# Article information:

The Impact of Exercise and Virtual Reality Executive Function Training on Cognition Among Heavy Drinking Veterans With Traumatic Brain Injury: A Pilot Feasibility Study  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8981916/>

# Article summary:

1. This pilot study aimed to assess the feasibility of an enriched virtual reality executive function training (VR-EFT) intervention combined with exercise for heavy drinking veterans with traumatic brain injury.

2. The VR-EFT was found to be feasible with moderate usability and high acceptability ratings, and was associated with significant improvement in inhibition-switching and visual scanning.

3. Exercise-only was associated with significant improvements in cognitive inhibition, cognitive flexibility, reductions in alcohol craving, and number of standard alcohol drinks per week.

# Article rating:

May be slightly imbalanced: The article presents the information in a generally reliable way, but there are minor points of consideration that could be explored further or claims that are not fully backed by appropriate evidence. Some perspectives may also be omitted, and you are encouraged to use the research topics section to explore the topic further.

# Article analysis:

The article “The Impact of Exercise and Virtual Reality Executive Function Training on Cognition Among Heavy Drinking Veterans With Traumatic Brain Injury: A Pilot Feasibility Study” is a well-written article that provides a comprehensive overview of the study’s findings. The authors provide a clear description of the study design, objectives, methods, results, and conclusions. The article is based on sound research methodology and provides evidence to support its claims.

However, there are some potential biases that should be noted. First, the sample size is relatively small (30 participants), which may limit the generalizability of the findings to larger populations. Second, the study only included U.S. veterans with AUD and TBI; thus it is unclear whether these results would apply to other populations or individuals without TBI or AUD diagnoses. Third, while the authors note that physical activity has been linked to improved cognitive performance across several executive functions, they do not provide any evidence to support this claim or discuss any potential confounding factors that could influence their results (e.g., age). Finally, while the authors note that virtual reality provides multisensory embodied experiences which are likely to engage brain networks more efficiently than standard cognitive training systems, they do not provide any evidence or discussion regarding how this might impact their results or what potential risks may be associated with using virtual reality technology for cognitive training purposes.

In conclusion, this article provides a comprehensive overview of a pilot feasibility study examining the impact of exercise and virtual reality executive function training on cognition among heavy drinking veterans with traumatic brain injury; however there are some potential biases that should be noted when interpreting these results such as small sample size and lack of evidence supporting certain claims made by the authors.

# Topics for further research:

* Traumatic Brain Injury and Cognition
* Exercise and Cognition
* Virtual Reality and Cognition
* Executive Function Training
* Heavy Drinking and Cognition
* Multisensory Embodied Experiences and Cognition

# Report location:

<https://www.fullpicture.app/item/d29b65b8c5eedc1cfc4e417f8f5079e8>