Fall 2018

Exploration of a Novel Approach to Measure Brain Smudging in Dancers

Connor Mickelson  
*University of Puget Sound*

Morgan Cooke  
*University of Puget Sound*

Mercedes Friend  
*University of Puget Sound*

Laura Shellooe  
*University of Puget Sound*

Follow this and additional works at: [https://soundideas.pugetsound.edu/ptsymposium](https://soundideas.pugetsound.edu/ptsymposium)

Part of the [Physical Therapy Commons](https://soundideas.pugetsound.edu/ptsymposium)

**Recommended Citation**

Mickelson, Connor; Cooke, Morgan; Friend, Mercedes; and Shellooe, Laura, "Exploration of a Novel Approach to Measure Brain Smudging in Dancers" (2018). Physical Therapy Research Symposium. 46.  
[https://soundideas.pugetsound.edu/ptsymposium/46](https://soundideas.pugetsound.edu/ptsymposium/46)

This Poster is brought to you for free and open access by the Physical Therapy, School of at Sound Ideas. It has been accepted for inclusion in Physical Therapy Research Symposium by an authorized administrator of Sound Ideas. For more information, please contact soundideas@pugetsound.edu.
Exploration of a Novel Approach to Measure Brain Smudging in Dancers

Abstract

Objective
Obtain baseline accuracy measurements of right/left discrimination in actively performing dancers without performance-inhibiting injuries.

Purpose
Gather data that can be used in future studies to expand understanding of brain smudging in dancers.

Methods
This study is a prognostic cohort study. This study will involve participant use of a simple iPad application to do the left and right discrimination test that is suggested to give information on brain reorganization, or brain smudging

Research Problem
The specific physical, mental, and emotional demands of dancers’ careers put constant strain on their bodies to perform at the level required and can lead to injury or a higher risk for reinjury. Traditional interventions often do not address central consequences of injury on the body, such as motor cortex reorganization, or brain smudging. The degree of brain smudging that occurs in injured dancers is currently unknown. Ability to discriminate between right and left sides of the body has been proposed as a means of measuring this smudging.

Results
Mean accuracies out of 100 were as follows: right hand was 62.73 (n=22, SD=23.53), left hand was 61.36 (n=22, SD=16.99), right foot was 94.09 (n=22, SD=11.41), and left foot was 91.82 (n=22, SD=14.02).

Conclusions
The heavier workload that is typically placed on the lower extremities relative to the upper extremities may explain some of the lower accuracy in the hands in this population. Further research is needed to establish scores in those with current injuries and determine whether those scores are predictive of future injury.