

# Spectacle Wear and Self-Perception in Children with Accommodative Dysfunction

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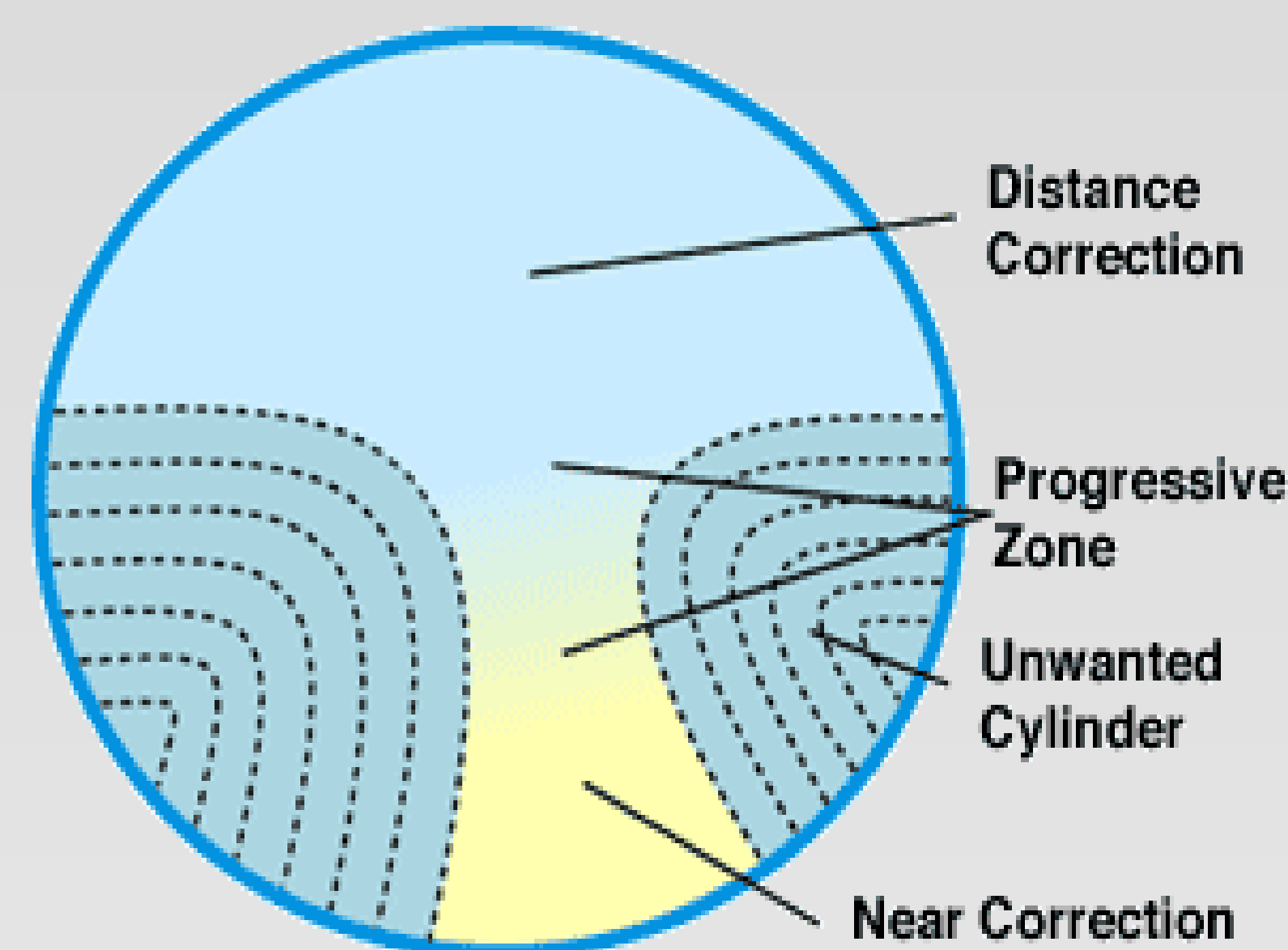
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## Purpose

To determine whether near variable-focus lens wear affects children's self-perception when compared to traditional, lined bifocal lenses for the treatment of accommodative dysfunction.

## Introduction

- Plus near lenses are the consensus among eye care professionals for the treatment of children with accommodative dysfunction.
- To date, limited research exists on the benefits and limitations of using progressive addition lenses (PALs) or near variable-focus lenses in children.
- PALs circumvent numerous limitations of traditional multifocal lenses with varying power in desired amounts and a freedom from distracting lines.
- Traditionally, PALs present a limited field of view, longer adaption time, and marginally diminished performance compared with conventional lenses.
- One lens that may benefit individuals with accommodative dysfunction is the Hoya Sync, a near-variable focus lens that features an aspheric design and maintains a wide intermediate corridor that eliminates the limited field of view and adaptation time of traditional PALs.



