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Application and Investigation of a New Mobility Device for Differently-Abled Dancers

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Application and investigation of a new mobility device for differently-abled dancers

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Professional dancers who are differently-abled often use assistive devices such as wheelchairs. However, standard devices have not been designed or formally analyzed from a dance-science perspective as a tool of artistry and a means of support for the physical, interactive demands of dance. The prototype wheelchair under consideration here serves as an intervention in the current unexamined condition of mobility device use for dance.

A dance-specific, smartphone controlled, omni-directional wheelchair was developed over a two year period by an interdisciplinary team led by a dance lens/methodology. Five wheelchair users from different geographical locations (Canada & USA) were recruited to test the chair for this IRB-approved study. Four of five had been dancing for at least 10 years in professional dance. Each participant experimented in the chair for at least one hour in a dance studio with other dancers. Participants engaged with all chair features including: height change, seat rotation, omnidirectional movement, and mobile control. Participants wore the smartphone control (torso/head/back) - directing chair movement by leaning/tilting, and also experienced reciprocally being moved by other dancers. Sessions were video-taped and post-experience interviews were conducted involving difficulty level, applicability, and general sensations experienced.

Four dancers described first-time use of the chair as "somewhat difficult" versus "not difficult at all," "moderately" or "very difficult." One dancer described the experience as "not difficult at all." All dancers described the chair's expansion and enhancement of their performance abilities and creative range, including: movement initiations, spatiality and interactivity. None described physical discomfort; although, one user utilized a seat cushion for support. Emergent themes were: the positive emotional impact of eye level connectivity due to the height change feature, the physical/mental freedom of "hands-free" movement, and the new possibilities engendered by sideways movement in comparison to their existing (powered& manual) chairs.

Participant data collected in this sample indicates that new mobility device options in dance are beneficial and desirable. As more types of bodies explore dance, examining mobility device options and impact (physical/psychological) is a needed area of study to improve training methods and attend to the rigor and artistry of dance.