

Supplemental Material A

Description of Mind Frontiers Mini-Games

Mind Frontiers Mini-Game	Description of Game
Ante Up	Players are shown cards organized in a certain pattern and must replicate this pattern over the course of a specified number of moves with the cards they are provided. This game exercises planning ability and is based on the Tower of London test (Shallice, 1982).
Irrigator	Players are tasked with building a water pipeline from a well to various targets before time runs out using provided pipe pieces that change with each turn. As players progress, various obstacles must be avoided to reach the target. This game challenges visuospatial processing and is similar to a training task previously used by Mackey et al. (2011).
Pen 'Em Up	Players must sort objects dropped from a UFO into two pens by swiping either left or right based on specific criteria provided at the start. The sorting criteria varies based upon the objects' characteristics (e.g., trees, farm animals) or style (e.g., plain, striped). This task-switching game is based on the training developed by Karbach and Kray (2009).
Riding Shotgun	Players are riding in a horse drawn wagon, and the scene in front of the wagon contains a grid of tiles that could light up one at a time. The player must remember the sequence in which tiles of the grid are illuminated. They must then replicate the pattern in the correct order. This task taps visuospatial memory and is similar to the training provided by Klinberg et al. (2002).
Trader Jack's	Player are tasked with choosing an item or set of items that would be equal in value to items on a scale needing to be balanced. This game is intended to exercise inductive reasoning skills and is similar to the training described by Willis and Schaie (1986).
Sentry Duty	Players are tasked with remembering the sequence in which sentries outside of a fort wall lift a lantern and say a word. They must decide whether the location and word of the current sentry matches that of the sentry N turns prior. This dual n-back game challenges working memory and is similar to the training task developed by Jaeggi et al. (2008).
Supply Run	Players adopt the role of a merchant traveling through a town. Townspeople request items along the way. The player must remember the last item requested from each of the provided categories so they may be purchased at a town store at the end of the trip. This working memory game is similar to the training used by Dahlin et al. (2008).

Supplemental Material B
Positive and Negative Framed Messages

Positive Framed Messages	Negative Framed Messages
Studies have found that people who engage in mentally stimulating activities have better memory later in life.	Studies have found that people who fail to engage in mentally stimulating activities have poorer memory later in life.
Regular mental challenge can have a positive impact on the brain.	Infrequent mental challenge can have a negative impact on the brain
Regular mental exercise is a good predictor of how well off people are cognitively throughout their lives.	Infrequent mental exercise is a good predictor of how poorly off people are cognitively throughout their lives.
Evidence suggests that performing mental exercises such as playing games and solving puzzles is linked to enhanced brain fitness and cognitive functioning.	Evidence suggests that failing to perform mental exercises such as playing games and solving puzzles is linked to decreased brain fitness and cognitive functioning.
Taking up mentally stimulating activities is associated with postponing cognitive decline.	Failing to take up mentally stimulating activities is associated with hastening cognitive decline.
Mental abilities tend to decline with age, but mentally stimulating activities may slow this process down.	Mental abilities tend to decline with age but failing to engage in mentally stimulating activities may speed this process up.
Engaging in regular mental activity is associated with benefits, including superior cognition and better brain health.	Failing to engage in regular mental activity is associated with risks, including poorer cognition and worse brain health.
Experiments have found that people who frequently play digital games tend to have better cognitive abilities.	Experiments have found that people who fail to play digital games frequently tend to have poorer cognitive abilities.

