



Apr 8th, 2:00 PM - 3:00 PM

A New Rehabilitation Method for Stroke Patients: A Comparative Study between the Pasta Matrix Reaching Task and the Novel Reaching Task

Shannon Maloney

Illinois Wesleyan University

Abigail Kerr, Faculty Advisor

Illinois Wesleyan University

Follow this and additional works at: <http://digitalcommons.iwu.edu/jwprc>

 Part of the [Psychology Commons](#)

Maloney, Shannon and Kerr, Faculty Advisor, Abigail, "A New Rehabilitation Method for Stroke Patients: A Comparative Study between the Pasta Matrix Reaching Task and the Novel Reaching Task" (2017). *John Wesley Powell Student Research Conference*. 3.

<http://digitalcommons.iwu.edu/jwprc/2017/posters2/3>

This Event is brought to you for free and open access by The Ames Library, the Andrew W. Mellon Center for Curricular and Faculty Development, the Office of the Provost and the Office of the President. It has been accepted for inclusion in Digital Commons @ IWU by the faculty at The Ames Library at Illinois Wesleyan University. For more information, please contact digitalcommons@iwu.edu.

©Copyright is owned by the author of this document.

Poster Presentation P12

**A NEW REHABILITATION METHOD FOR STROKE
REHABILITATION: A COMPARATIVE STUDY BETWEEN
THE PASTA MATRIX REACHING TASK AND
THE NOVEL REACHING TASK**

Shannon Maloney and Abigail Kerr*
Psychology Department, Illinois Wesleyan University

Stroke is a leading cause of disability worldwide. To promote better outcome for stroke survivors, scientists use animal models to understand basic mechanisms of stroke, rehabilitation, and recovery. Rodent models have revealed that skilled reach training (e.g., coordinated use of digits and limbs) promotes improved functional outcome following stroke. The single-pellet task (SPT) is widely used in rats; however, it can be an insensitive measure in other species, such as mice. The pasta matrix task (PMT) has been effectively implemented in mice; however, the task is limited by its required strength component. This study introduces a novel-reaching task aimed at overcoming the limitations of established tasks. Mice were trained on the PMT, SPT, or the novel task to establish the skill and determine the efficacy of each task. The novel task proved to be difficult for the mice, with performance levels reaching an overall average of 18.5%. After 20 days of training, performance did not reach an asymptotic level. Performance on the PMT and SPT resembled established levels of successful acquisition. Multiple modifications of the novel-reaching task apparatus were explored. Though a poor assessment tool, we believe the novel-reaching task may be particularly useful as a rehabilitative strategy due to the complexity of reach it promotes, which should stimulate high levels of neural plasticity. Findings from this study highlight the importance of drawing comparisons across reaching tasks and caution comparing different task results to one other. A follow-up study is underway whereby each task is compared for its rehabilitative benefits.

