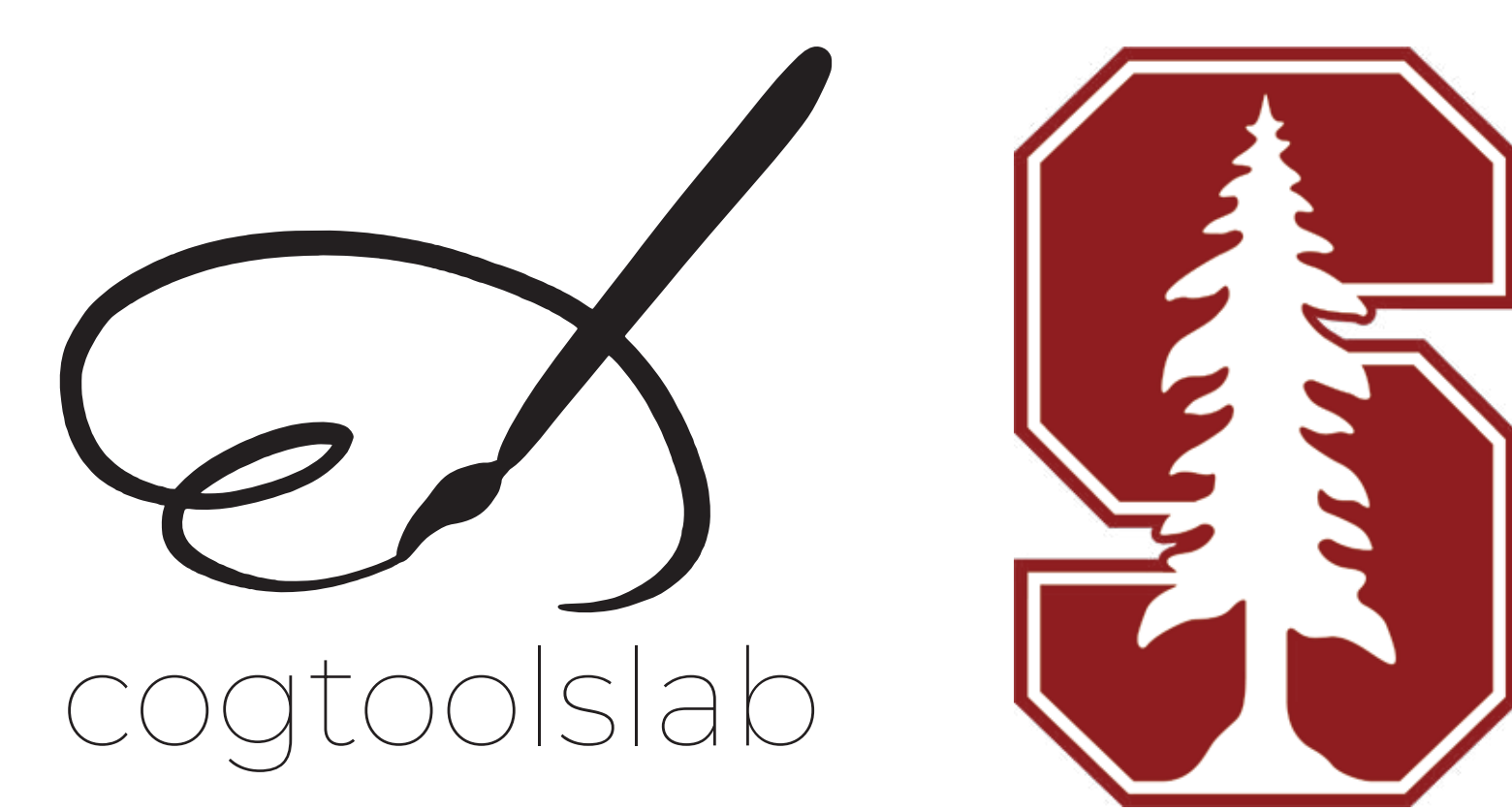


# Consequences of prior experience on visual problem solving



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We rarely face the same problem twice, but many problems are similar.

