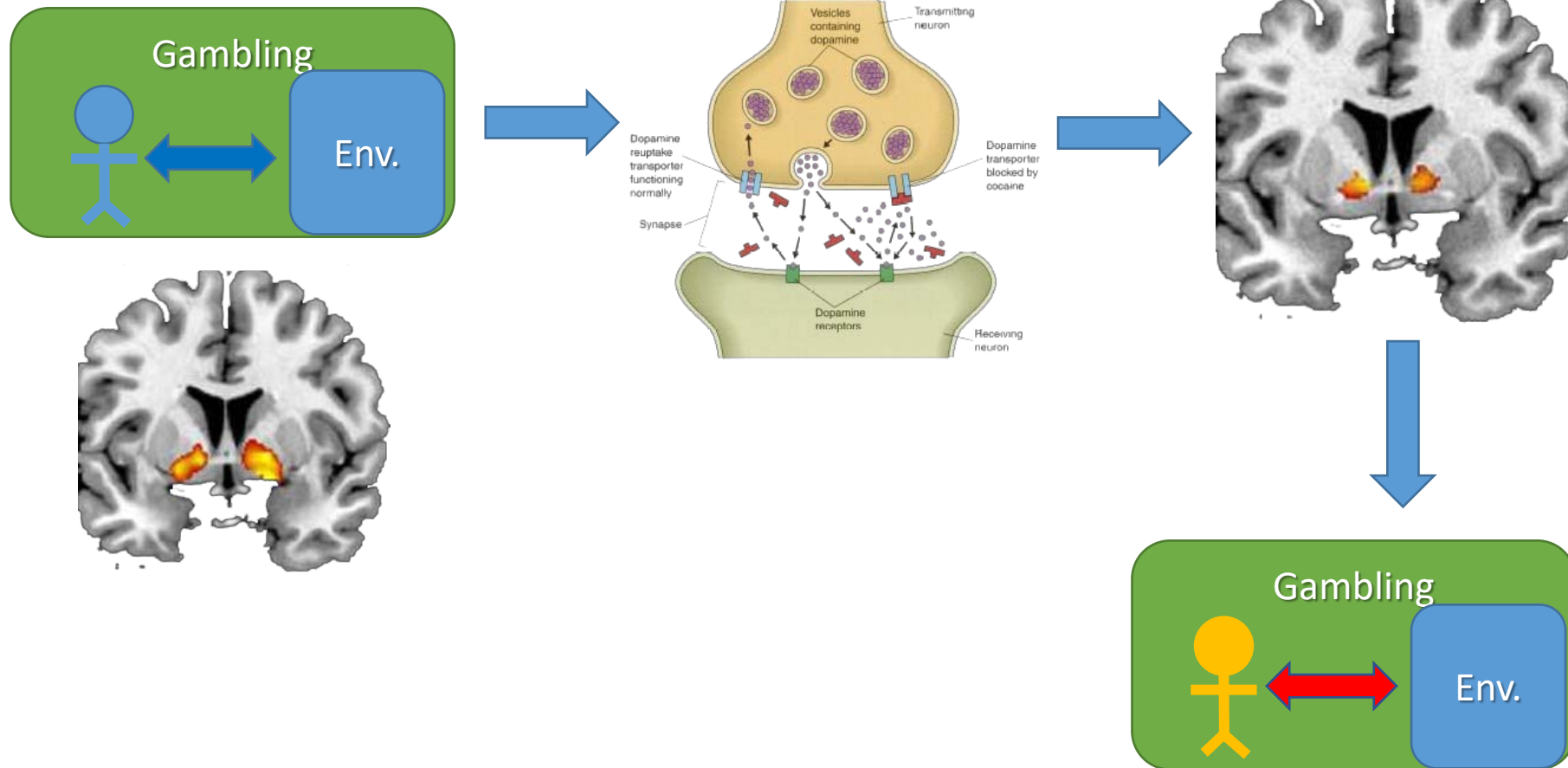
# Behavior Analysis

- Pragmatic Truth Criterion
  - What works
  - Prediction and control (influence)

# Behavior Analysis



# Behavior Analysis



# Behavior Analysis

- Pragmatic Truth Criterion (cont.)
  - Does “addiction” exist as a personality trait?
  - Does a repertoire of gambling behavior produce addiction?
  - We see a repertoire *as* addiction; they are the same thing

# Behavior Analysis

- Functional Relations
  - What causes behavior?
    - Functional relations between environment and behavior

# Behavior Analysis



What is she doing? (well... she's gambling)

More usefully, she might be:

- Filling time until her spouse gets back from the restroom so they can see Donny and Marie
- Winning money to take her friends out to lunch
- Relieving the day's stress
- Chasing the losses from last week's gambling outings



# Behavior Analysis

Examples of typical functions:

