General Discussion for ATC Experiment E1

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# General Discussion

## Summary

Our LBA-based model provided good fits to ongoing task and PM accuracies and closely accounted for the full distribution of RTs for both ongoing task and PM responses across all of our experimental manipulations. The model accounted for changes in RT and accuracy across different levels of time pressure and fit all PM cost effects. In addition, the model provided out-of-sample predictions of nonresponse proportions that closely matched empirical nonresponse data. Speed-accuracy trade-off and PM cost effects were predominantly explained by shifts in response threshold. This is consistent with much speed-accuracy trade-off modelling and supports PMDC and delay theory accounts of PM cost. Reactive inhibition between PM and ongoing task stimuli was evident, providing the first replication of Strickland et al. (2017) and supporting Braver's (2012) dual-mechanisms theory of cognitive control. There was no evidence of a PM capacity cost or a reduction in processing quality with time pressure. Instead, processing effiency increased with time pressure and PM demand suggesting increased task focus or the mobilisation of addtional effort under conditions of higher task demand.

## Time Pressure

## PM Demand

## Limitations and Future Directions

## Conclusion