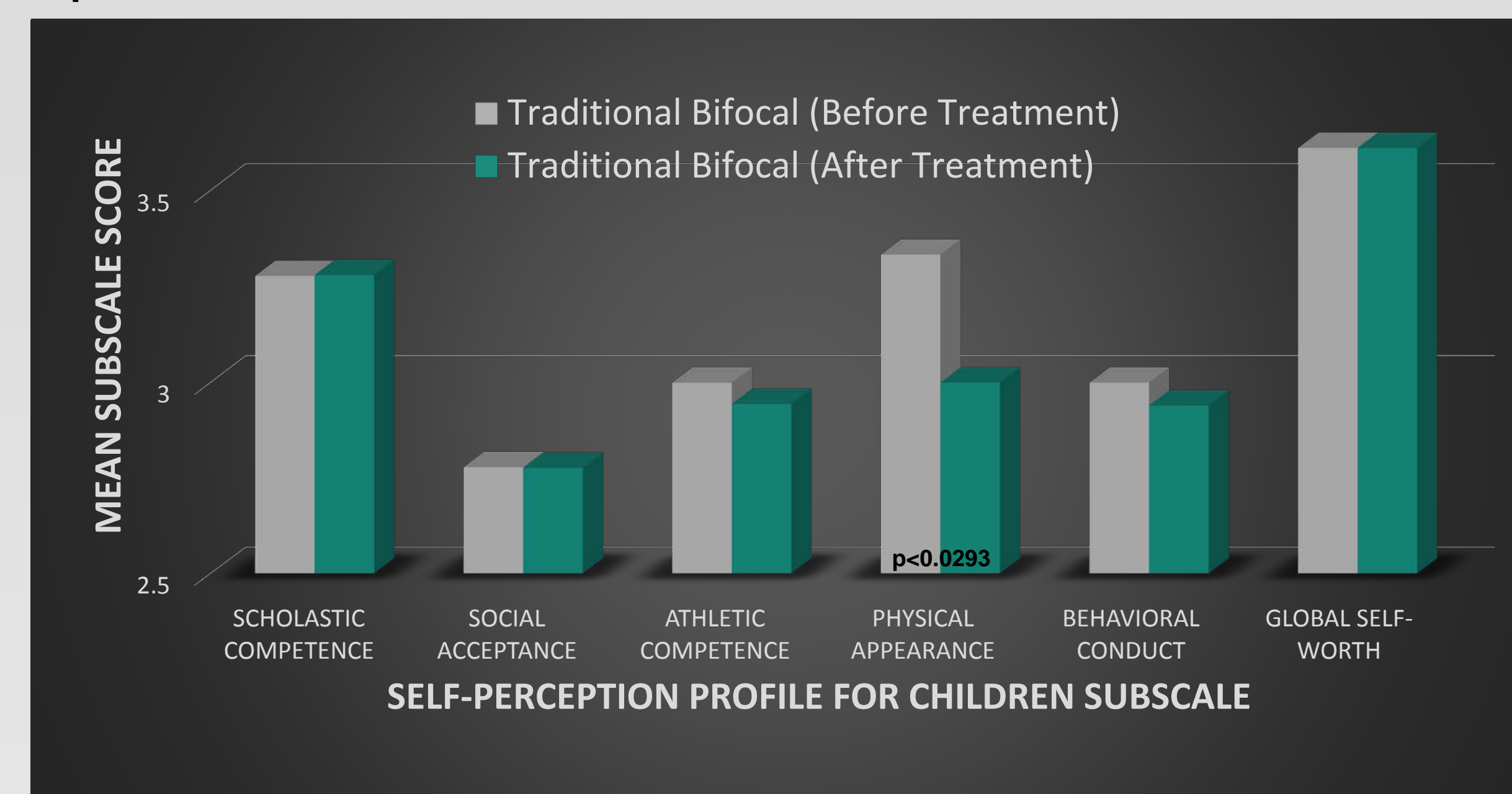
**Figure 1.** The anatomy of a traditional progressive addition lens.

