

Music and movement in mind: Exploring vividness and use of imagery related to music and movement in people with Parkinson's disease

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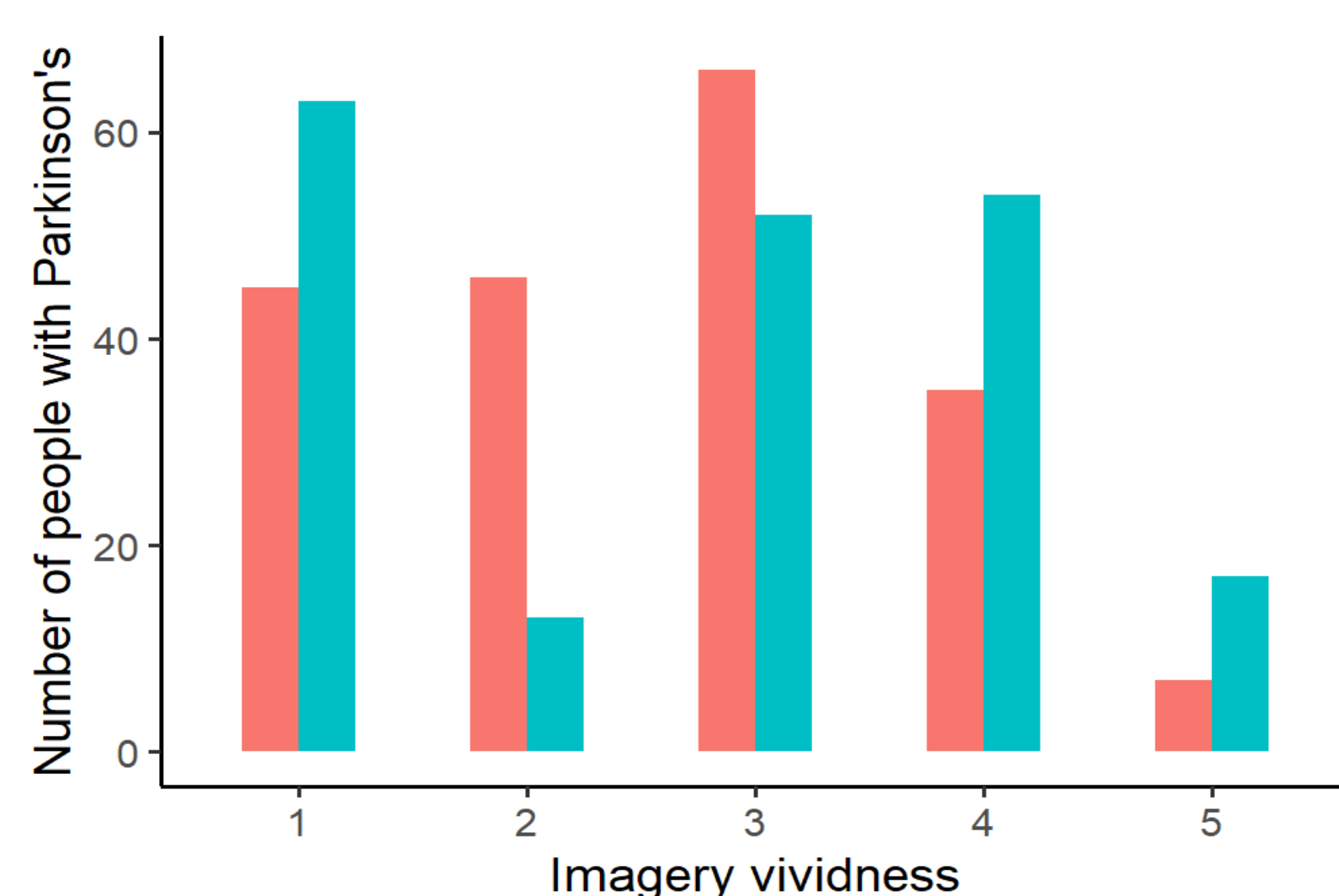
BACKGROUND & AIMS

- Parkinson's disease affects multiple aspects of movement, impacting significantly on everyday tasks. Music is often used in therapies for people with Parkinson's (PwP), such as to pace movements, or within activities like dance¹.
- **This study explored how links between music and imagery could benefit PwP, through: (1) music-evoked motor imagery; (2) musical imagery.**

MUSIC-EVOKED MOTOR IMAGERY

Vividness of imagery:

