

INSIGHT

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Insight is Australia's leading forum for ideas. Each week, host Jenny Brockie uses her unique skills to guide a lively debate on a single topic. Insight is a great leveller, no one has special status. Politicians, business leaders and experts sit alongside kids and punters, swapping stories and arguing about everything from property prices to relationships, climate change or the nature of courage. Jenny guides the conversation, ensuring as many people as possible have their say. There's no hiding behind press releases and spin on Insight, it's face to face debate.

EPISODE: Brainiac, Tuesday, 3 Nov 09

<http://news.sbs.com.au/insight/episode/index/id/147>

JENNY BROCKIE: There are some unexpected ways people stimulate their brains, let's have a look.

THE DANCE STORY:

WOMAN: Scottish country dancing is made up of couples dancing in what we call a set. There are square formations, round formations, ones that interlock with each other, reels which is figures of eight.

MAN: It's not as easy as it looks. It looks simplistic and tweed but to do it well is actually highly complex. It takes up to two years of solid dancing to get to a level of reasonable competency.

MAN 2: You've got to keep your brain active and this does do that. This Scottish dancing you've got to be thinking on your feet all the time.

MAN: It actually hones your memory. You've got to learn it and keep honing it. It requires actually deceptive amount of athleticism and balance.

WOMAN: Keeping the brain active, it certainly does that, that's exactly what it does.

JENNY BROCKIE: Michael, lots of raised eyebrows in the room. A bit of sniggering, what is going on in the brain of those people do that Scottish dancing?

MICHAEL VALENZUELA: Obviously a lot because any complex activity like dancing you're really going to be involving all those parts of the brain and then we're coordinating our action, we're having to memorise complex behaviours, move them from short-term memory into long-term memory and also a lot of social predictions, so we're predicting how our partner will respond, how movements will respond in other people and ourselves. So very complex set of things happening in the brain.

JENNY BROCKIE: We've got a picture here, I want you to tell us what this picture shows, that red mark down there, what is that?

MICHAEL VALENZUELA: Okay, so here we're looking at real human brain, and at the bottom highlighted in red is a key part of the brain called the hippocampus and this is the memory centre of the brain. So the person at the top with the outlined hippocampus was someone very engaged, may have been taking dancing, may have been volunteering and you can see that the hippocampus is nice and fat and there's little black area around it so there's been very small amount of atrophy which is shrinkage. Now the person at the bottom is someone of the same age, they're not doing the kind of mental engagement and building up their reserve over their life and you can see that they have much more shrinkage and we did this study not just that one time point but over three years and showed that if you stay mentally engaged through activities like dancing, the person up the top will have about half the rate of shrinkage than a person like the second group.

JENNY BROCKIE: What's the difference between that, between doing the dancing and doing one of these courses that we were talking about?

MICHAEL VALENZUELA: Well, I talk about the three keys which are incorporating mental activity, social activity and physical activity and if we can put those three things together, and dancing's a great example, then I think you will be having the maximal effect on whatever you want to call it, optimising brain health or increasing your own plasticity.

JENNY BROCKIE: And you can do the tango if you're not really into the Scottish dancing or something else?

MICHAEL VALENZUELA: Of course and these kind of cognitive training products would be just a very narrow kind of activity that would fit into the mental stimulation recommendation. So there's a much broader range of things we can do than just -

JENNY BROCKIE: Okay, lady here.

MARIA GRABSKI: How does that compare with just being alone and doing more intellectual things on your own like crossword puzzle and things like that?

MICHAEL VALENZUELA: Well, in general the findings are really that if there's a social element to the interaction that it's going to be better than doing something alone.

JENNY BROCKIE: That's interesting because people think crossword puzzles and they think those sorts of things so you think that combination is better?

MICHAEL VALENZUELA: I think it needs to be challenging and it has to be something at the level of learning a new language, learning a new dance, that's the kind of demand level which is going to really drive all the neuroplastic processes rather than something fairly simple like a crossword.