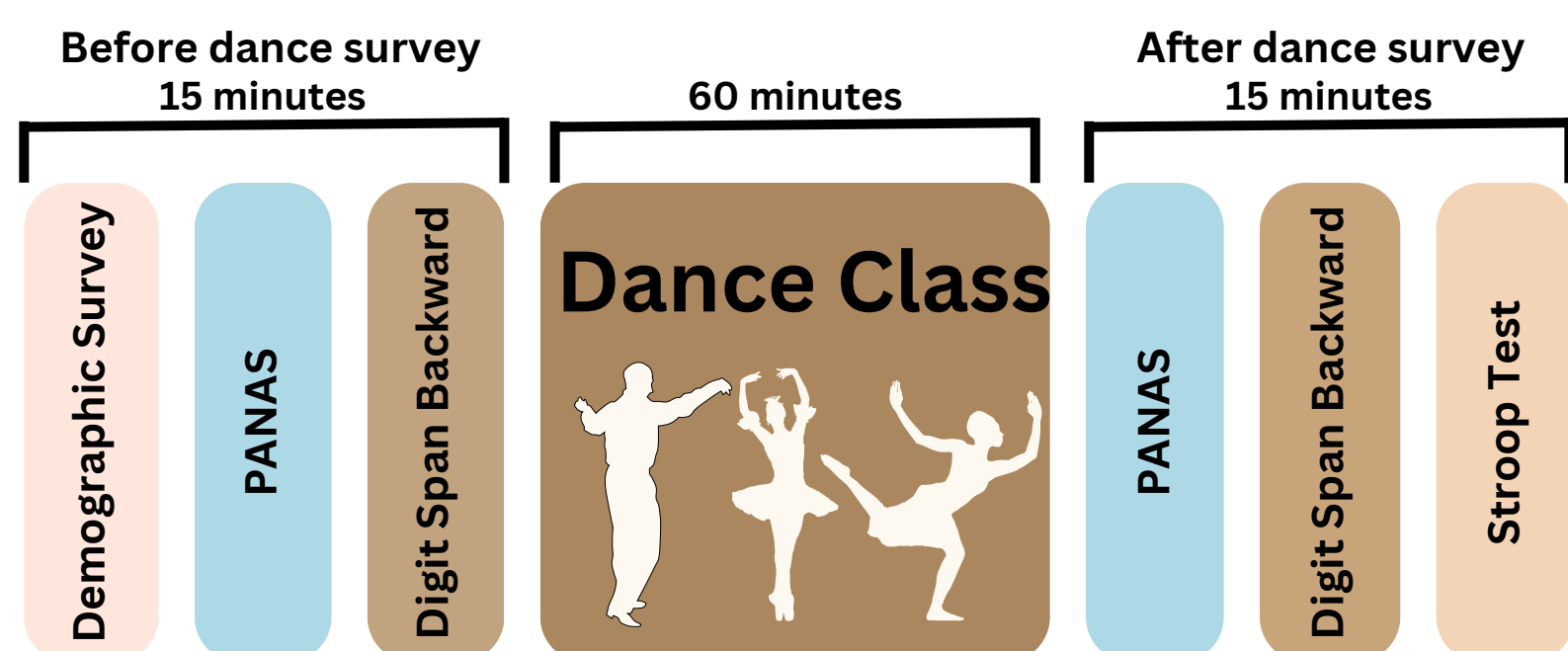


Dance: A Stimulus For Memory?

Background:

- Past studies show that dance interventions improve working memory, increase hippocampal volume, and induce expressive brain plasticity in older adults aged 55+ (Teixeira-Machado et al., 2019).
- There is limited research between dance and cognitive function in people ages 14–24 years.

Methods



Dance interventions included ballet, jazz, and modern classes. All tests and surveys were completed digitally via Qualtrics.

Research Questions:

- Do dance classes affect working memory, executive function, and/or emotion?
- Is there a difference in the results of the cognitive tests correlated with the type of dance class intervention?
- Does previous dance experience (ie years of training) affect cognitive task performance?

