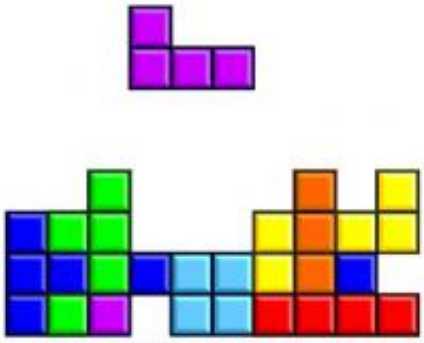
Moving tiles as an unintrusive way to handle flashbacks

July 8 2015, by Nancy Owano



(Medical Xpress)—In a highly uncertain environment of floods, train, plane and car accidents, earthquakes, terrorist bombings and community displacement, one thing is certain: psychological trauma can result and does not discriminate in affecting people all over the world.

Scientists raise a question: Can one block trauma with colored blocks? What happens if one moves around blocks of *Tetris*—can it help block the flashback?

Psychological Science has published a paper that discusses such possibilities. The paper is titled "Computer Game Play Reduces Intrusive Memories of Experimental Trauma via Reconsolidation-Update

Mechanisms," and it was published earlier this month.

The team is from the Medical Research Council Cognition and Brain Sciences Unit, Cambridge; University of Oxford; University of Cambridge; and Karolinska Institutet.

Tetris may block traumatic flashbacks even after the memory is fixed; this could be an inexpensive, drug-free preventative measure to cope with post traumatic stress disorder (PTSD).

Jessica Griggs reported on the research in *New Scientist*. "There are effective treatments for people who are diagnosed with PTSD, but nothing currently exists to help prevent people from developing it in the days and weeks after the initial trauma."

The authors wrote in their paper that "Ways to modulate the persistence of intrusive memories are little understood." They said that "Understanding cognitive mechanisms underlying intrusive-memory amelioration may help generate more widely available mental-health treatments."

The researchers think a dose of *Tetris* could be one answer. They set out to show that playing the game after being exposed to trauma reduced the number of subsequent flashbacks. Griggs said according to one of the authors, Emily Holmes, Medical Research Council Cognition and Brain Sciences Unit, Cambridge, memories are consolidated and cemented in the mind within a window of about six hours. The memory is strengthened further by sleeping on the memory.

The team tested whether playing the game could work a day later than the trauma event, after the memory was consolidated and slept on.

The team wrote: "We hypothesized that 24 hr after experimental trauma

film exposure, a group that completed a reactivation task for memory of the film (to initiate reconsolidation) followed by *Tetris* game play would have a lower frequency of subsequent intrusions, compared with control groups that completed only one or none of those tasks."

Griggs described the research, including an experiment where the team asked 56 people to watch video footage of distressing events. When it came time for *Tetris*, half the participants spent 12 minutes playing *Tetris*. The others sat quietly.

Over the following week, the group who played the game experienced 51 per cent fewer intrusive memories of the traumatizing video than the group who did not. Griggs said they also scored lower on the intrusive memory section of a questionnaire that was used to diagnose PTSD. The event is not erased but the most disturbing images, said Griggs, are less easily triggered.

"Holmes thinks other visually demanding games such as *Candy Crush*, or different visual tasks altogether, could also work," Griggs added.

The *New Scientist* report also said that "the team is already testing the game in hospital emergency departments on people who have been involved in car accidents."

The authors in their discussion pose some interesting questions about next steps in research about trauma and impact.

"We propose that after memory reactivation, a visuospatial cognitive task (*Tetris*) that competes for the same working memory resources as the reactivated memory (a cognitive blockade) offers a simple noninvasive way to reduce intrusions of a trauma film. A critical next step is to investigate whether findings extend to reducing the psychological impact of real-world emotional events and media.

Conversely, could computer gaming be affecting intrusions of everyday events?"

More information: Computer Game Play Reduces Intrusive Memories of Experimental Trauma via Reconsolidation-Update Mechanisms, Published online before print July 1, 2015, DOI: 10.1177/0956797615583071