

**Media release
For immediate distribution**

**Use spatial memory to reduce risks of dementia
Véronique Bohbot, research scientist at the Douglas Institute,
will present two public lectures on why and how to**

Montréal, Thursday, January 16, 2014 – Véronique Bohbot, PhD., a neuroscientist at the Douglas Mental Health University Institute and associate professor at McGill University, directs research on the brain's navigational strategies. She will present two public lectures on January 23 and 28, on why it is healthier to use spatial strategy and how to do it. Her research suggests the most effective way to use the hippocampus in order to reduce the risks of dementia.

Two strategies used by our brain

To orient ourselves within our environment, we employ one of two strategies. To orient ourselves within our environment, we employ one of two strategies. The first is spatial navigation, with which we build cognitive maps, with help from benchmarks and visual cues, to determine where we are and where we are going. (For example, we memorize the spatial relationship between our grocery store, home, and school to help us take shortcuts when we travel to a new destination).

The other is the stimulus-response strategy, which is a type of auto-pilot mode. (After repeating a trip several times, we follow a route out of habit, to the point of not even noticing when we cross a street—for example, when we go to work.) When we use a GPS, we do not necessarily call upon our spatial memory.

Significant findings

In her lab, Bohbot and her team used virtual navigation to conduct a series of studies. It was shown that in healthy older adults:

- 1) Only the people whose use spatial strategies showed significant fMRI activity in the hippocampus during a virtual navigation task that allowed for both spatial and response strategies.
- 2) Spatial strategies significantly correlated with grey matter in the hippocampus.
- 3) People use spatial strategies less and less with age.
- 4) Participants using spatial strategies had reduced risk of dementia as assessed with the MoCA© (*The Montreal Cognitive Assessment*) is a cognitive screening test designed to assist Health Professionals for detection of mild cognitive impairment).

These results are in agreement with the literature showing that the first symptoms of Alzheimer's disease involve problems with spatial orientation as well as the literature that shows that decreased volume in the hippocampus is a risk factor for conversion from mild cognitive impairment to Alzheimer's disease. These results are also in agreement with the literature showing that a larger hippocampus is associated with healthy cognition during normal aging.

Why is it better to use a spatial strategy?

- 1) Spatial memory is associated with the hippocampus function
- 2) Spatial memory is associated with more grey matter in the hippocampus which is associated with reduced risk of Alzheimer's disease
- 3) The use of spatial memory strategies lessens with age
- 4) Spatial memory is associated with better cognitive health

What: **Finding your way toward healthy cognition**
Where: Douglas Hall, Douglas Institute, 6875 LaSalle Blvd.
When: Thursday, January 23, 2014, 5:30 p.m., in English
Tuesday, January 28, 2014, 5:30 p.m., in French

Program

5:30 p.m. Wine and cheese
6:00 p.m. Lecture and question period
7:00 p.m. Break
7:20 p.m. Interactive workshop
8:00 p.m. End

Parking is available for \$5

Information:

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