

# Reevaluating Strategy Development as a Discrete Step Process in Visuomotor Adaptation

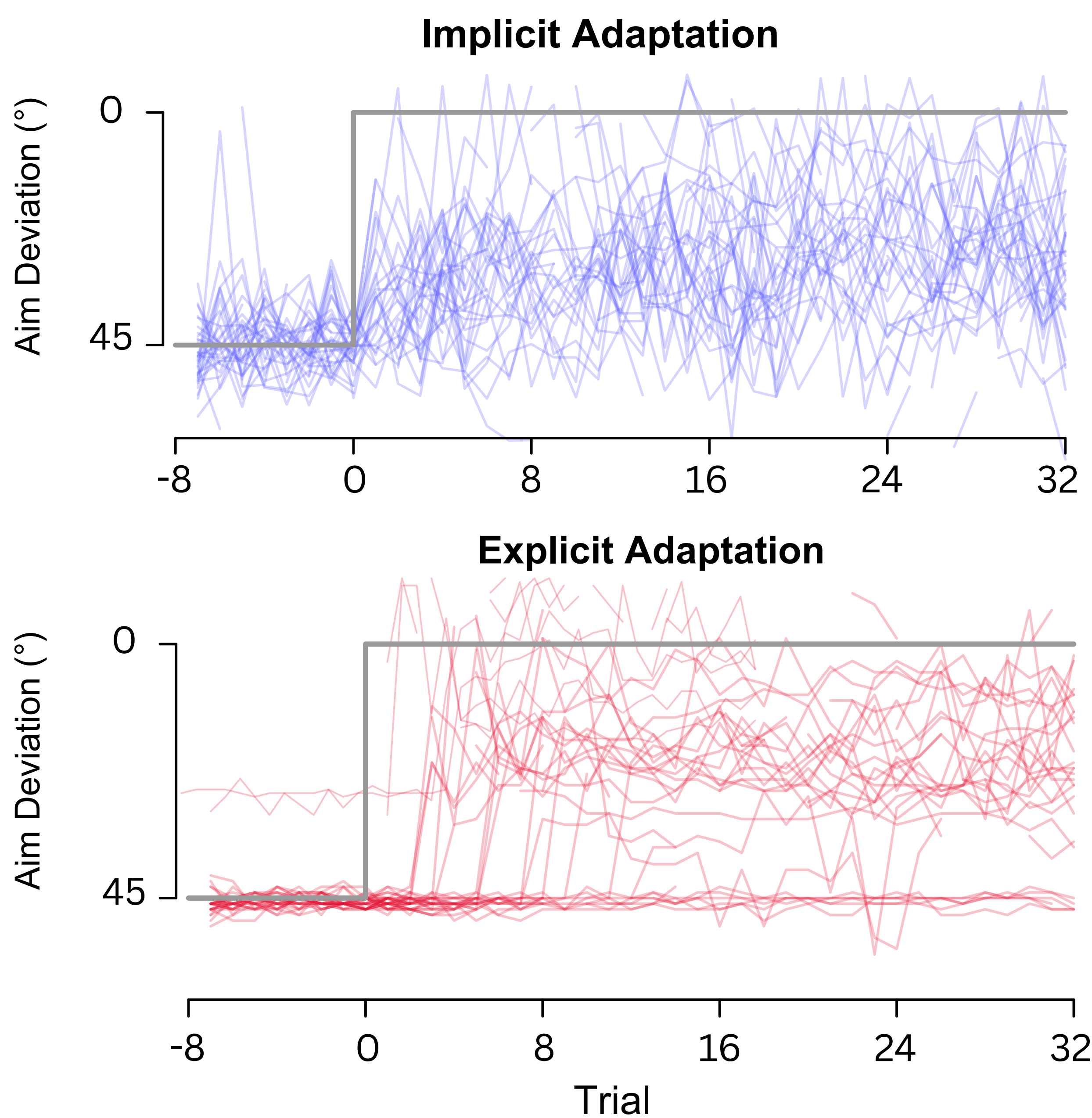
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**Strategic behaviours in motor adaptation are known to develop as a learning curve**

