
N-back time-based prospective memory task

Information and instructions manual

Contact :

Maximilian Haas (Maximilian.Haas@unige.ch)

Sascha Zuber (Sascha.Zuber@unige.ch)

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IMPORTANT :

The task was programmed in E-Prime2® by Maximilian Haas. Please note that task instructions are written in French, but the task can be easily adapted in other languages given that stimuli are non-verbal (pictures). The .es2 files (allowing both running and modifying the task) for both the ongoing task only and the ongoing task + TBPM task are freely available for download and modification without copyright and free of charge.

However, if you decide to use, reproduce, and/or modify this task, we kindly ask you to reference the following papers in your methods:

Zuber, S., Haas, M., Framorando, D., Ballhausen, N., Gillioz, E., Künzi, M., & Kliegel, M. (2021) The Geneva Space Cruiser: A Fully Self-Administered Online Tool to Assess Prospective Memory across the Adult Lifespan. *Memory*, 0(0), 1-16.
<https://doi.org/10.1080/09658211.2021.1995435>

Joly-Burra, E., Haas, M., Laera, G., Ghisletta, P., Kliegel, M., & Zuber, S. (2021). Frequency and Strategicness of Clock-Checking Explain Detrimental Age-Effects in Time-Based Prospective Memory. *PsyArXiv*. <https://doi.org/10.31234/osf.io/2msk9>

For further questions, please do not hesitate to contact us (Maximilian.Haas@unige.ch or Sascha.Zuber@unige.ch).

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Description

This task is designed to assess time-based prospective memory in a laboratory setting using E-Prime2® (or later versions). The prospective memory task is embedded in a 2-back working memory task (i.e., ongoing task), for which participants have to indicate for each trial whether the current picture corresponds to the picture presented two trials earlier. The full paradigm consists of two blocks: a block of ‘ongoing task only’, followed by the block ‘ongoing plus prospective memory task’.

In more detail, for the ongoing task (OT) participants have to decide whether the picture they see at each trial is the same as the picture they saw two trials before. They have to push the “green button” (i.e., right arrow on the keyboard) if the pictures are identical, otherwise they have to push the “red key” (i.e., left arrow on the keyboard) if the pictures are different. Each picture is presented during 1000ms preceded by a 1500ms fixation cross. Participants first complete a practice block, in which they have to provide correct responses for at least 10 out of 14 practice trials. Upon successful completion of the practice block, participants complete the OT only block of 48 trials (i.e., 2-back picture decision task).

Next, the experimenter explains the TBPM task. Participants are instructed that, in addition to the OT, they have to remember to push the “Enter” key at every full minute (i.e., at 60 seconds, 120 seconds, etc.). They can check the progression of time by pushing the spacebar, which displays a timer at the bottom of the screen for 3 seconds (format: mm:ss). During a delay phase, participants then complete the Mill Hill Vocabulary Scale as filler task. They are not reminded of the TBPM instructions before beginning the next task block (OT+ TBPM). The OT + TBPM block lasts six minutes (i.e., 144 OT trials, six TBPM target times). The PM response is counted as correct if participants press the “Enter” key in a response window of ± 5 seconds of the target-time.

IMPORTANT COPYRIGHT INFORMATION for stimuli: Pictures were selected from the [Snodgrass and Vanderwart \(1980\) picture set](#). Please note that these pictures are protected by copyrights, and may not be used for free. Accordingly, we do not provide the pictures used in the task. Researchers that would like to use the task can either buy the rights for the picture set or replace them with equivalent free picture data sets (e.g., [Moreno-Martínez & Montoro, 2012](#); [Rossion & Pourtois, 2004](#)). Researchers will then have to replace the name of the pictures in the E-Prime2® files to match their picture set to allow their task to run successfully.