## Motivation

1. What patterns do we notice across similar problems?
2. How does that change how we approach new problems?

## Methods

**1. make shortcut**

**2. generate tangram with shortcut**

less efficient: (6 pieces) more efficient: (4 pieces)

same tangram, multiple solutions

**3. repeat (x12)**

they all share a pattern!

**4. do again with different shortcut**

**Task**

**STUDY**  
4 sec  
8 sec  
16 sec

**BUILD 0:45**

**BUILD 0:02**

training phase (12 trials)      switch phase (6 trials)

**Design**

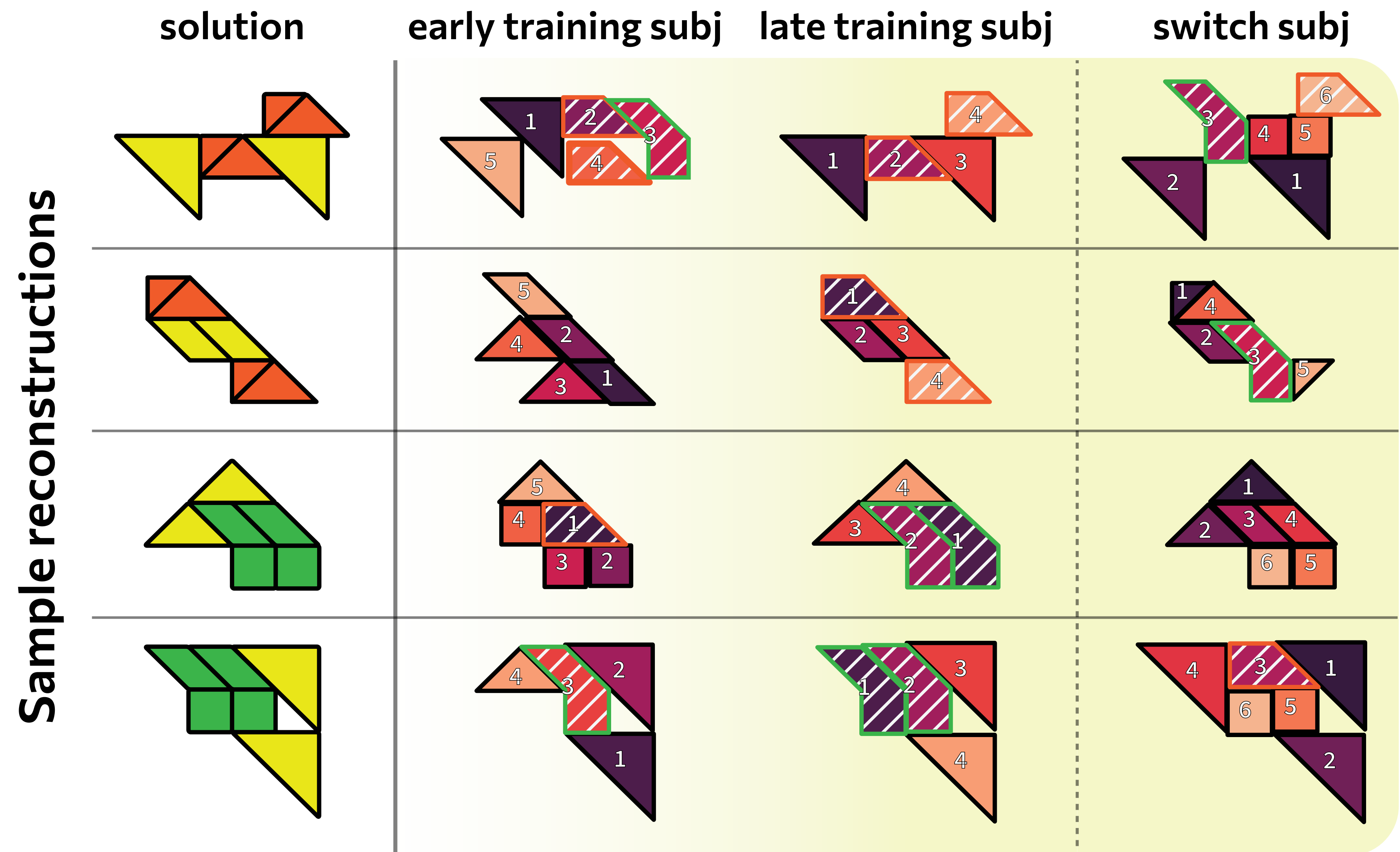
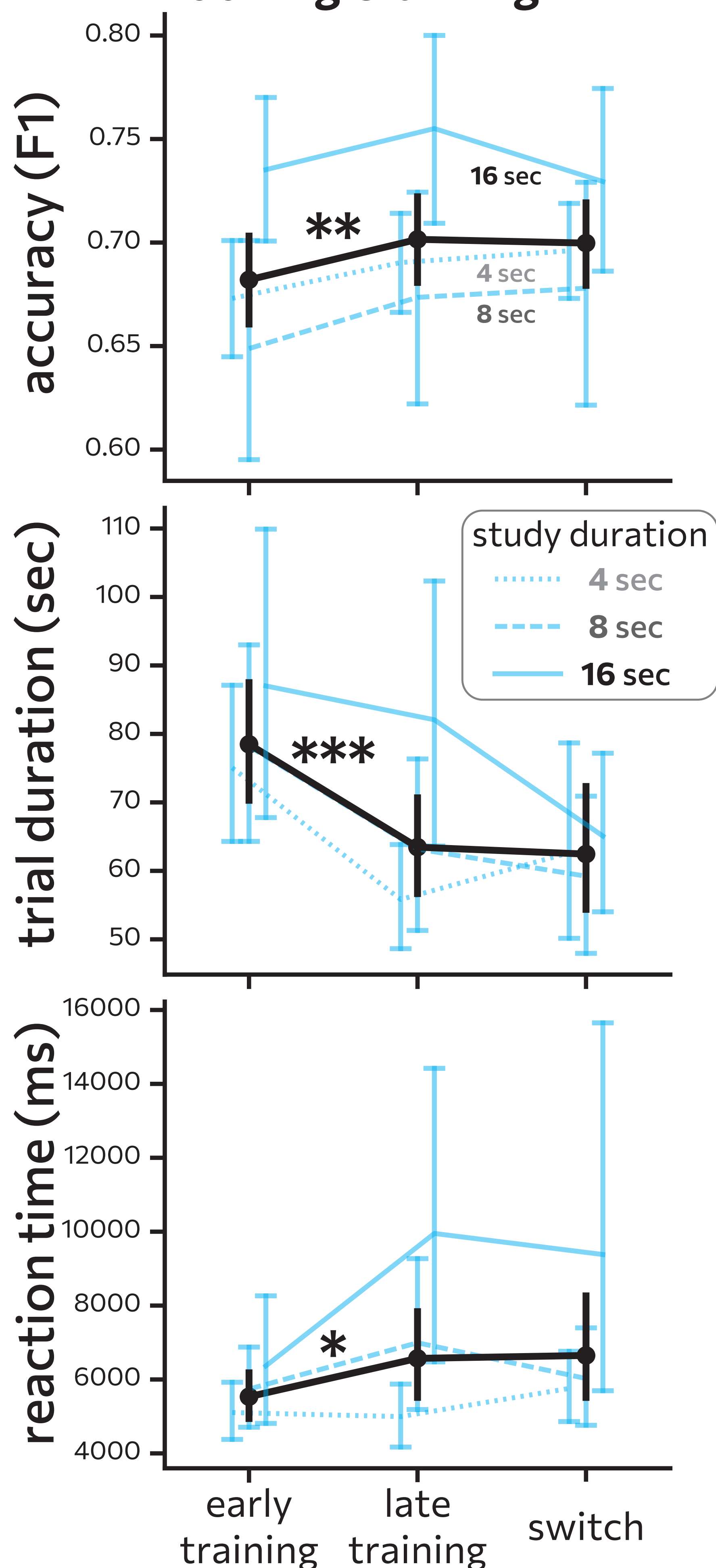
then ...