Socially-Mediated

Escape

Tangible

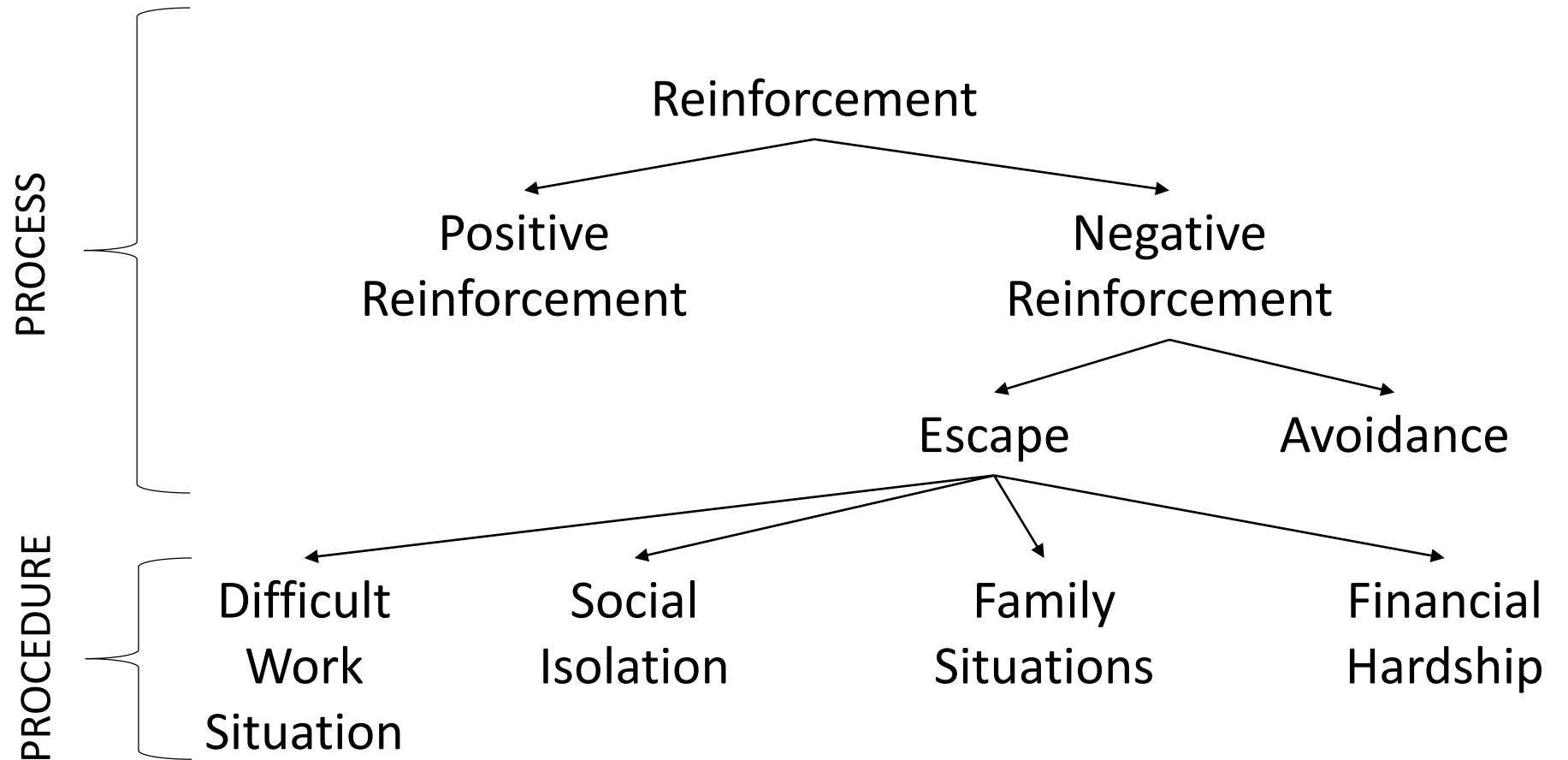
Attention

Automatic



# Behavior Analysis

- Functions of Behavior: an example with reinforcement



# Behavior Analysis

- Implications for a functional account of behavior:
  - Idiographic pursuits
  - Inductive reasoning
  - Systematic replications

# Idiographic Pursuits

- Individual behavior change either over time or within a session, rather than averaged data

# Idiographic Pursuits

- Dillen & Dixon, 2008
  - Participants played simulated slot machine
  - Guessed how likely it was next spin would win (1-10)
  - No major differences between chance of winning predicted and winning, losing, and near-miss trials

# Idiographic Pursuits

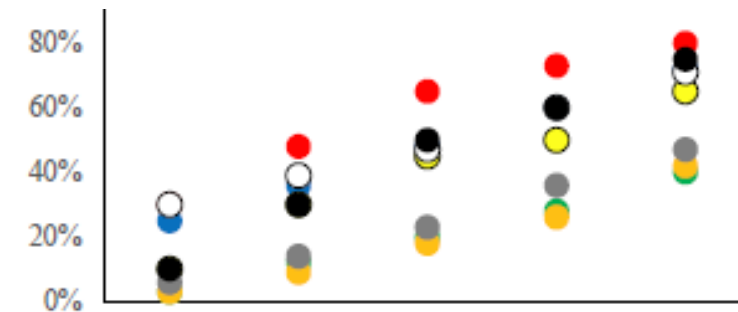
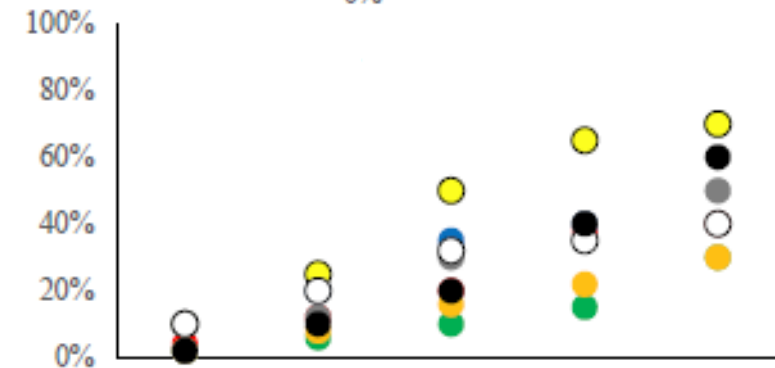
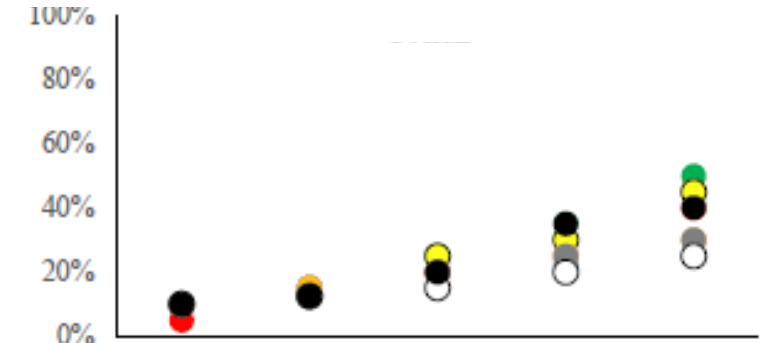
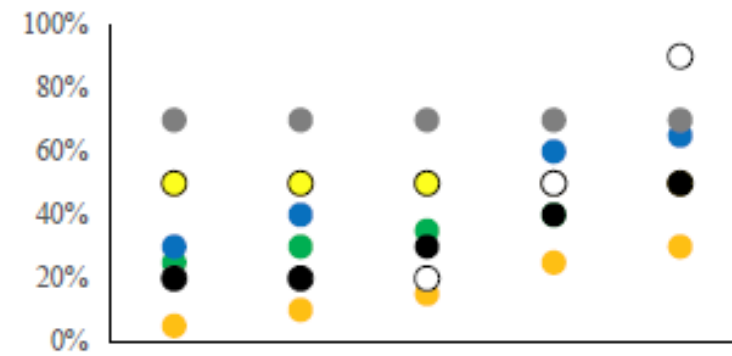
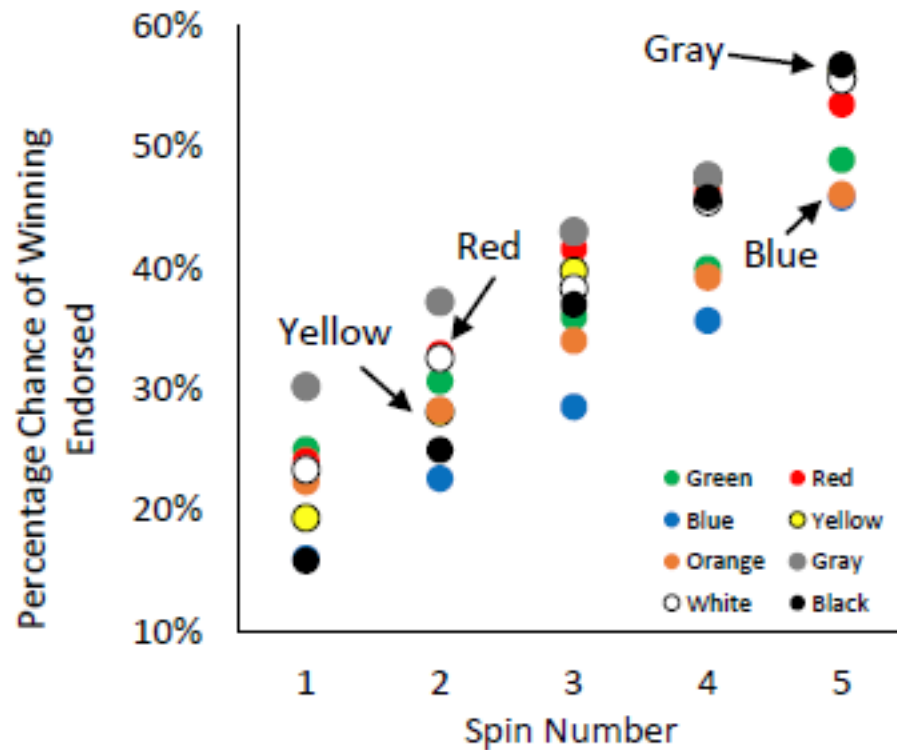
- Dillen & Dixon, 2008
  - 2 major limitations
    - Confirmatory feedback
    - Run length

