**Title:** Dance as a Protective Measure Against the Cognitive and Physical Declines Associated with Aging: A Proposed Study

**Background:**
Dance is considered a multimodal activity in that it requires both physical and cognitive engagement. Combining physical activity with music may have a synergistic effect, enabling dance to enhance physical and cognitive functions more than music and physical activity alone. The positive changes attributed to dance training such as improved visuospatial and motor ability, high coordination, greater balance, and increased cognitive ability may also benefit individuals as they age.

**Methods:**
This proposed study will examine whether dance training has the potential to protect against age-related cognitive and physical decline by assessing the cognitive and physical domains that show decline with age, including executive functioning, processing speed, memory, attention, visuospatial abilities, strength, balance, gait, and fine motor movement. These will be assessed and compared in healthy participant groups below and above the age of 50, who have training in and are currently participating in either dance, music, or rhythmic physical exercise (e.g. cycling, rowing). These groups will also be compared to controls with no training in these activities. These comparisons will allow for the specific cognitive and physical benefits of dance training to be identified.

**Discussion:**
By assessing both the cognitive and physical levels of functioning in younger and older dancers, the proposed research could indicate the benefits of prior dance training on cognitive and physical functioning in aging. Furthermore, the research may encourage participation in dance training in early adulthood to strengthen and preserve functioning in domains of potential decline.