Results

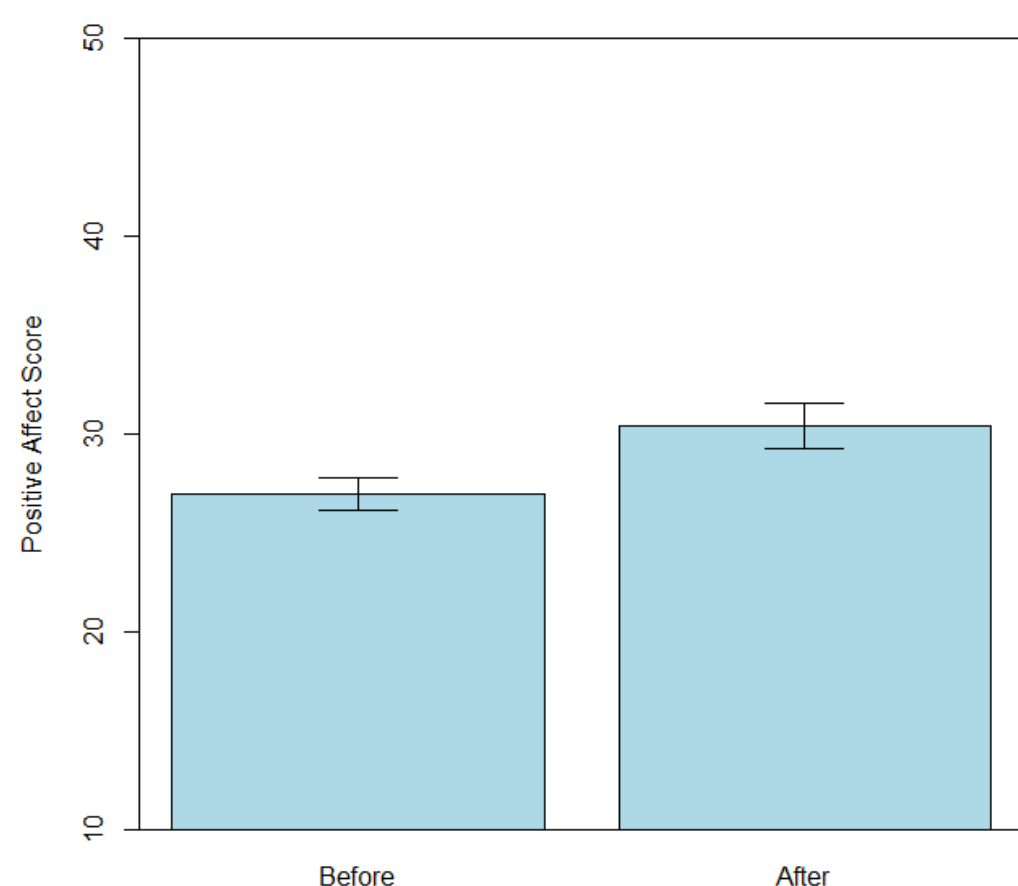


Figure 1. Change in Positive Affect Score
There was a significant difference between the before-dance class scores ($M=26.954$, $SD=6.82$) and the after-dance class scores ($M=30.415$, $SD=9.097$); ($t(64)=3.5433$, $p=0.00074$).