# Idiographic Pursuits

- Witts, Rzeszutek, & Dahlberg (in press)
  - Videos of different spin outcomes (5 spin sequences)
  - Participants state likelihood of winning over next 5 spins
    - Removes feedback
    - Adds bout of outcomes

# Idiographic Pursuits

- Wits, Rzesutek, & Dahlberg (in press)

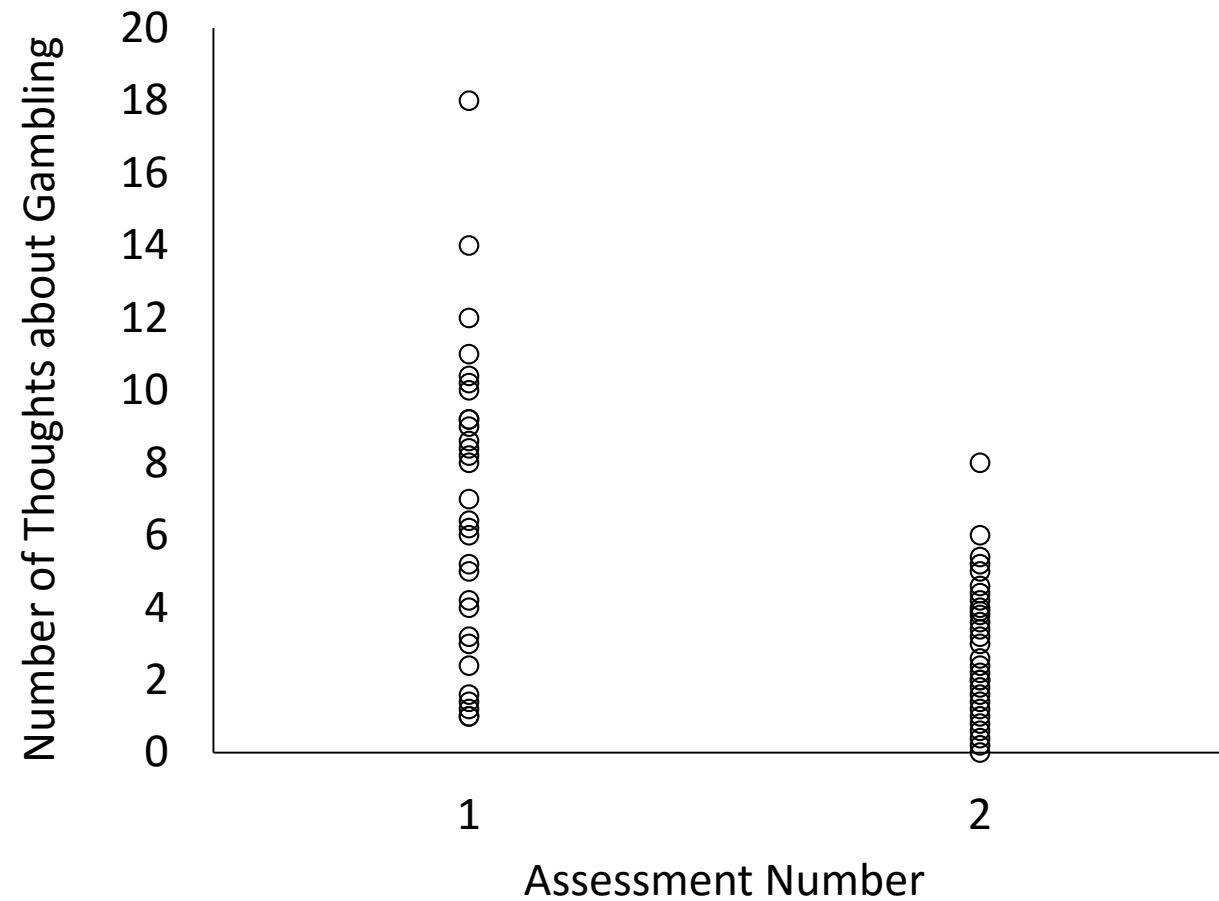




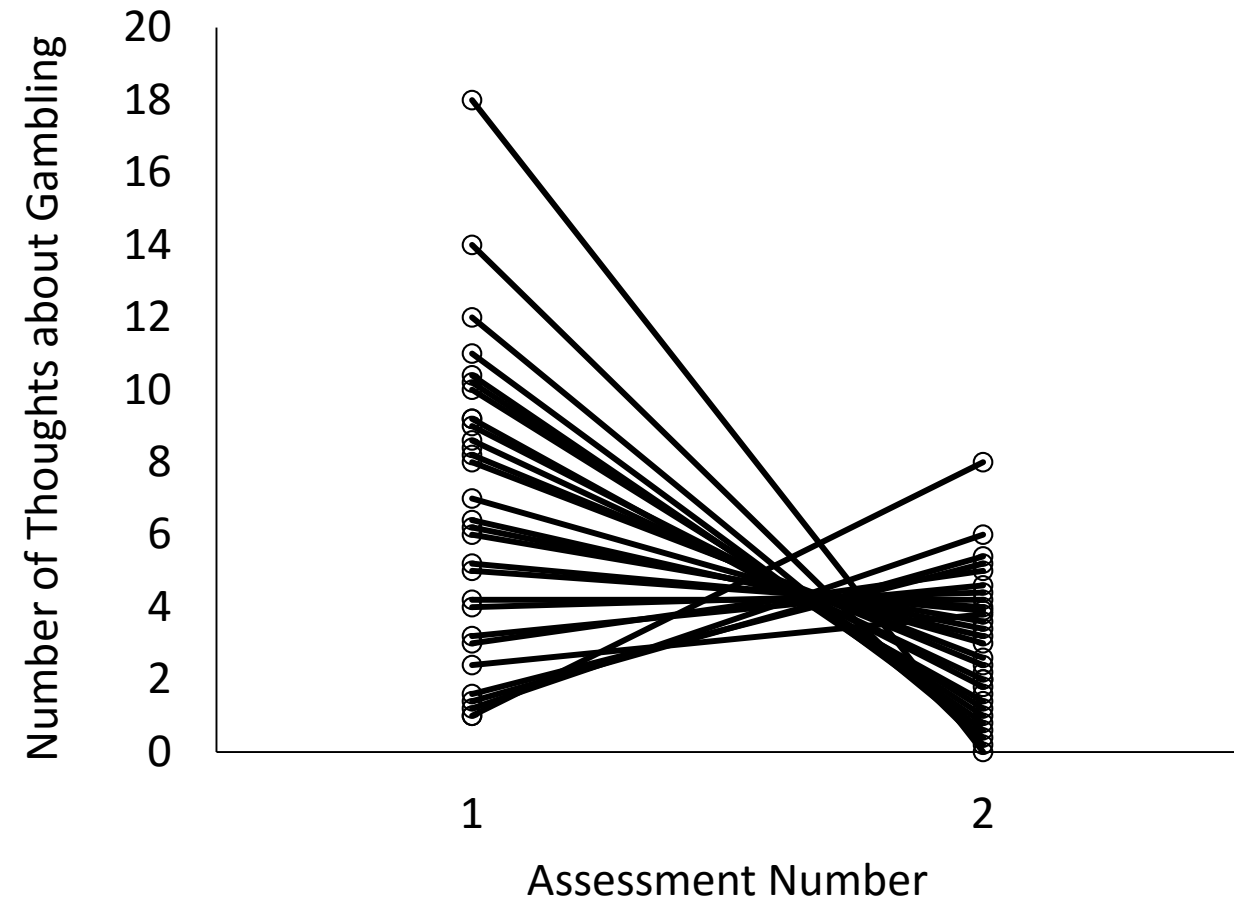
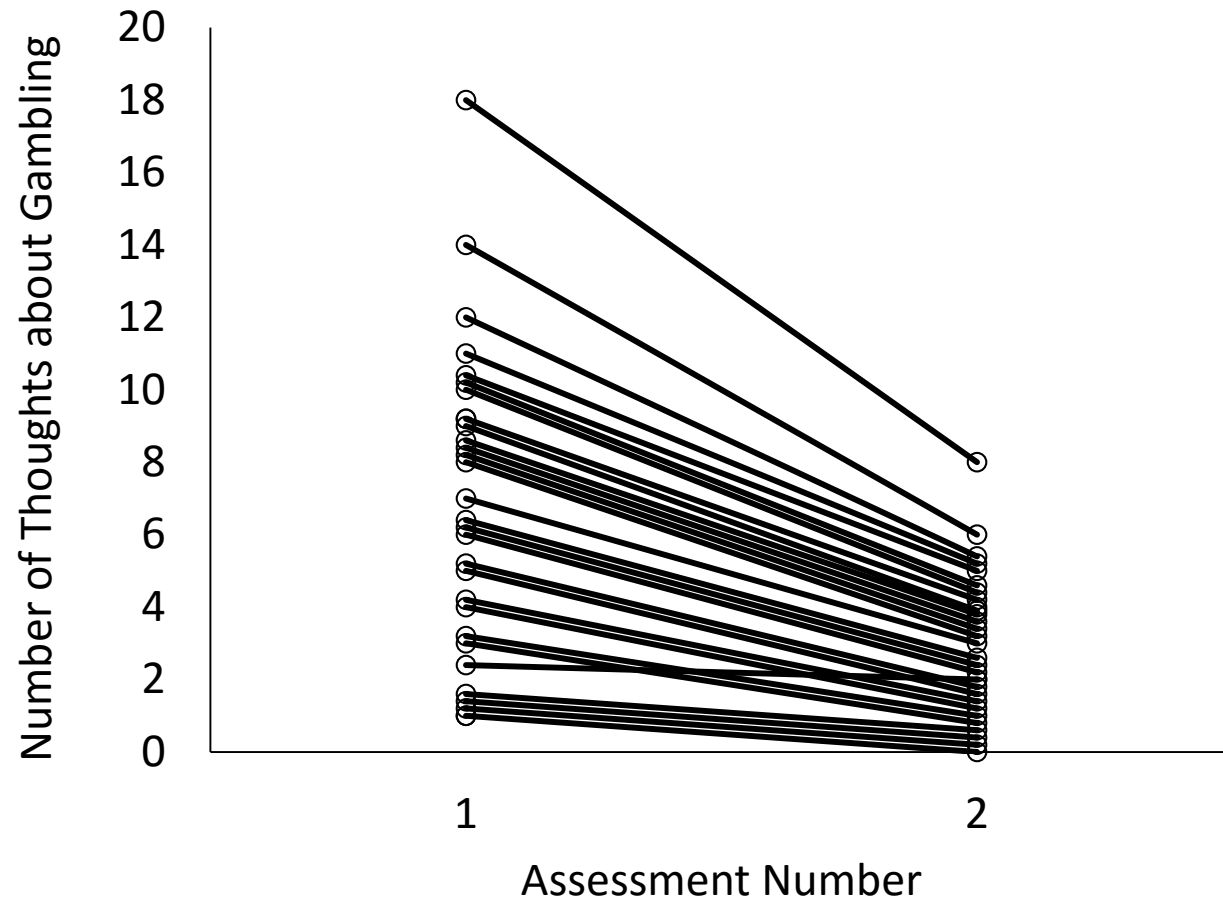
# Idiographic Pursuits

