

RESEARCH DIRECTIONS

Why walk when you can dance?

Associate Professor Dafna Merom, of the School of Science and Health will be investigating social dancing as a weapon against dementia and cognitive decline. The research, which is supported by the IRT Research Foundation, will explore the notion that the multi-dimensional nature of dancing makes it a better activity than walking for keeping the ageing brain healthy.

'Dance is a complex sensori-motor activity that combines cognitive, social and affective dimensions,' says Associate Professor Merom. 'Dancing requires memorising intricate sequences of steps, concentration, continuous learning and mastery of motor skills. It is also social, enjoyable, sustainable and deeply embedded in our culture.'

Previous studies have shown that exercise and activity in later life can improve cognitive function and reduce the risk of developing dementia, though no specific exercise prescription has been devised. We know walking has cardiovascular and metabolic benefits, and given its popularity those health benefits are worth highlighting. Walking, however, has limited protection against osteoporosis, no protection in the prevention of falls, and it may not be optimal in attenuation of cognitive decline.

Dance has been compared to tai chi in its integration of multiple physical and cognitive elements. Uniquely, dance activates distinct brain networks between sound processing and movement control because it requires the synchronisation of movement to music. Studies indicate humans are sensitive to emotive expressions in dance, too. Evidence on the cognitive benefits of social dancing is lacking, however.

Working with Professor Kaarin Anstey, Dr Ranmalee Eramudugolla and Dr Anne Grunseit, Associate Professor Merom will explore her



hypothesis that a multi-dimensional physical activity such as dance is a better way of promoting cognitive improvement than a simple functional aerobic activity such as walking. Participants will learn ballroom dance twice a week for nine months. Neurophysical tests will measure their progress, and be compared with those who only walk.

As the population ages, more people will be living with diseases common in old age, including neurological decline and dementia. Among over-65s, dementia is the fastest-growing age-related condition; in the over-85s, one in two people is affected by dementia. But dementia may not be an inevitable part of ageing. There is a strong public health rationale to focus preventive research on an activity such as dance which can be sustained given the lower dropout rate than other "senior" activities.

Project Title: The Dancing Mind: cognitive benefits of multi-dimensional physical activity in old age
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