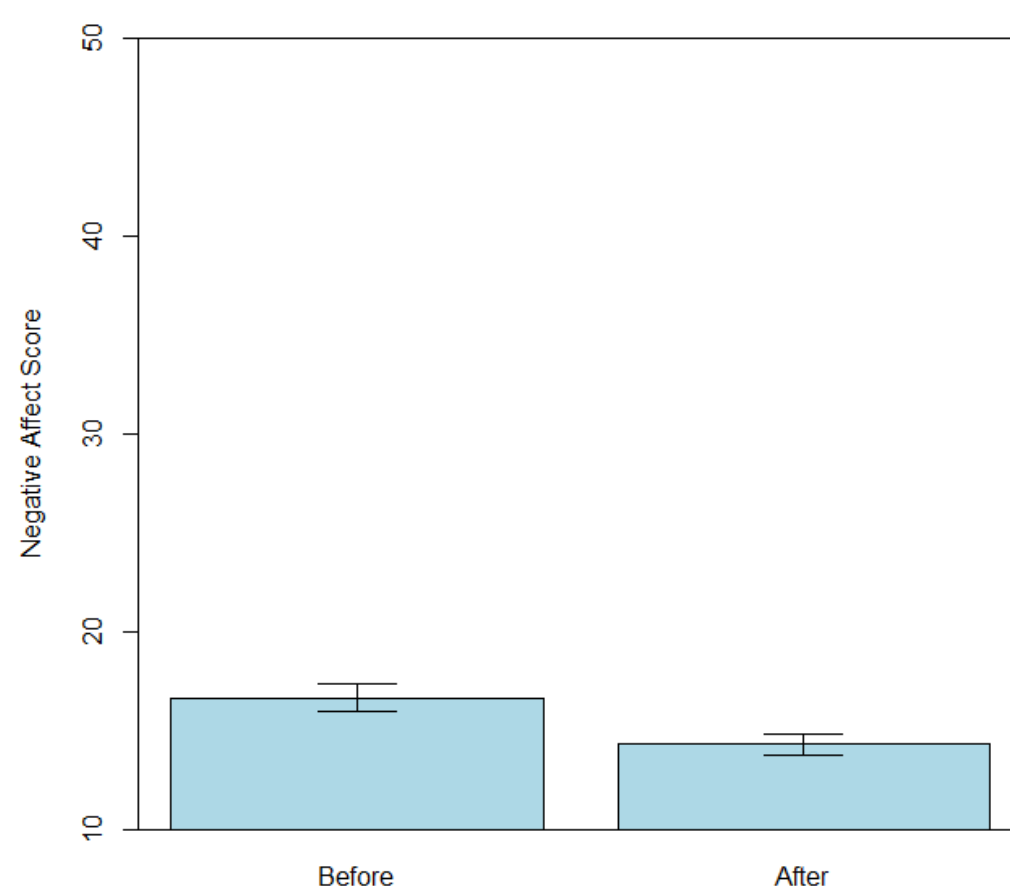


Figure 2. Change in Negative Affect Score
There was a significant difference between the before-dance class scores ($M=16.644$, $SD=5.378$) and the after-dance class scores ($M=14.288$, $SD=4.068$); ($t(58)=3.8113$, $p=0.000337$).

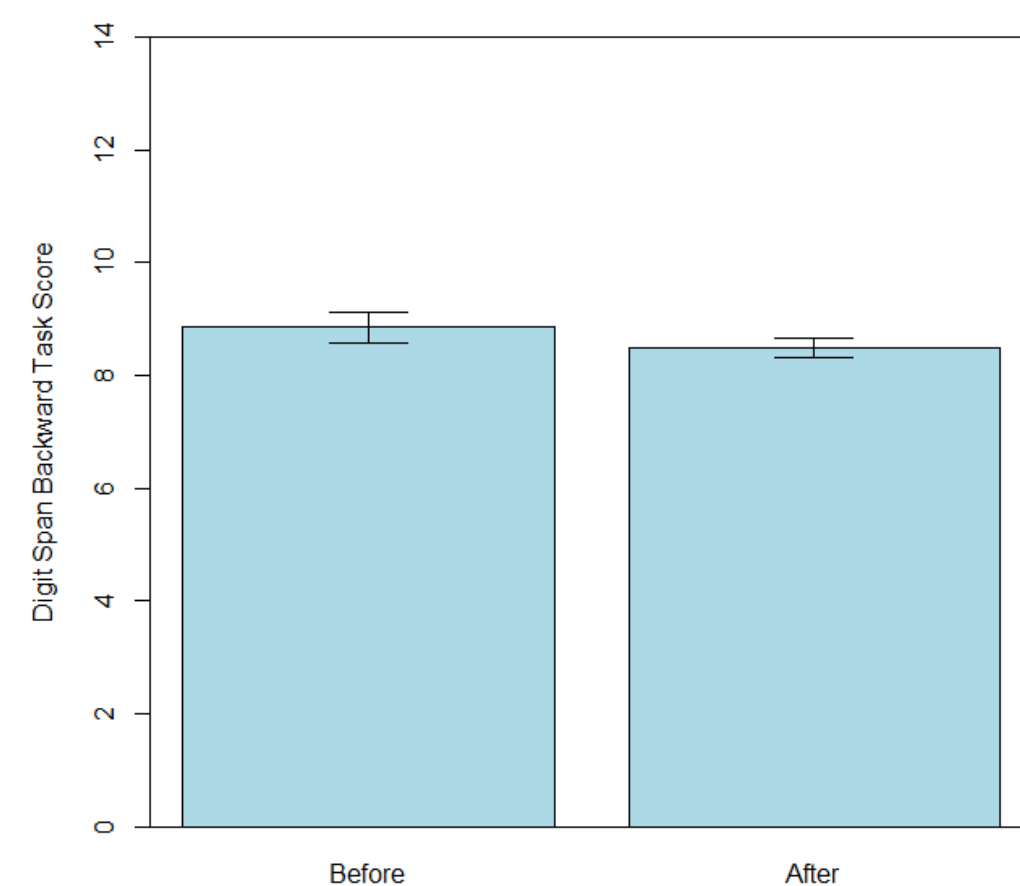


Figure 3. Change in Digit Span Backward Score
There was no significant difference between the before-dance class scores ($M=8.852$, $SD=2.0778$) and the after-dance class scores ($M=8.4814$, $SD=1.269$); ($t(53)=1.2669$, $p=0.2107$).

Conclusions

- Participants in dance classes perceive **more positive emotions** and **less negative emotions** after class independent of the type of dance class (Figures 1 & 2).
- The **digit span backward task scores did not differ** before and after the class suggesting that one hour of dance instruction does not have a significant impact on working memory measured by the task.