- An exemplar of idiographic vs. nomothetic data with one hypothetical data set

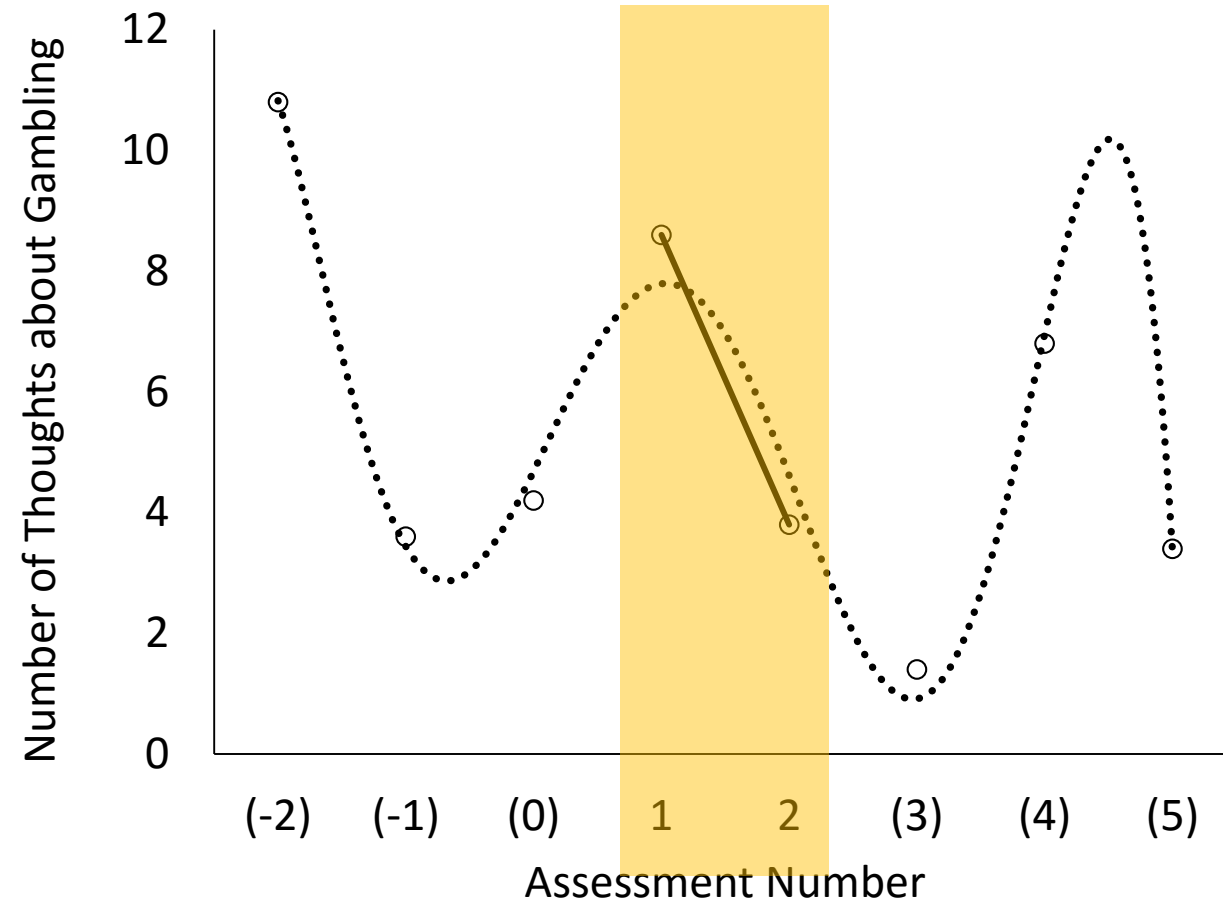
