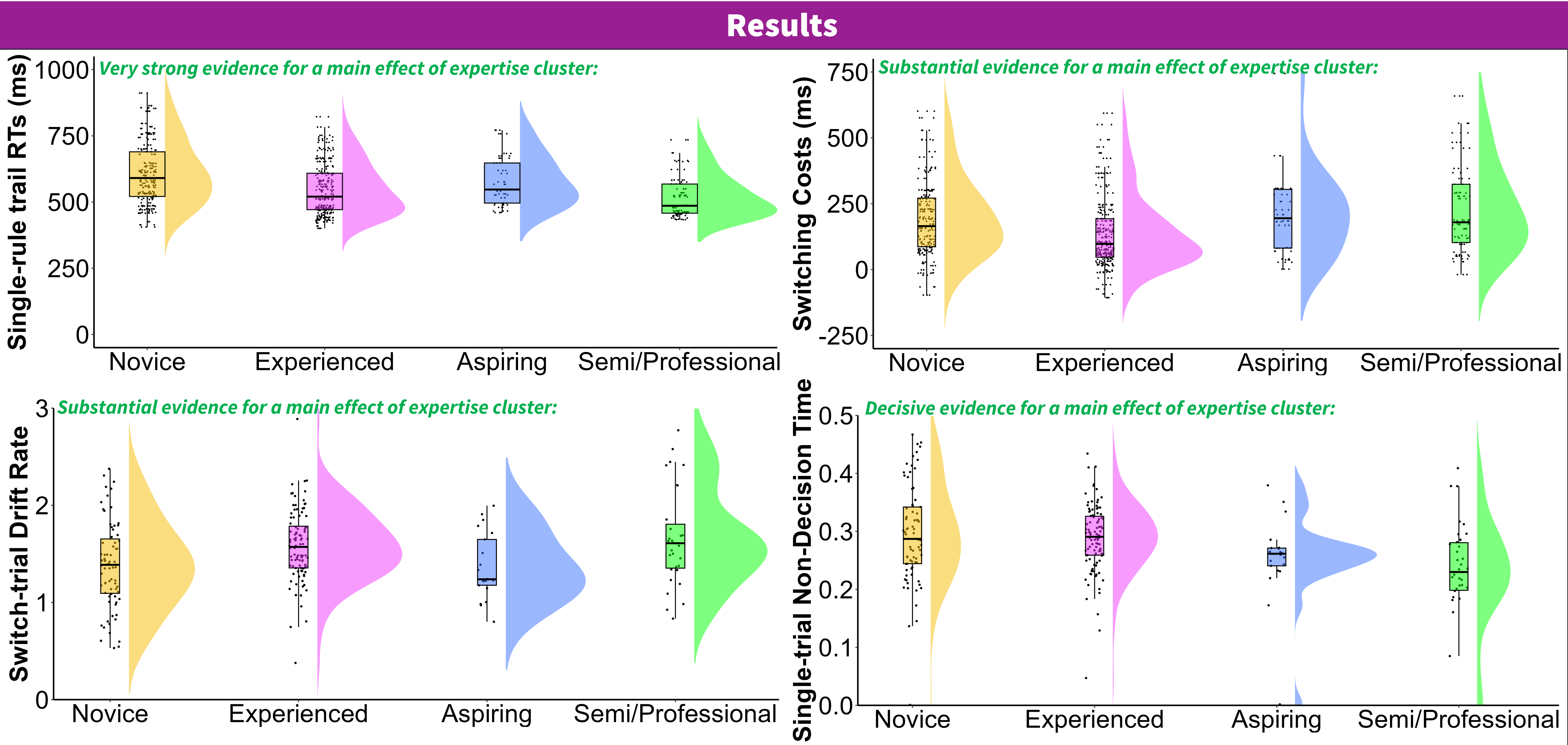
