Task-switching with cue-only trials and cue-responses: Debriefing sheet

Thank you for taking part in this experiment. This debriefing sheet will provide further information about the rationale of this study and how we plan to analyse the data.

Our project is about 'task switching'. We will respond differently when chatting to friends versus conversing in a job interview, when speaking in English versus speaking in French, or when speaking on the phone versus typing words on a keyboard. We are studying the basic mechanisms of task-switching by asking healthy participants to perform computerised button-press tasks in the lab, using simple and well-controlled tasks of responding to either the colour or the shape of a coloured-shape stimulus (such as a red square or a blue triangle).

When people have to switch between two or more tasks within a block of trials, we find that performance is worse for switching between tasks than for repeating the same task. This is known as a "switch cost". There is abundant evidence to suggest that performing a task, incurs a "switch cost" on the subsequent task. However, there is no consensus about what happens when you prepare a task but don't actually perform it. It is difficult to switch away from a task that you've performed, but what about one that you prepared but never performed? In other words, does *planning* to do something, affect future performance as much as actually *doing* that thing would?

You were asked to perform either a shape or colour judgement (as in Swainson et al., 2017). In most of the cases, you were shown a cue (e.g. "COLOUR"), followed by a target (e.g. a red circle). These were "completed" trials. However, in some trials, a cue (e.g. "COLOUR") told you to prepare to perform the colour task but no target (e.g. a red circle) was shown, so you could not actually perform that task. These were the "cue-only" trials.

This experiment used a within-subjects design, since all participants performed in all conditions. We will test the hypothesis that the "switch cost" following completed trials will differ from that following cue only trials, in terms of which type of response (cue response or target response) it affects. If there is such a difference, we should see a significant 3-way interaction in a repeated-measures ANOVA with the following factors: response-type (cue, target); preceding trial completion (cue only, completed); task transition (task repeat, task-switch).

Your data will be held anonymously so that it is impossible to trace this information back to you individually. To ensure access to the data for the wider research community, the anonymous dataset may be archived online, for instance on the Open Science Framework (https://osf.io/).

Contact details

Experimenter: NAME HERE* (undergraduate research assistant), EMAIL HERE*

Supervisor: NAME HERE* (Lecturer), EMAIL HERE*

*add information as appropriate before use

Further reading

Arrington, C. M., Logan, G. D., & Schneider, D. W. (2007). Separating cue encoding from target processing in the explicit task-cuing procedure: Are there "true" task switch effects? *Journal of Experimental Psychology: Learning, Memory, and Cognition, 33*(3), 484-502. doi:10.1037/0278-7393.33.3.484

Swainson, R., Martin, D., & Prosser, L. (2017). *The Quarterly Journal of Experimental Psychology*, *70*(8), 1453-1470.