# Idiographic Pursuits



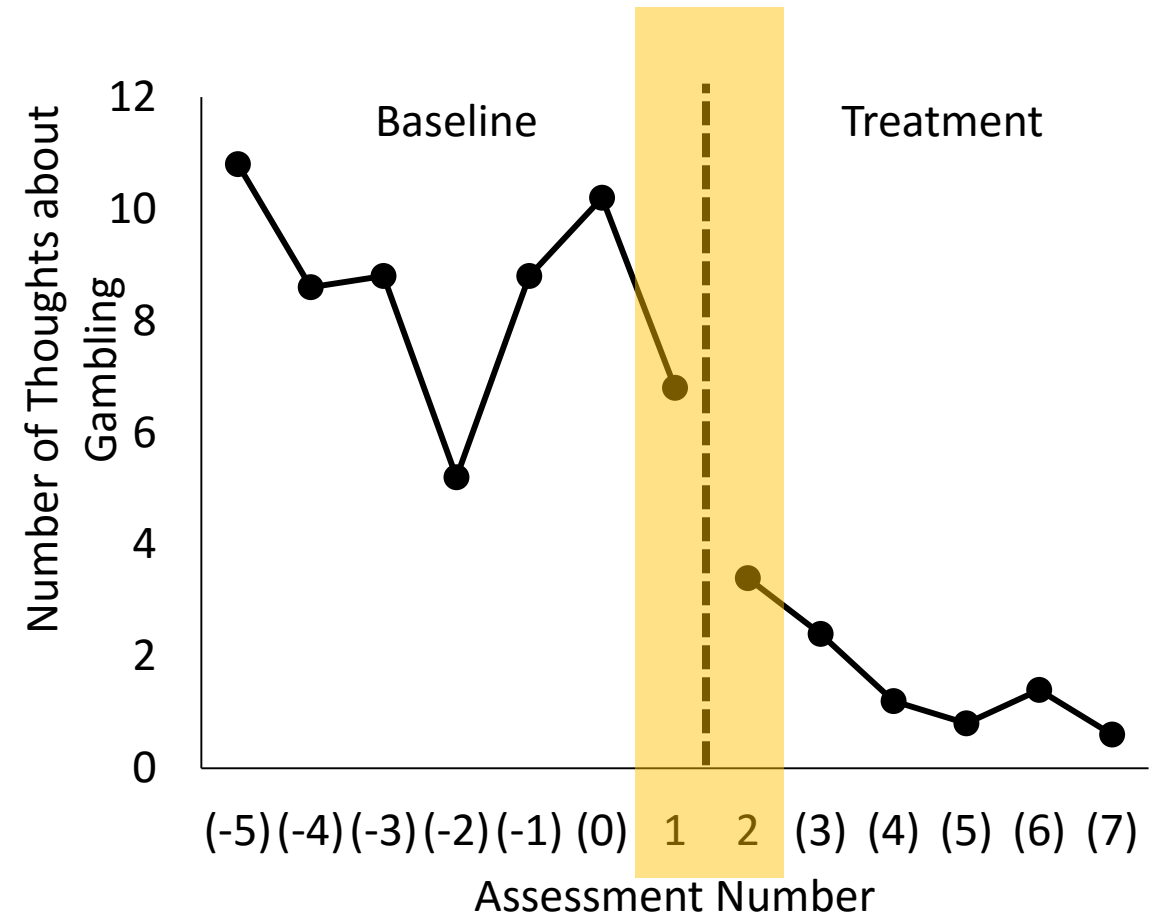
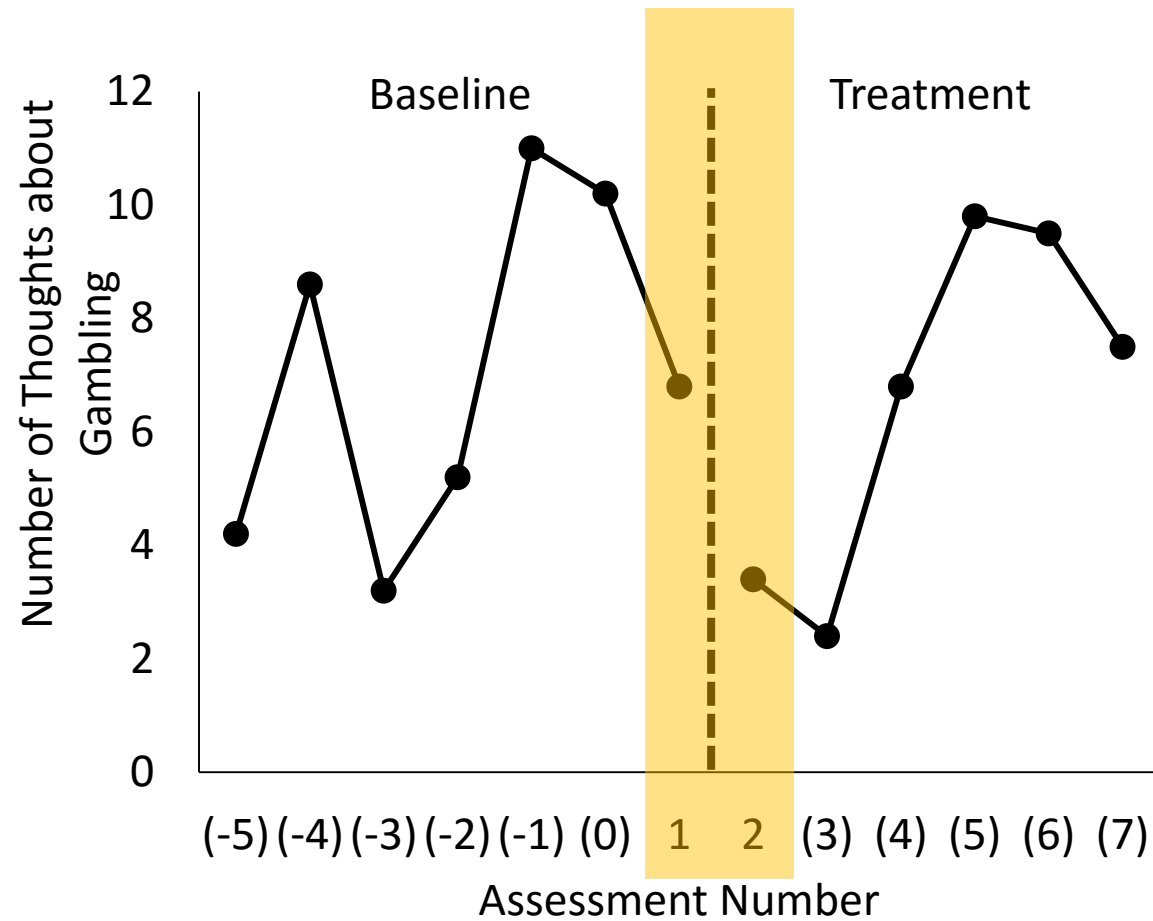
# Idiographic Pursuits



