Linear Movement Apparatus Performance Using Internal and External Focus in Senior Adults

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Abstract
The goal of attentional focus studies is to identify whether internal or external focus improves motor learning or performance on tasks. The overwhelming majority of attentional focus research suggests that adopting an external focus of attention when learning and performing motor skills is more beneficial compared to an internal focus (see Wulf et al. for a review). Recent research on attentional focus and motor skills, however, suggest that there may be a difference when learning or performing a motor skill with or without vision (McNair et al., 2017, Abdolahipour et al, 2016). Further, a population that often gets overlooked in attentional focus research are seniors aged 65 years and older. In this study, 20 adults age 65 or older will perform a linear movement task where they have to move a linear slide down a straight track to the target point with and without vision. Their end-point accuracy will be measured.

Research Questions
Q. Will the difference in attentional focus have a considerable effect on performance?
Q. Will performance on the task vary between Males and Females?

Procedures
Twenty otherwise healthy participants will be recruited from local senior group homes since the target population are adults over the age of 65. All participants will be asked to complete a range of motion (ROM) exercise to assess adequate upper arm flexibility to complete the task. Vision will be obstructed with a soft, cloth blindfold that the participants can adjust to their comfort. The experimental task will involve a linear movement apparatus (Figure 3). The participant’s goal is to move the slide cube to a specific target 25cm along the linear track without vision, while utilizing either an internal or external focus of attention. The participants will get three trials using an internal focus and three trials using an external focus. Their instructions for the internal focus will be “focus on moving your hand to the target.” Their instruction for the external focus will be “focus on moving your hand to the target.” After completing all trials, all participants will be asked to share whether they think they performed better using internal or external focus and why. Participants will then be told of their performance on each of the six trials and if they have any questions for the researcher.

Expected Results
Previous research shows that external focus is beneficial in motor learning and in performance on tasks. It is expected to find significantly higher performance in those adults that performed the tasks with external focus of attention. Also, that performance on the tasks will remain constant when executed with external focus.

Selected References