

Intro

Speed accuracy trade offs

- ubiquity, must be reckoned with
- existing solutions suboptimal
- **TK** other SATO literature

Low power

- cost of collecting participants (effort, time, fatigue/quality, money)
- sensitivity of measures

Decision models

- Introduction: Ratcliff 1978 etc
- Principled reconciliation of speed and accuracy
- demonstrable gains (information theoretic)

Statement of aim

- Not a theoretical innovation, work of translation

Methods

Decision modelling

- Simulation, not analysis
- Use of HDDM
 - equivalence of decision models

Logic of simulations

- Considering group difference
- Which have to pick a particular parameter regime
 - n trials, particular values of drift and boundary etc
 - Visualising the SATO as an illustration
- Effect sizes in drift and boundary
- Null and true effects, hits, FAs, d'

Implementation

- Parallelisation / RSE
- Check in other models (fast-ddm)

Results

No Sato

- example participants for set power

- example power gains for set participants

Sato

Disucssion

Why accuracy better than RT

- TK other reports that accuracy tracks drift?

Future work?

- TK link to Shiny app

Conclusion

- Power gain / participant saving
- Avoid sato induced false positives
 - cite Pirrone et al (2017)
- Other benefits of DDM modelling (componet inspection etc)