Effects of frequency and discontinuity on timers' exploitation.

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Previous studies demonstrated the existence of task-specific timers. Schöner (2002) distinguished between event-based and dynamical timers. This distinction refers to the resources exploited to define the required time intervals. Zelaznik et al. (2002) evidenced a related difference between continuous and discontinuous tasks. Delignières, Lemoine & Torre (2004) evidenced the same distinction using spectral analysis on different tasks: tapping (discontinuous) and forearm oscillations (continuous). Nevertheless, some participants on the forearm oscillation task exploited an event-based instead of dynamical timer.

The effect of task conditions on timers' exploitation remains to investigate. We tested the effects of frequency and discontinuity. Participants took place on two continuous and two discontinuous tasks made at two different frequencies. They were tested twice per condition in two sessions. Using Detrended-Windowed Autocorrelation Function (DWAF) we generally evidenced the exploitation of event-based timers on discontinuous tasks and dynamical timers on continuous tasks. We obtained a significant correlation between sessions ($r = 0.91$). However, according to task and frequency conditions some participants didn't use the expected timer. Furthermore, we observed differences between sessions coming from learning on tasks.

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