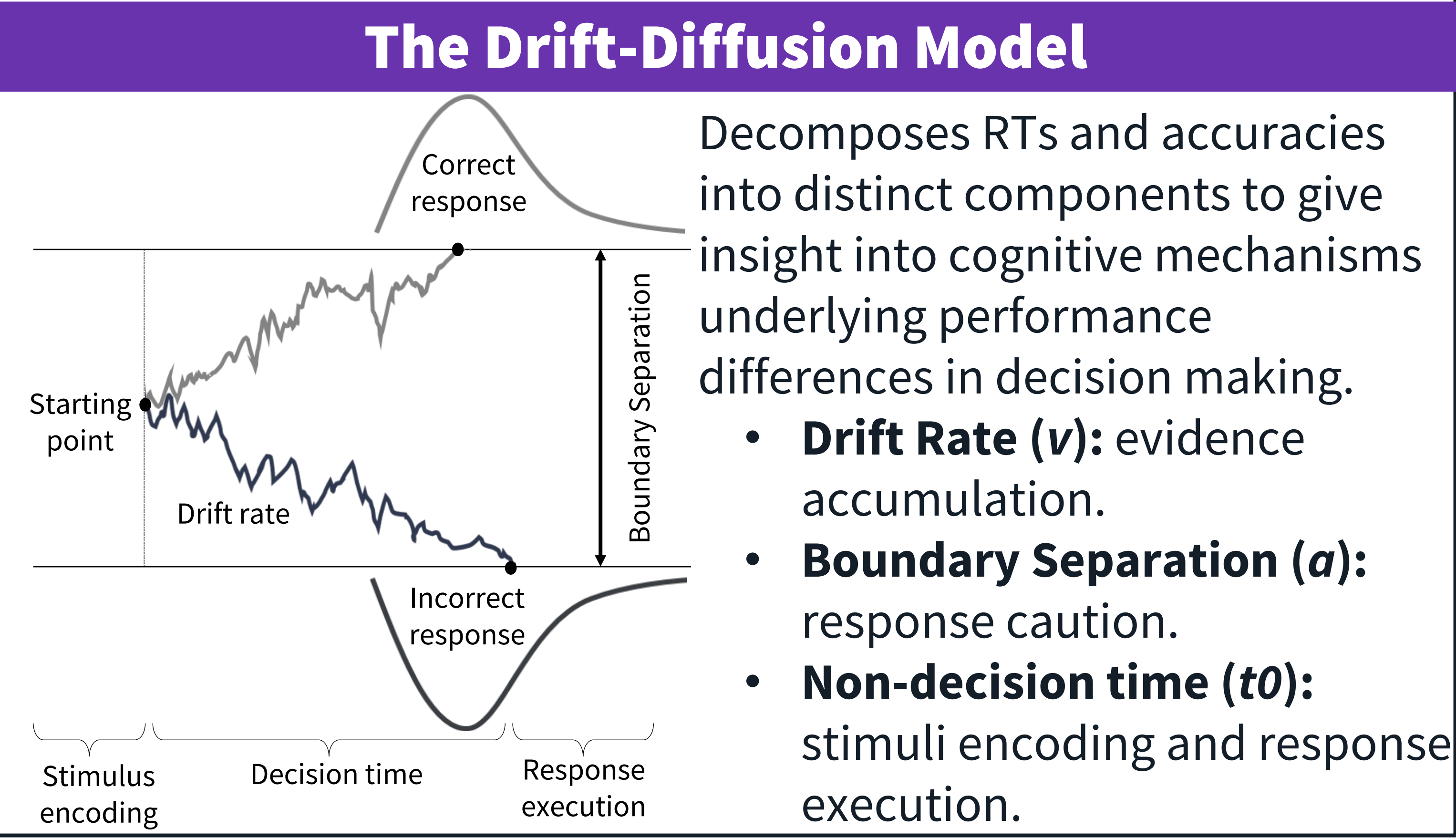
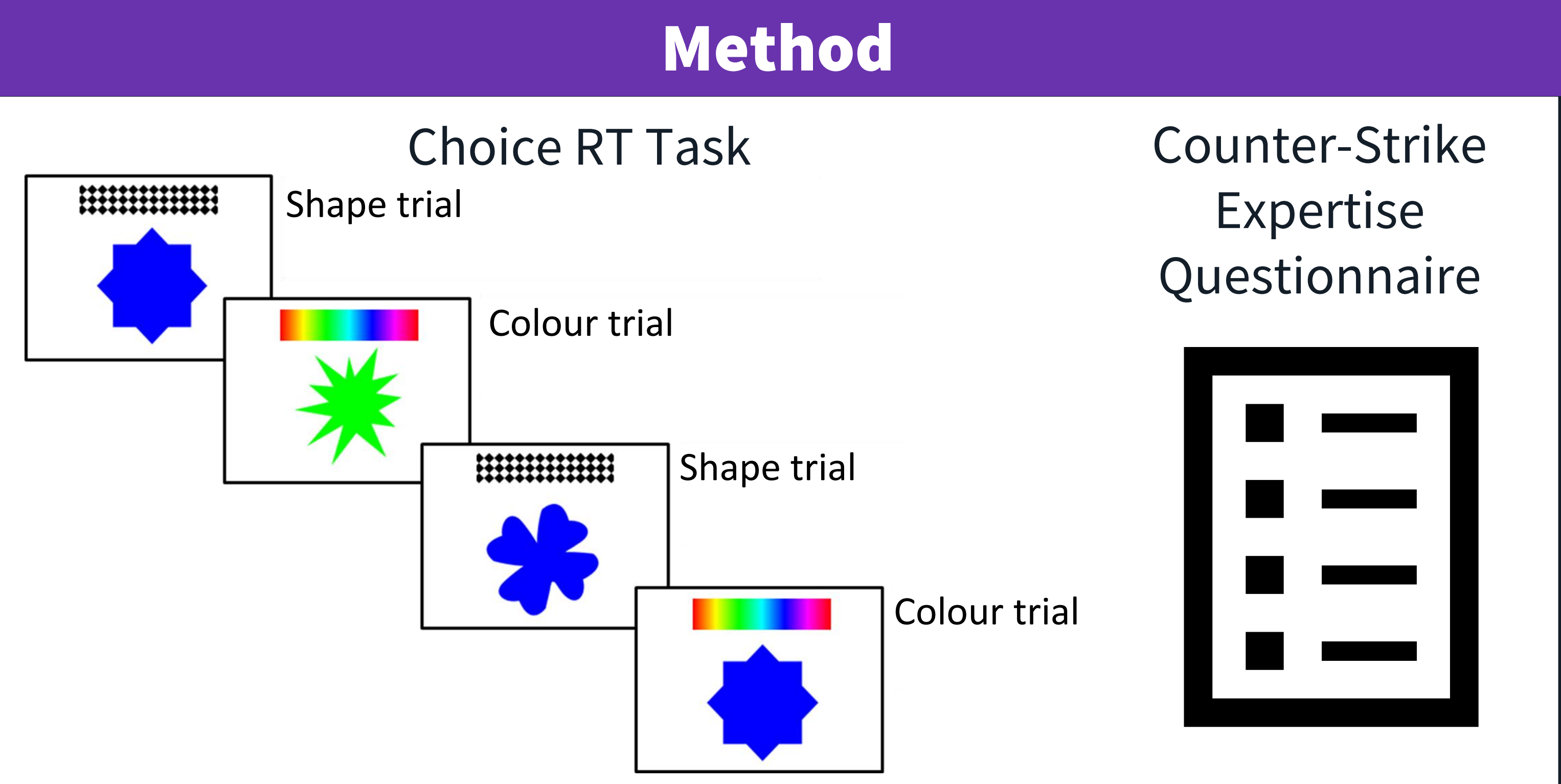