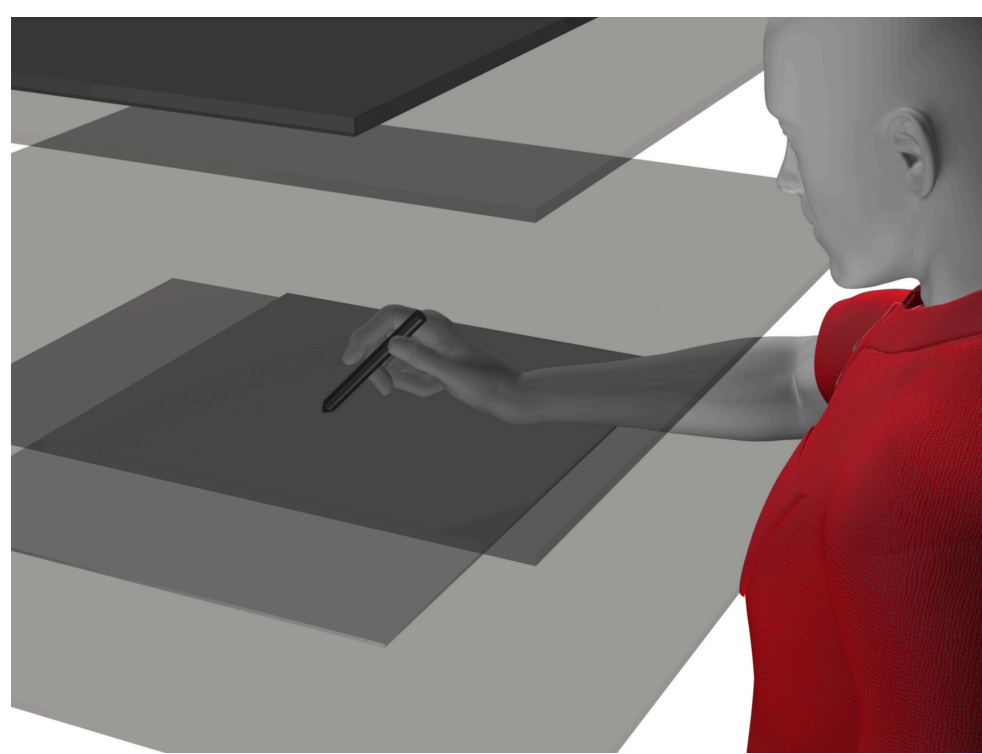
Explicit visuomotor adaptation reflects conscious strategies we use to adjust our motor system in response to an environmental change.

This process is thought to increase **exponentially** until it reaches an asymptote (McDougall et al. 2015), visualized as a learning curve. We propose that these patterns emerge from *averaging all participant data*.

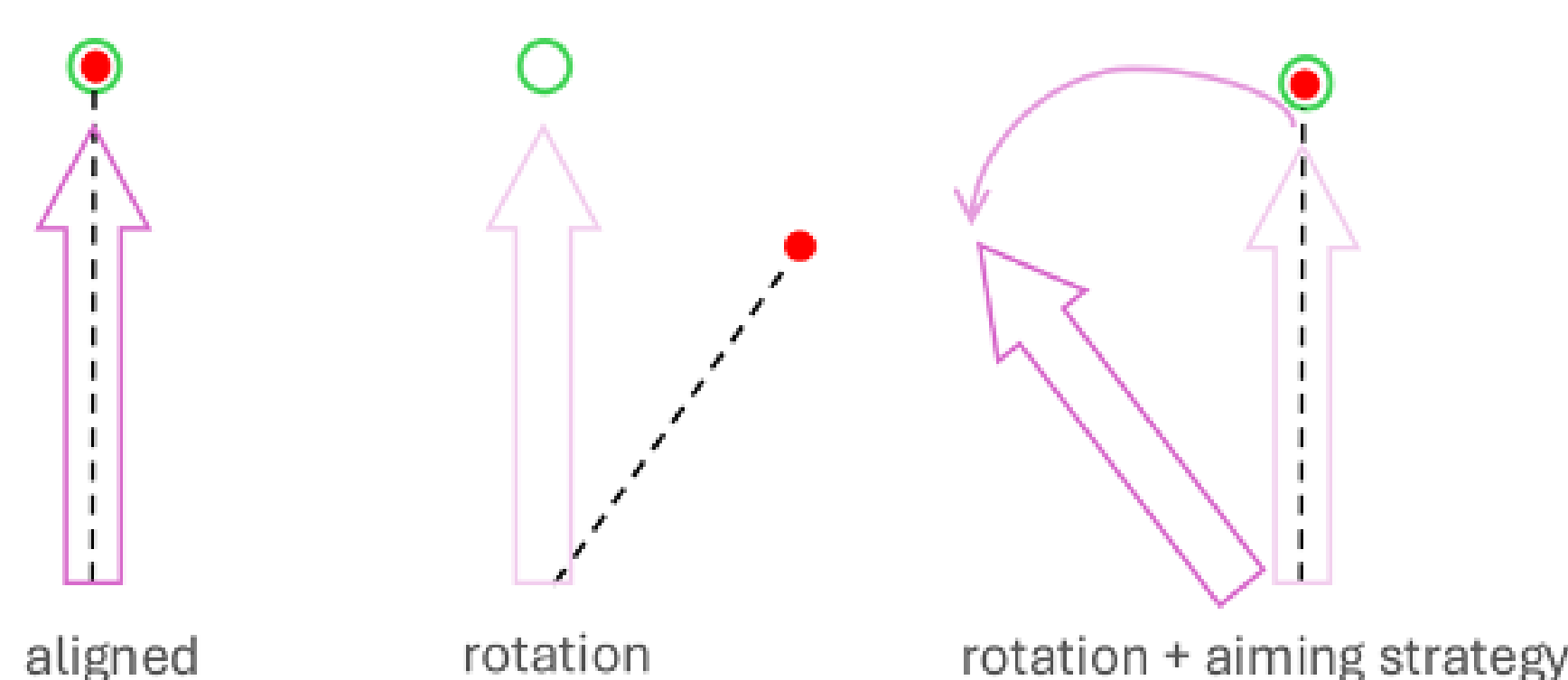
**Explicit learning may instead develop as a 'step'**