# Idiographic Pursuits

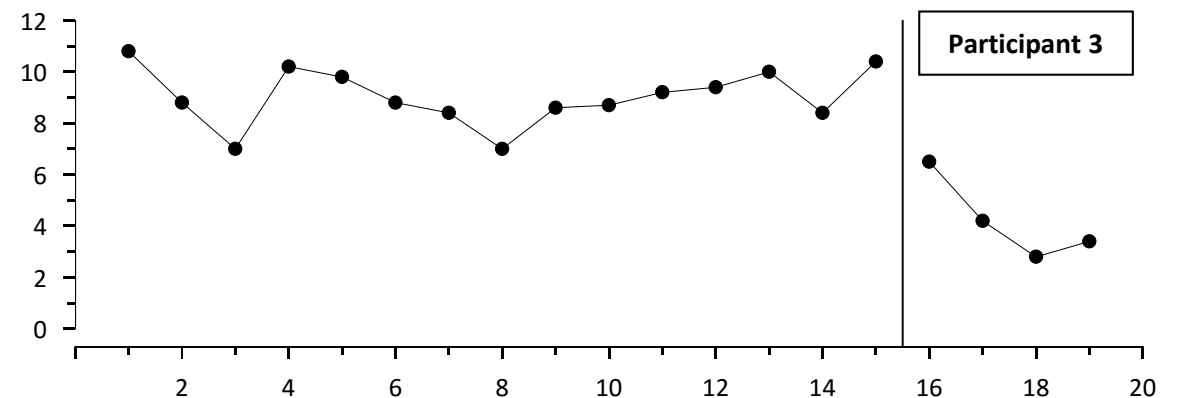
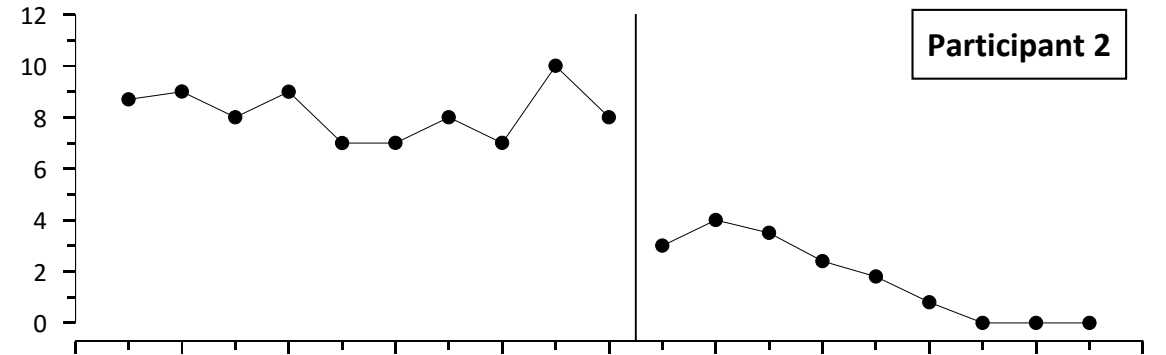
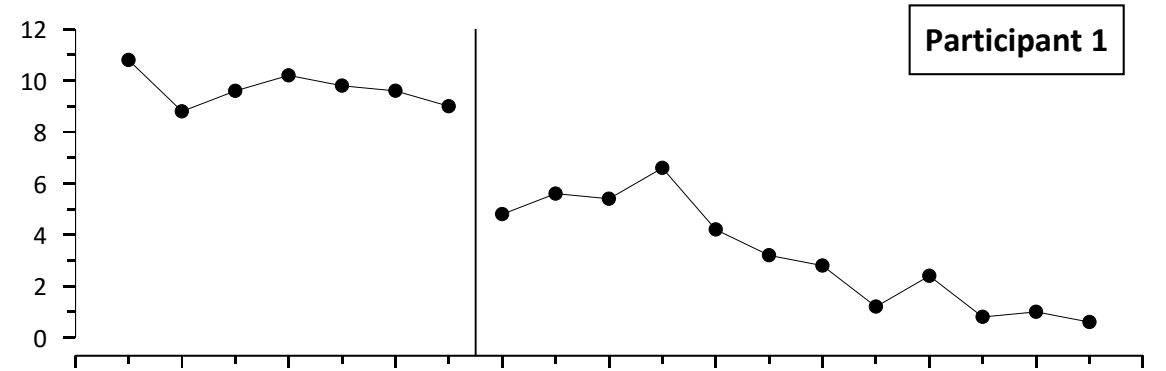


# Idiographic Pursuits



# Idiographic Pursuits

- Several approaches to individual data



# Inductive Reasoning

- Inductive reasoning
- Witts & Lyons, 2013
  - Found that action, not winnings, drove players to remain at a table
  - Provides a variable of interest for future research

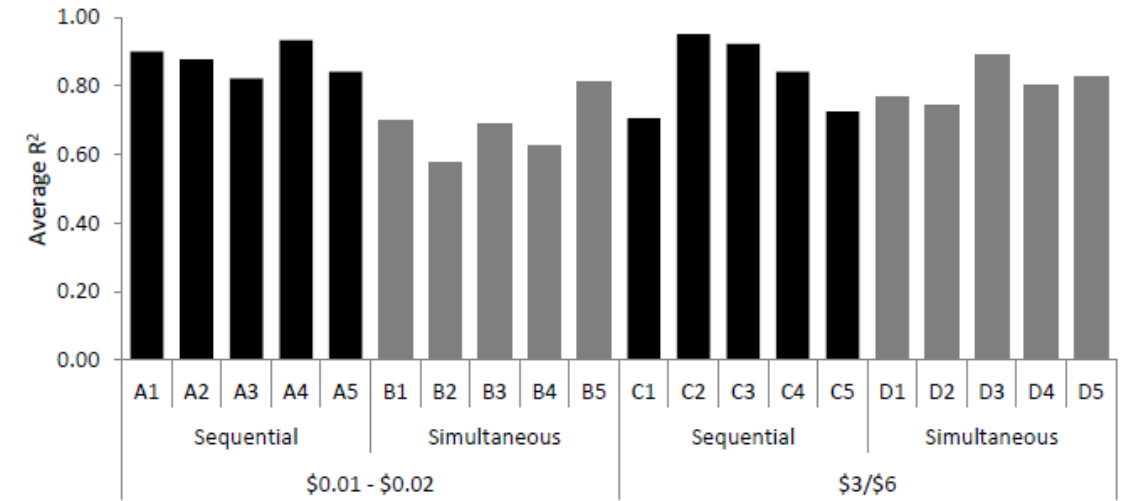


Figure 2.  $R^2$  values reported for persistence at the table by total table activity.