OR

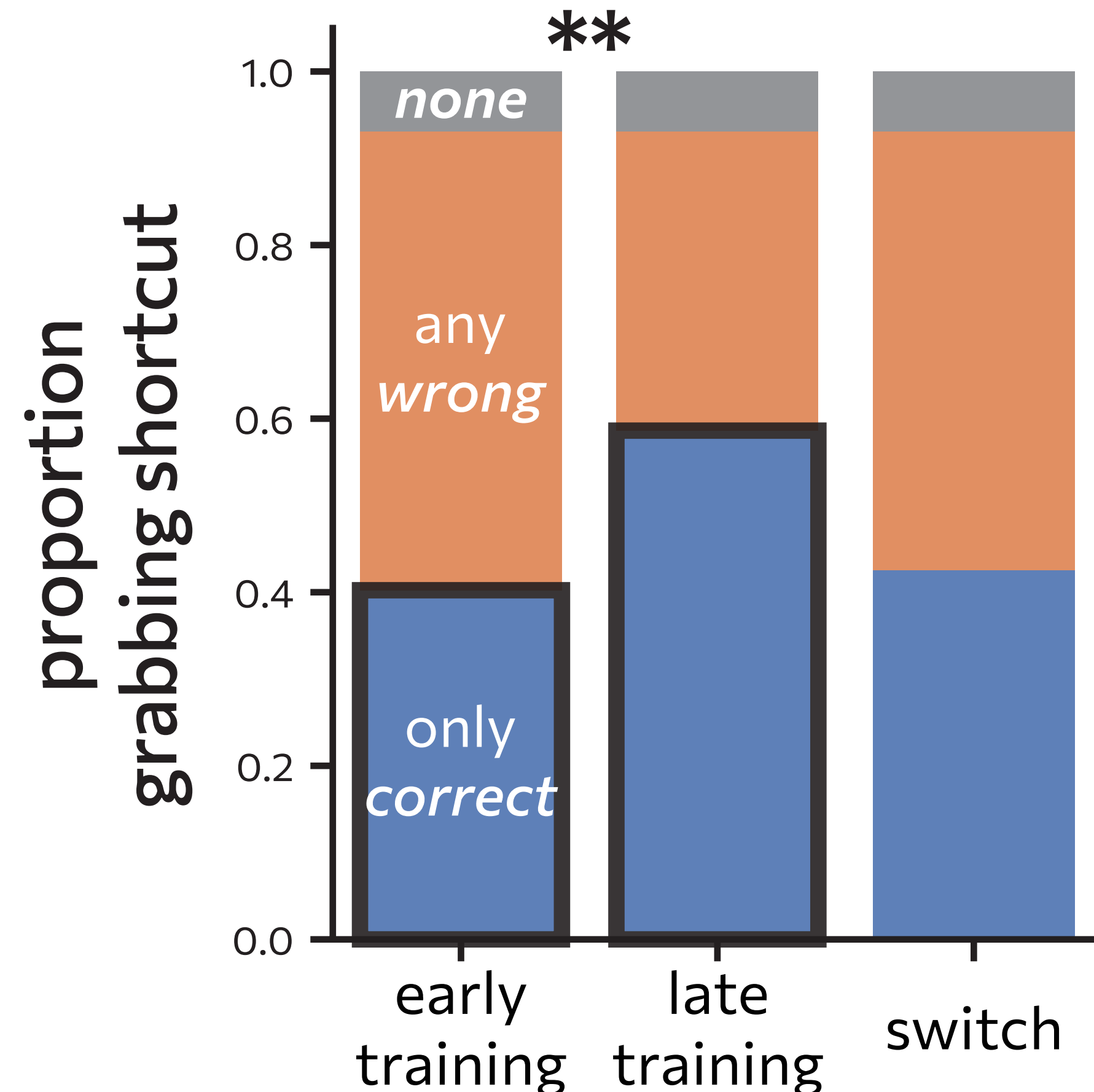
then ...

