

# Dance and action representation: Experiences of a co-developed dance programme for Parkinson's

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## Background and aims

- Dance may help to improve movement as well as non-motor symptoms in Parkinson's<sup>1</sup>.
- **Internal representations of action** are used in dance via **imagery, observation and imitation**<sup>2,3</sup>. For example, imagery is used by dancers to enhance movement quality, and imitation is used to learn new movements and to interact with a partner or the group.
- These processes activate sensorimotor networks to facilitate movement<sup>4</sup>, and may have a role in empathy and social interaction<sup>5</sup>.
- Action observation, imitation and imagery can facilitate basic movements in Parkinson's<sup>6</sup>, and the use of these processes in dance for people with Parkinson's may contribute to both motor and non-motor benefits.
- Dance may also develop action representation based strategies that people with Parkinson's can apply beyond classes to facilitate everyday movement and communication.

**We explored the use of action observation and imagery within a dance class for people with Parkinson's**

## Methods

### Pilot dance class

A 6-week pilot programme was designed in collaboration with dance artists and people with Parkinson's. Classes drew on elements of classical styles (Ballet and Bharatnatyam), and promoted the use of imitation and imagery through music, hand gestures, story-telling and themes.

### Participants

10 people with mild to moderate Parkinson's (7 females; 50-71 yrs) attended weekly classes of 60-75 minutes.

Classes were followed by refreshments and social time.

### Focus group

At the end of the trial 8 participants attended a focus group, which explored the use of action representation in dance as well as the overall experience of the classes.

Discussions were analysed using a combined hypothesis- and data-driven thematic approach.

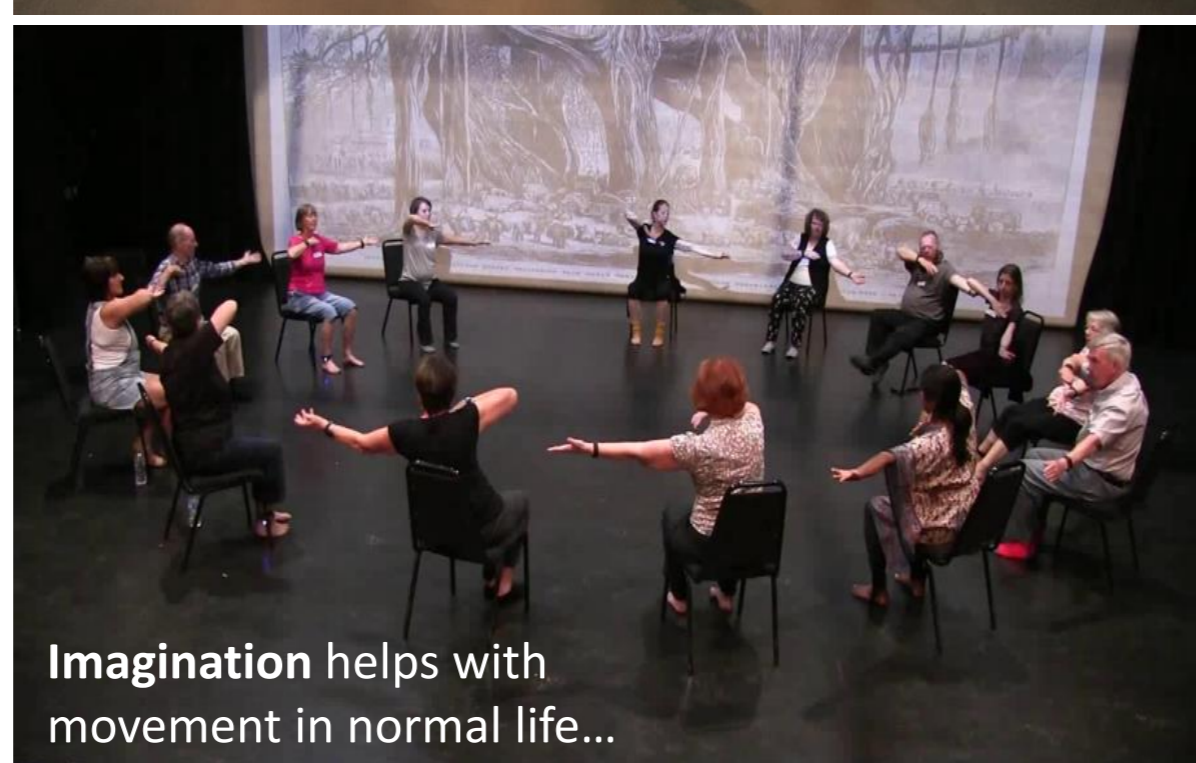
## Focus group themes

### The dance experience:

Positive physical and emotional experiences of classes were reported. Participants appreciated the cognitive stimulation and challenge, as well as engaging in a creative process rather than focusing on exercise or addressing symptoms.

### Dynamics of the group:

Participants appreciated the shared understanding and attitude of the group, the sense of support, and the opportunity to meet new people and socialise.



**Effects of classes:** Physical and non-physical benefits were perceived, as well as some potential negative effects such as increased awareness of disability.

Participants felt that they had gained confidence and motivation. They reported learning new movements, and a sense of regaining what was lost.

Some participants had been able to draw on skills used in classes to help with everyday tasks, by applying imagery, action observation, and fine hand movements.

**Elements of dance:** Participants particularly enjoyed the creative use of hand movements and imitation, as well as the story-telling, themes and music.

## Discussion

- Positive effects of dance were reported across physical and non-physical domains, consistent with previous studies.
- Participants were aware of using action observation, imitation and imagery in dance, as well as the potential application of these skills beyond classes.
- These findings suggest that dance may enhance skills in using observation and imagery to assist with everyday tasks.
- Further research should investigate how action representation may contribute to motor and social/emotional effects of dance in people with Parkinson's.

## References

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