**Explicit learning is measured via 'aiming'**

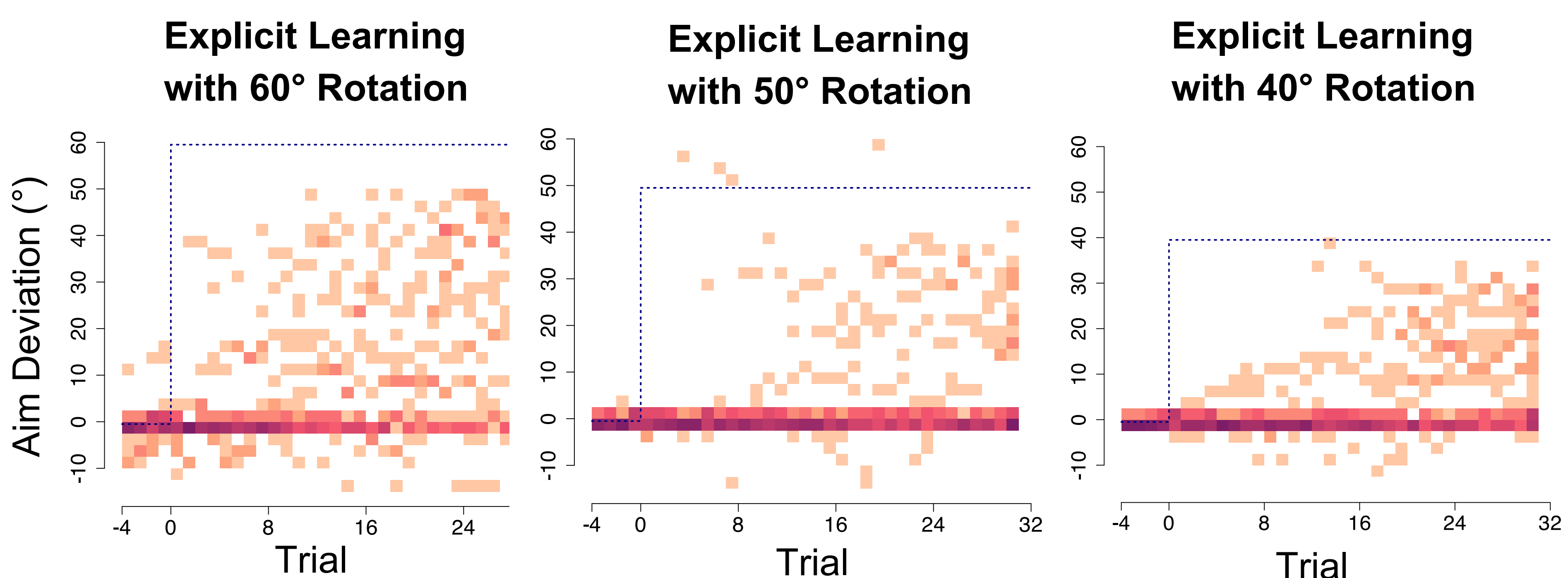
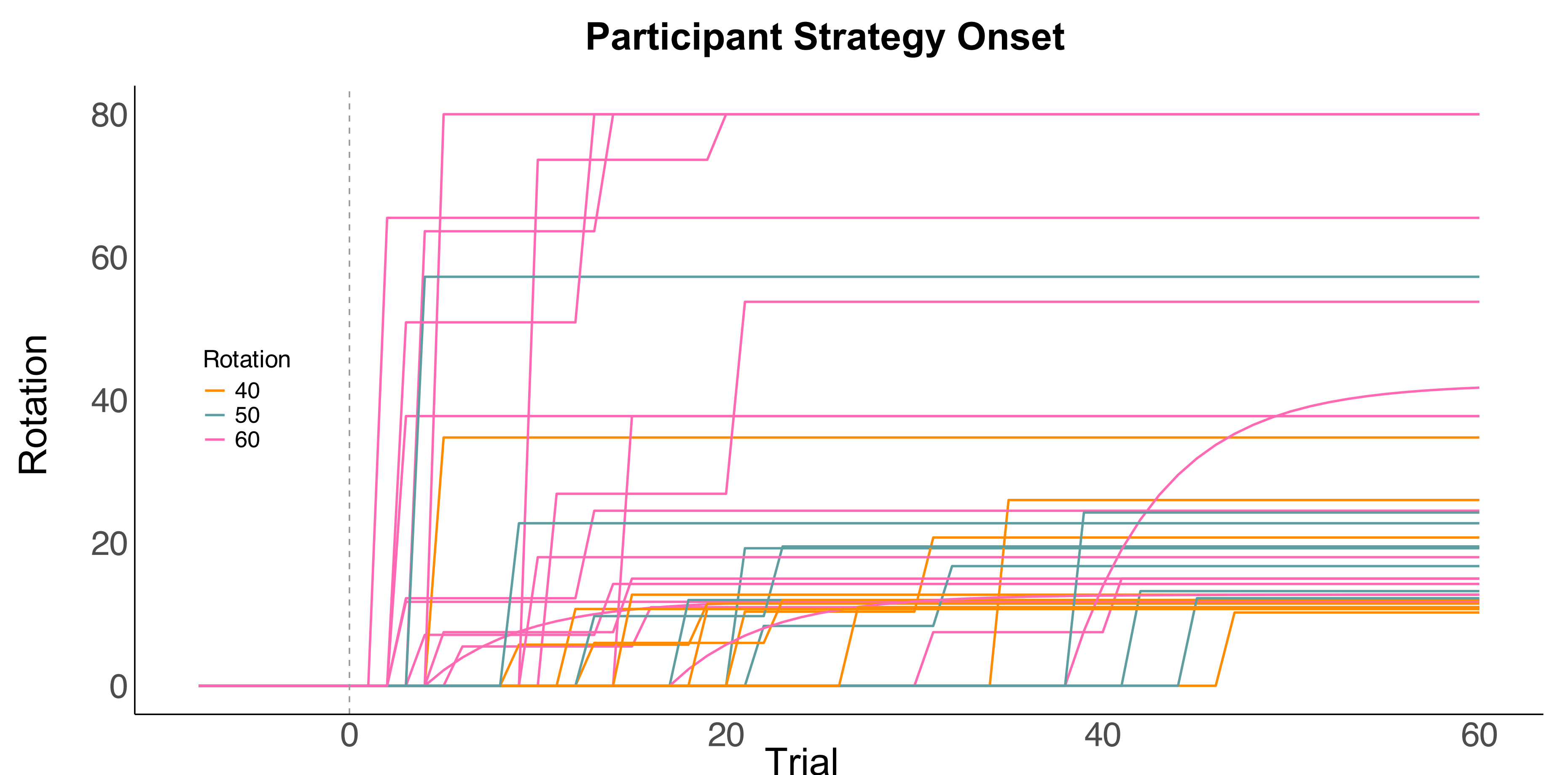
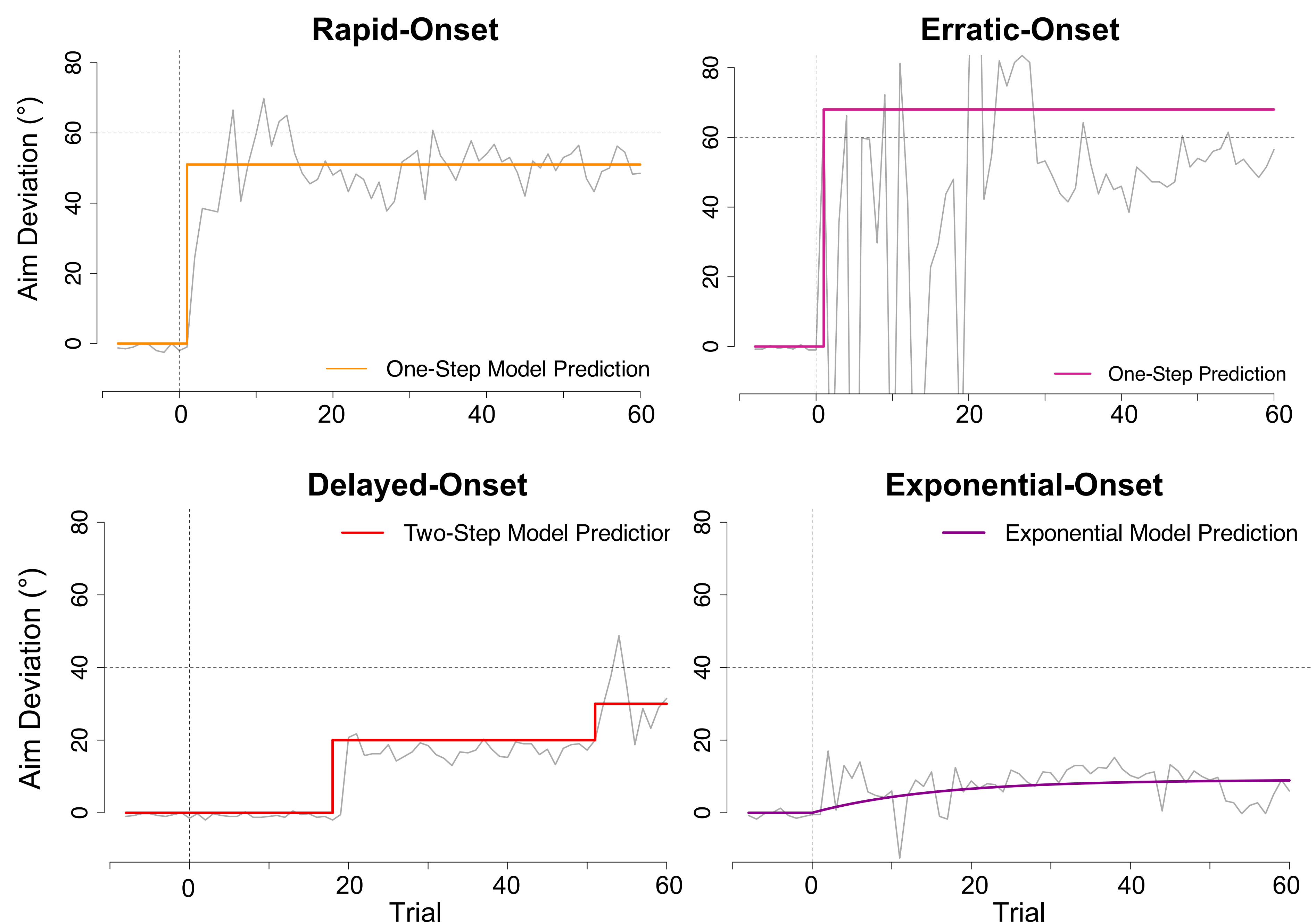


**"Your goal is to move a cursor straight to a target. At some point, the cursor may move differently"**



Participants experience one of 20°, 30°, 40°, 50°, or 60° perturbations over 120 trials.

**Individual Differences in Explicit Aiming Strategy Development**



**Main Takeaways**

Participants do not necessarily develop strategies exponentially. Instead, most appear to adopt strategies in a **discrete, step-like manner**. We also find explicit strategies to emerge in various ways. For instance, some participants may settle on a strategy quickly, slowly, or after trial and error.

These findings suggest that group-level averaging can mask **meaningful differences** in explicit adaptation. Future research should prioritize approaches that account for individual differences in motor adaptation task.