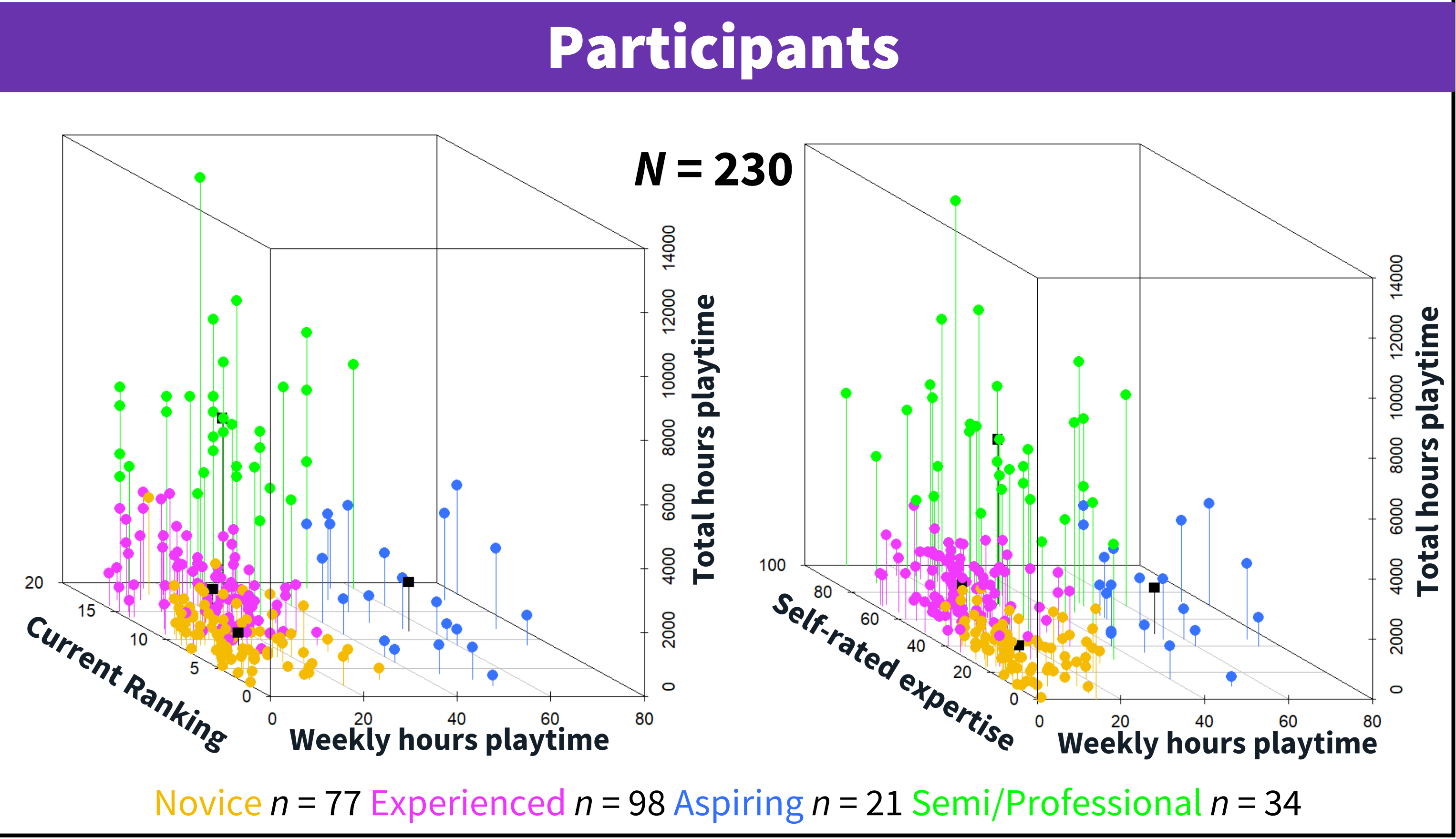