## Methods

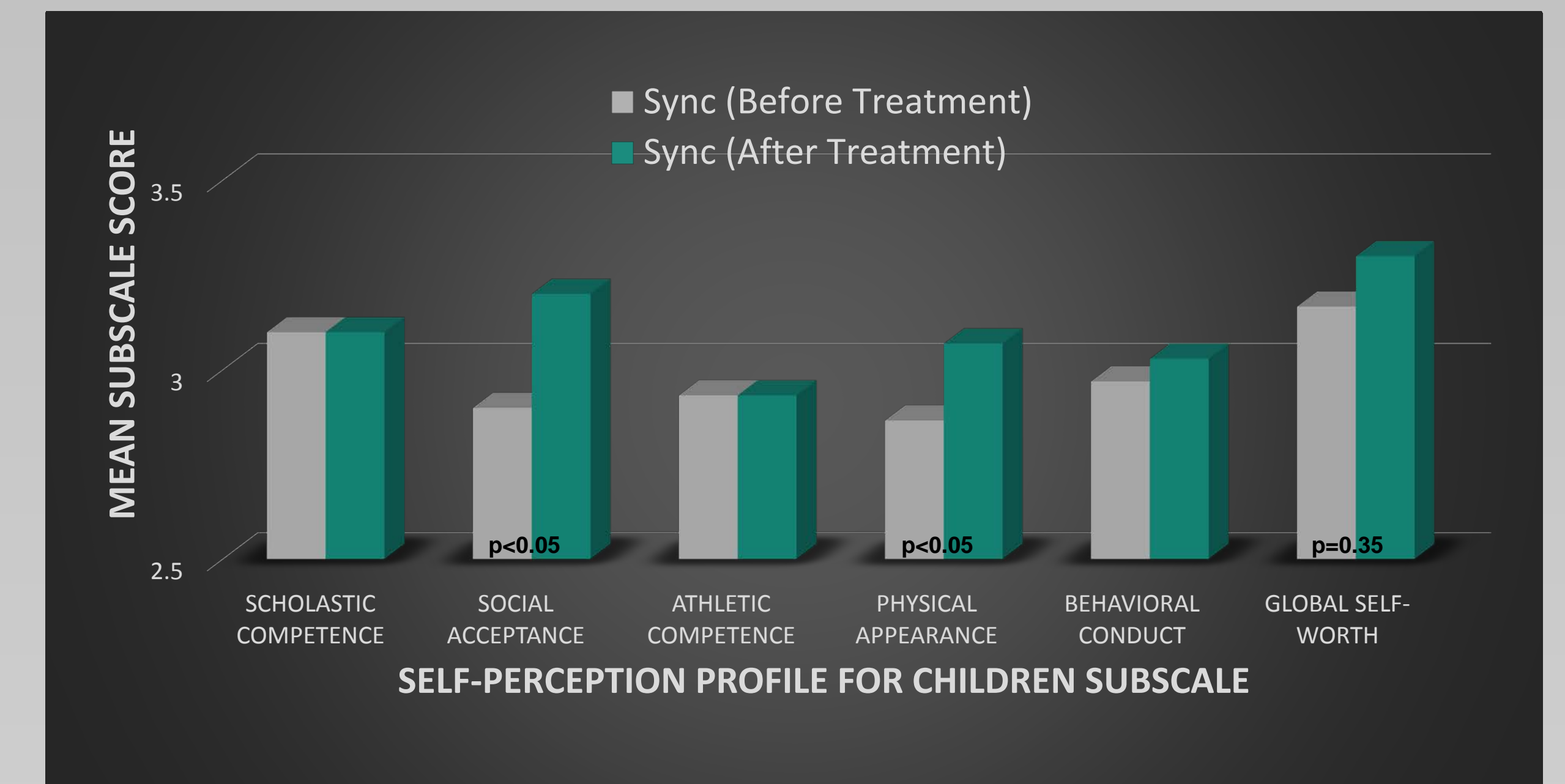
A randomized, single-masked trial was conducted on children ages 9- to 16-years-old with accommodative dysfunction. Subjects were randomly assigned to tests groups for full-time spectacle wear: traditional, lined bifocal lenses (n=5) and Hoya Sync near-variable focus lenses (n=5). Participants were administered the Self-Perception Profile for Children prior to receiving lenses and after 45 days of full-time wear. Data was analyzed using two-tailed paired t-tests. Outcomes included Scholastic Competence, Social Acceptance, Athletic Competence, Physical Appearance, Behavioral Conduct, and Global Self-Worth subscales.

## Results

Physical Appearance ( $p < 0.0293$ ) was reduced following traditional, lined bifocal wear. Physical Appearance and Social Competence ( $p < 0.05$ ) were greater for near variable-focus lens wear. Global Self-Worth ( $p = 0.35$ ) trended toward greater for near variable-focus lens wear. A high percentage (40%) of subjects dispensed traditional, lined bifocal lenses discontinued the study shortly after receiving spectacles.



**Figure 2.** Self-Perception Profile for Children subscale mean scores for traditional bifocal lenses.



**Figure 3.** Self-Perception Profile for Children subscale mean scores for Hoya Sync lenses.

## Discussion

Individuals fit in near variable-focus lenses are likely to exhibit improved physical appearance and social competence compared to traditional, lined bifocals. Eye care practitioners should consider the social consequences of prescribing various modalities of lenses to their patients. Choosing the most appropriate vision correction for children may also improve compliance with spectacle wear.

## Acknowledgements

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