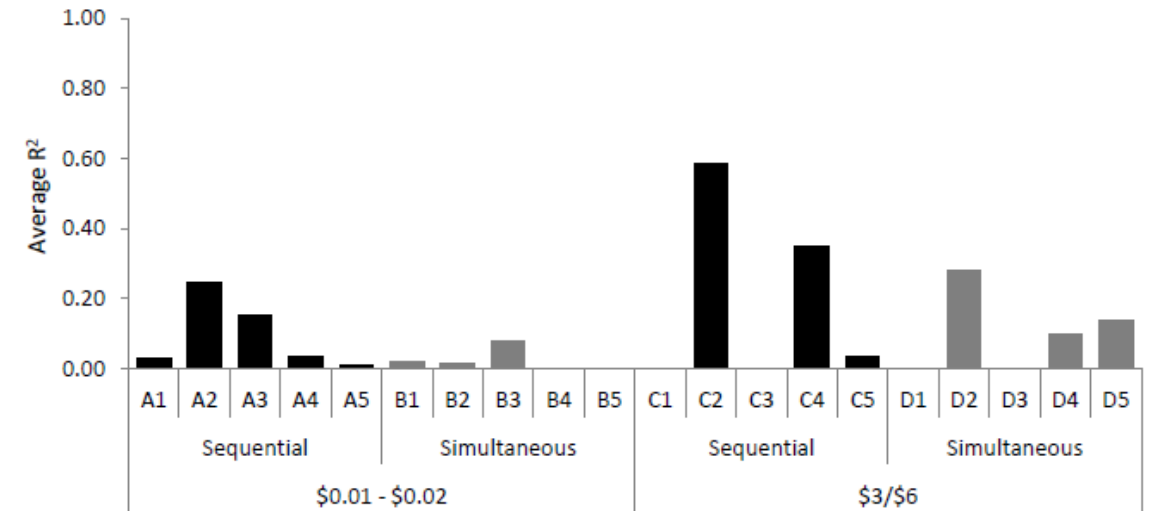
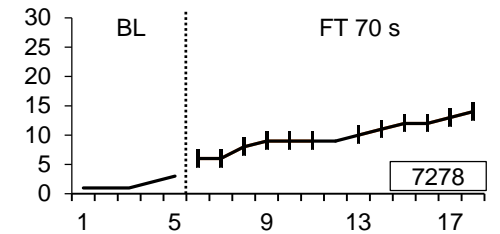
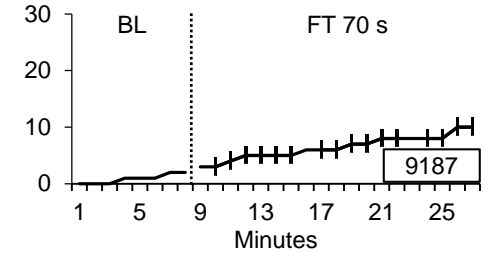
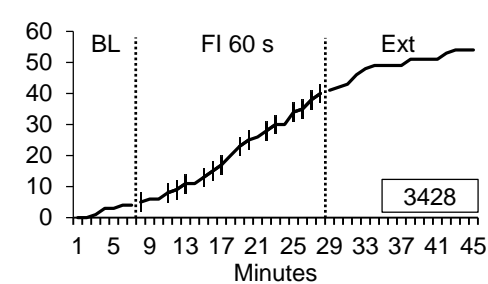
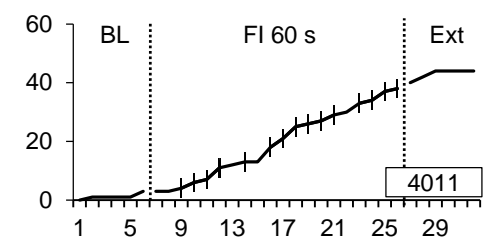
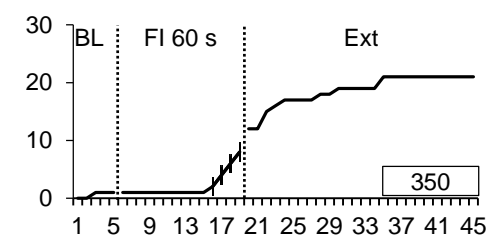
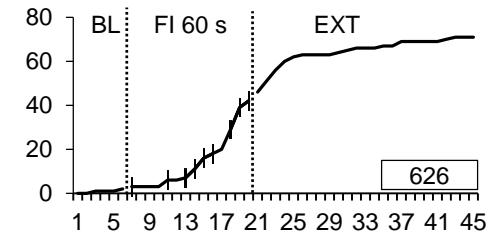
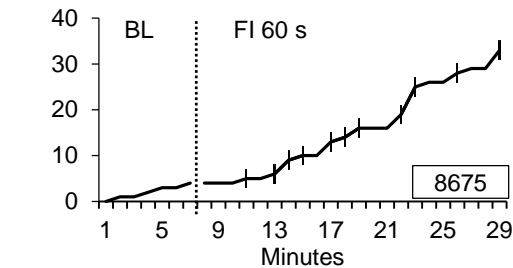
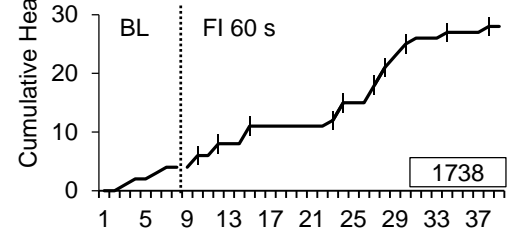
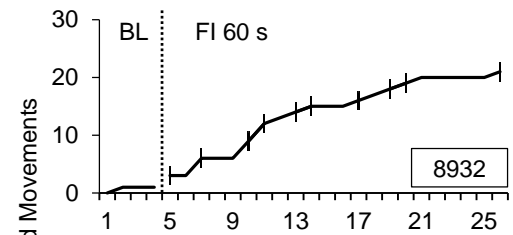
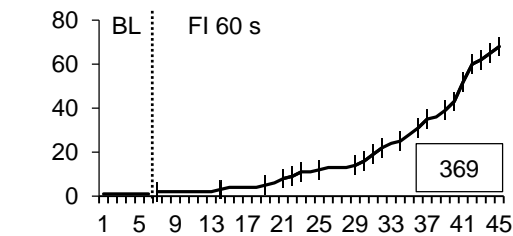
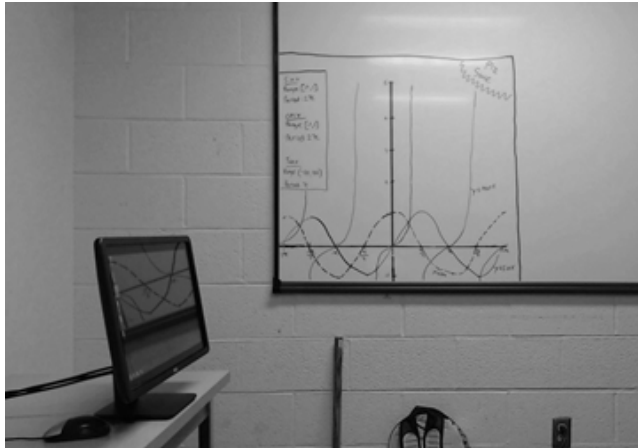


Figure 3.  $R^2$  values reported for persistence at the table by total winnings in BBs for each player.

# Systematic Replication

- Dahl & Witts





# Summary

# What is Behavior Analysis?

- A natural science of psychology
- Concerned with single cases, not averaged data
- Truth = Prediction and Control