Background

- Video games provide a unique sandbox for studying cognition, with fast-paced **First-person Shooter (FPS)** games, like **Counter-Strike**, posing significant cognitive challenges.
- Prior research links FPS play to better **multitasking** but often confounds it with **processing speed** using **absolute reaction times (RT)**.
- Studies have also used small samples of novice players, limited expertise measures, and mix video game genres.
- This research assesses multitasking and processing speed in diversely experienced Counter-Strike players.



Semi/Professional players showed:

- Faster processing speed** (RTs) in single-rule trials **without sacrificing accuracy**.
- Greater information accumulation efficiency** in challenging switch trials, shown by **higher drift rates (*v*)**
- Faster encoding** and **response execution** in simpler single-rule trials, shown by shorter **non-decision times (*t0*)**.

Experienced players showed:

- More efficient switching** between tasks, shown by **lower switching costs** compared to more expert players.

Conclusion

- FPS expertise** is a **complex** and **non-linear construct**, measurable through readily available **objective metrics**.
- FPS expertise relates** to faster **stimuli encoding** and **response execution** in simple decision-making trials, and **evidence accumulation** in more complex decision-making trials.
- Expert FPS players have an advantage in rapid decision-making in fast-paced environments, compared to Novices.**
- Future research could examine real-time decision-making processes during controlled Counter-Strike gameplay.