

# Nice Organization Bro!

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## Introduction

- ADHD affects 5-10% of school-aged children.<sup>1</sup>
- ADHD has been associated with poor academic performance, reduced occupational success, and increased levels of social conflict.
- Executive functions include planning, problem-solving, sequencing, sustained attention, resistance to interference, utilization of feedback, multitasking, cognitive flexibility, and the ability to process novel experiences.
- Visual processing is a foundational skill that occupies as much as 55% of the brain's cortical space.<sup>1</sup>

## Methods

- Key words/terms investigated:
  - Attention Deficit/Hyperactivity Disorder
  - Visual Processing
  - Abnormal Visual Processing
  - Executive Function
  - Executive Function Deficit
- Evidence from prior to 2000 was excluded
- Emphasis was placed on sources that addressed the interaction of the key terms.

## Results

- 33%-79% of individuals with ADHD have a comorbid EFD.<sup>2,3,4</sup>
- Individuals with ADHD and a comorbid EFD perform significantly worse than individuals with ADHD alone.<sup>3</sup>
- Visual processing is the most heavily effected sensory system in ADHD.<sup>5</sup>
- Individuals with ADHD struggle to process visual information both accurately and efficiently.<sup>6</sup>
- Behavioral therapy is a promising horizon for the treatment of ADHD and has been shown to be effective in a range of participants.<sup>7,8,9</sup>

## Proposed activity

- A specific activity targeted to train visual processing deficits and EFDs could help improve ADHD symptoms and effects.
- This activity could be modified to focus solely on visual discrimination or train multiple domains by incorporating visual short-term memory, planning and problem solving.
- This activity will not "cure" ADHD but could be part of a broad therapy program to help improve outcomes

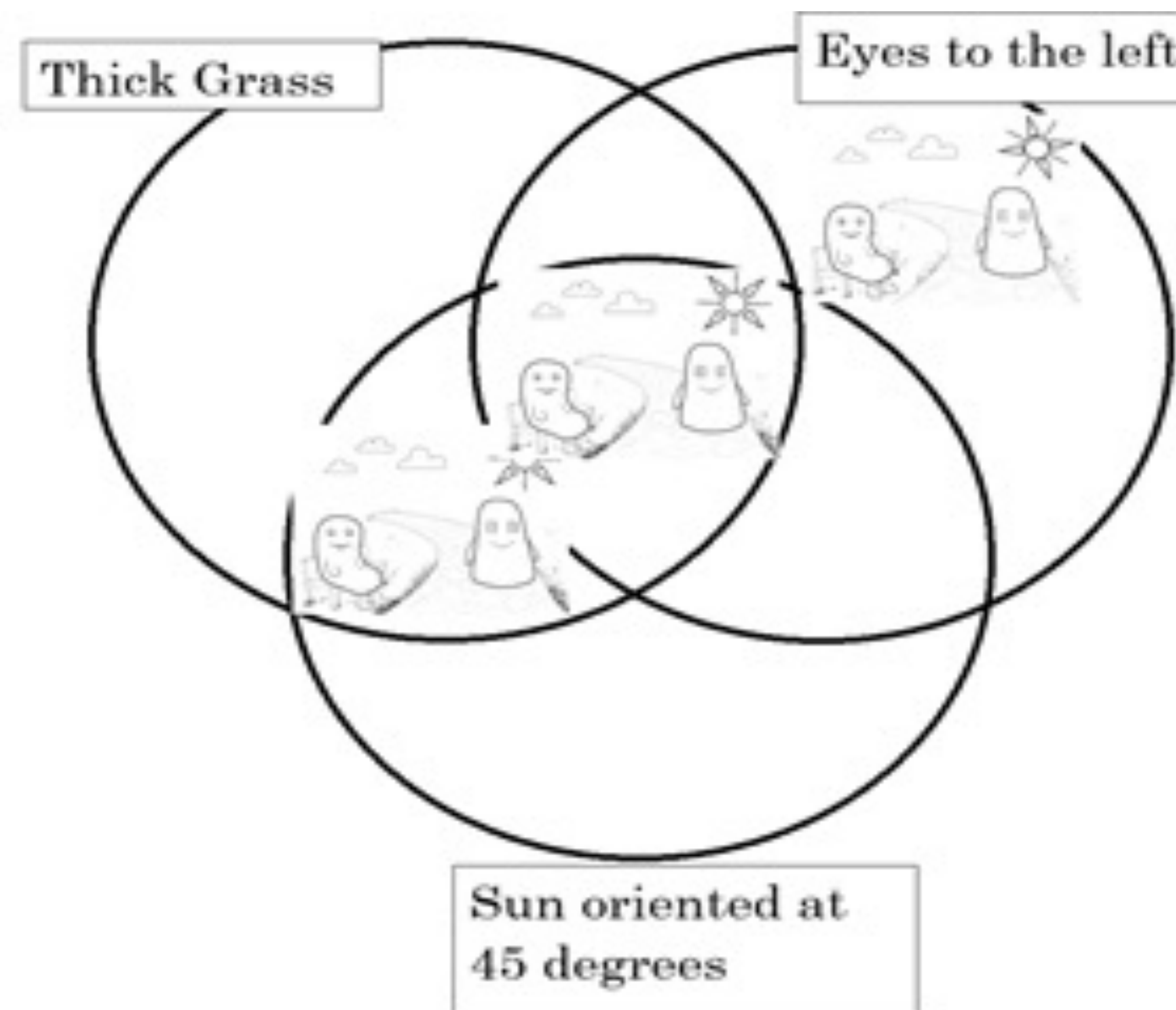


Figure 1: Simple example of organizing similar images into a Venn diagram based on small differences. This example is very simple but still would require use of executive functions (planning, sustained attention, problem solving, etc...) and visual discrimination to complete.

## Conclusions

- Therapy options from Occupational therapists, Pediatricians, and Optometrists should be pursued to increase accessibility.
- An activity specifically designed to address ADHD, EFDs and visual processing deficits would increase efficacy.
- The proposed activity will not cure ADHD, EFDs, or visual processing deficits but should be adopted as part of a wide range of behavioral therapy options.
- Further analysis of the proposed activity should be conducted in the future to help provide standardized performance measures.

## References

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## Acknowledgements

- The author wishes to acknowledge the support, time, and effort of those who made this project possible; Cheyanne Habermann for her moral support during the research phase, Dr. Emily Aslakson, Leandra Concha, and Dick Lynch.