## Results N=87

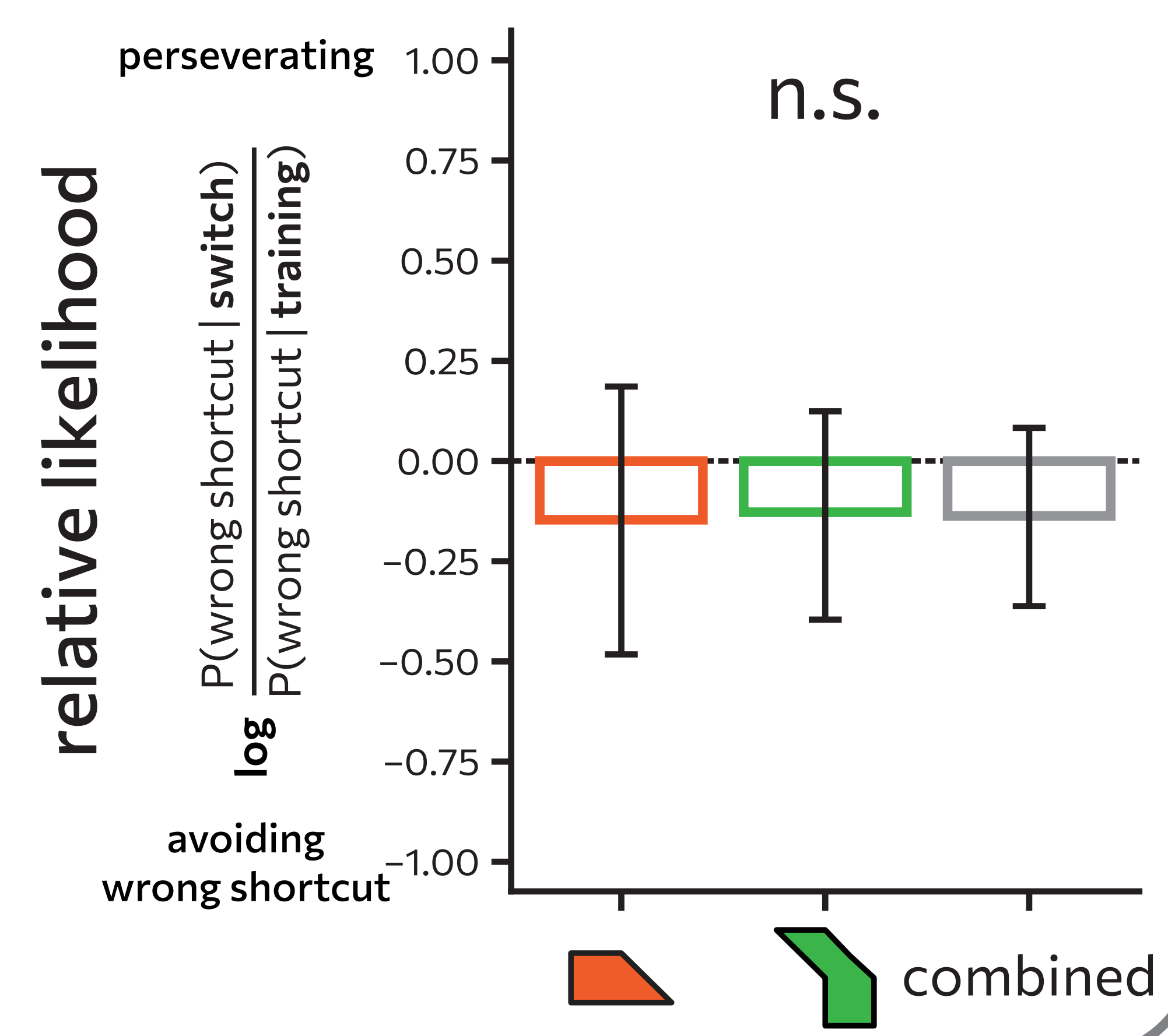
Subjects improve speed & accuracy during training



Subjects grab correct shortcut more often later in training



No evidence of perseveration on wrong shortcut in switch



## Discussion

People can infer efficient procedures to recreate novel shapes. How, when and why does experience impact performance on these tasks?