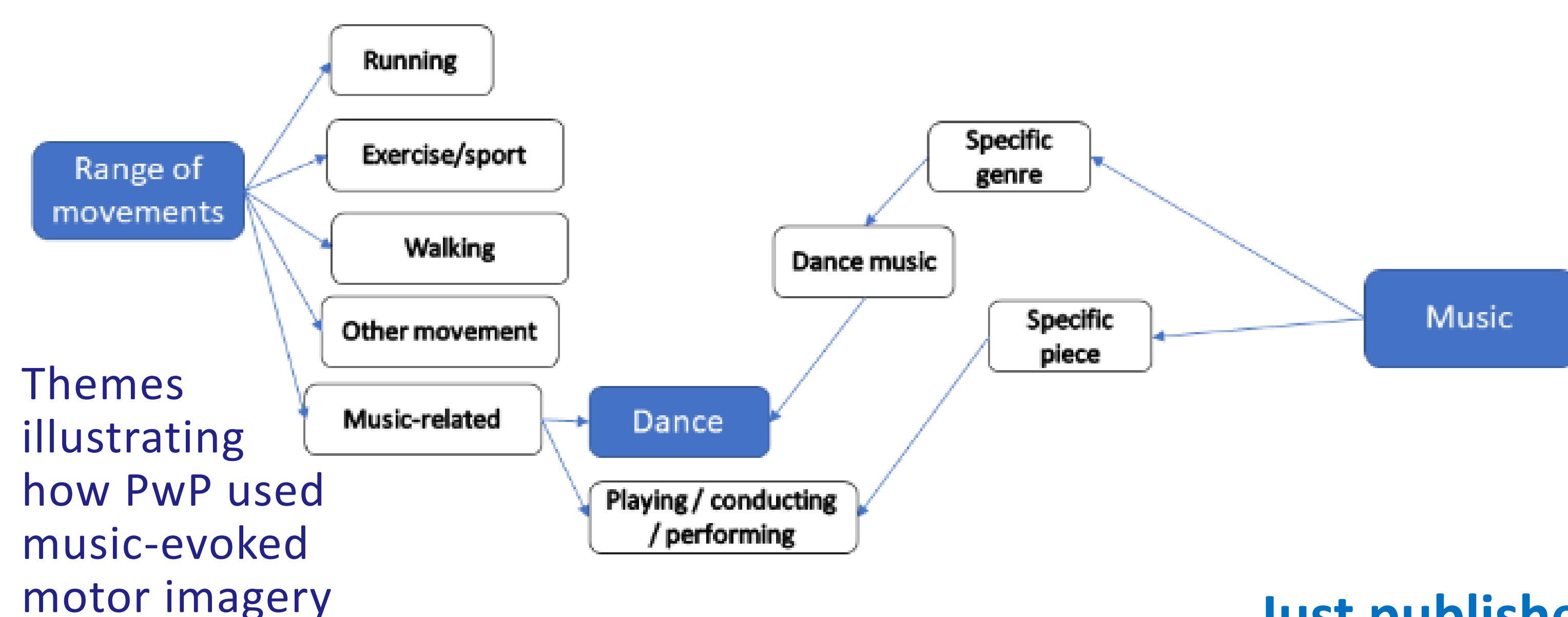
- The majority of PwP experienced music-evoked motor imagery, including those with more advanced symptoms.
- 21% reported experiencing no imagery.
- Visual motor imagery was more vivid than kinesthetic.
- Vividness correlated positively with Gold-MSI⁵ *musical training* subscale and Gold-DSI⁶ *urge to dance* subscale.



Levels of imagery vividness reported for **kinesthetic** and **visual** music-evoked motor imagery. (1= no image/sensation; 5= as vivid/intense as real movement)

Use of imagery:

- 18% PwP reported using music to imagine movements for a range of daily activities. Qualitative analysis explored these different uses of imagery.



Themes illustrating how PwP used music-evoked motor imagery

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REFERENCES

[1] Karageorghis et al. (2020). *The Sport & Exercise Scientist*, 63:6-7; [2] Rose et al. (2022). *Frontiers in Rehabilitation Sciences*, 128; [3] Müllensiefen et al. (2014). *PLoS One*, e89642; [4] Rose et al. (2022). *Psychology of Aesthetics, Creativity, and the Arts*, 16:733-745.

METHODS

- A survey designed in consultation with PwP² investigated how PwP use music in everyday life for management of movement and affective states.
- Data was collected online from 199 PwP (102 females).
- The present study focused on experiences of **music-evoked motor imagery** (imagined movement prompted by music) and **musical imagery** (imagined music).

MUSICAL IMAGERY

Vividness of imagery:

- Mean ratings indicated that musical imagery was "fairly vivid".
- 5% reported experiencing no auditory imagery (including musical).
- Vividness of musical imagery correlated with vividness of music-evoked motor imagery.



Use of imagery:

- PwP reported multiple uses of imagined music.
- Number of reported uses correlated with musical imagery vividness and Gold-MSI *singing* subscale.

Reason/scenario for using musical imagery	% PwP
Because it's stuck inside my head!	89
To relax	80
To energize me	75
To motivate me	72
When I exercise	70
When I'm driving	70
To distract me	65
Because it provides companionship	59
Because it helps me to process my feelings	58
To help with walking	52
To help with everyday tasks	49
Because it helps me to synchronize my movements	49
To help me concentrate	48
Because it's my personal anthem	39

CONCLUSIONS

- PwP mostly reported moderately vivid music-evoked motor imagery and musical imagery, which was similar across levels of disease severity, indicating potential for interventions.
- The broad range of uses for musical imagery suggests potential benefit to motor and non-motor symptoms.
- **Motor imagery and musical imagery could be used, either separately or in combination, to support rehabilitation for PwP.**