

ABSTRACT FORM

This abstract is being submitted for consideration as a:

- Poster only
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Abstract type:

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| <input checked="" type="checkbox"/> Research Study | <input type="checkbox"/> Case Report |
| INCLUDE: | INCLUDE: |
| - Background | - Background |
| - Methodology | - Case Summary |
| - Results | - Discussion |
| - Conclusions | |

TITLE: Do Glasses Affect Academic Performance

ABSTRACT: (following applicable outline above and limited to 300 words)

Background

This retrospective study compared standardized math and reading scores and GPA from before an eye exam for children in grades 4 through 11 to scores after they received their glasses one year post exam and two years post exam.

Methodology

Between January 2011 and December 2013, 14,663 children from the Chicago Public Schools visited the IEI at Princeton for eye care. Children ranged from prekindergarten to high school (HS) seniors. Children with standardized test scores prior to their exam at Princeton and after their exam were included in the study which limited analysis to third grade through HS.

Results

When the test scores were pooled, a small but significant positive effect was seen on math scores but no effect on reading scores. Modeling divided students into elementary or high school. A small, significant negative effect was seen in reading scores for elementary students (-0.017, p=0.03) and significant positive effect on high school students' reading (0.045, 0.030). Math scores were positive for both (elementary students-0.015, p=0.045, high school-0.073, p=0.00). Students with significant hyperopia or astigmatism showed improved GPA and Latinos improved reading scores. Effects were lost the year following the first year post exam.

Conclusions

These results suggest that corrective lenses improve academic outcomes for students with significant hyperopia or astigmatism, and Latinos. Several challenges preclude results from being extrapolated to general populations: subjects were primarily low income, high number special education students and self-selection. The effect seen may be better than expected since there was no mechanism to ensure that the glasses that were worn as recommended. In addition, the loss of effect after the second year may be associated with change in prescriptive needs, loss of glasses, or simply not wearing them.