
**CHILDREN'S VISION CARE
IN THE 21st CENTURY
AND ITS IMPACT ON EDUCATION, LITERACY,
SOCIAL ISSUES, AND THE WORKPLACE:
A CALL TO ACTION**

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Prepared on behalf of:



Better Life through Better SightSM

Executive Summary

Prevalence of Children's Vision Problems

Experts estimate vision problems are prevalent in 25% of all schoolchildren in the United States and are one of the most prevalent handicapping conditions in childhood. Most of us assume schools are addressing the vision problems of children by performing vision screenings. **However, research has shown that, of children in the 9 to 15 years old age group, only 10% of the children who needed eyeglasses actually had them.**



Children's Vision Screenings

When schools perform vision screenings, typically only distance vision is tested. However, most classroom activities, such as reading, writing, and computer work, involve the use of near vision. In order to assess adequately near-vision abilities and other potential vision issues that may hinder a child's ability to learn, other tests need to be added to school vision screening procedures. **At present, even when children with vision problems are identified during vision screenings, an alarming 40% – 67% of them do not receive the recommended follow-up eye exams or glasses.** What does this mean to us as a society?

Consequences of Untreated Vision Problems in Children: Education, Literacy, and Social Issues

Children with undiagnosed and untreated vision problems grow up to become adults with undiagnosed and untreated vision problems. The failure to detect and treat vision disorders in children affects, among other things, such issues as childhood development, learning performance, self-esteem, social-emotional behavior, academic achievement, high school drop-out rates, and juvenile delinquency. From the standpoint of society in general, the failure to detect and treat children's vision disorders affects the rates of adult criminality, literacy, and labor productivity.



Economic and Workplace Considerations of Untreated Vision Problems

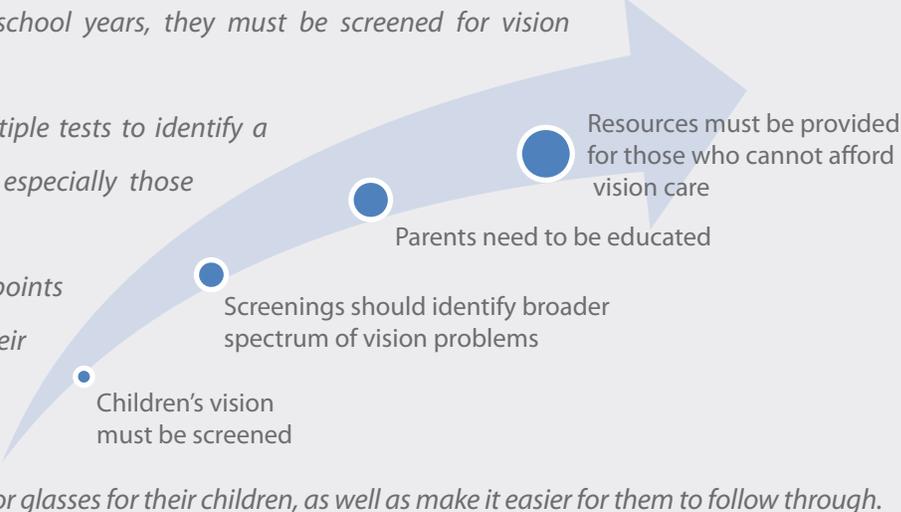
Looking at the problem of undiagnosed and untreated children's vision disorders strictly from the standpoint of dollars and cents, a clearer picture of the costs emerges:

- It has been estimated that a mere 1% rise in literacy scores translates into a 2.5% relative rise in labor productivity and a 1.5% increase in GDP per person.
- In 2006, U.S. organizations spent an astounding \$5.8 billion on employee learning and development of basic skills, such as remedial reading, writing, and math.

Is there any doubt that children must have the vision care and vision skills required in order to perform successfully in school and workplace environments?

Solutions

What can be done to address this situation?

1. As children progress through their school years, they must be screened for vision problems.
 2. These screenings should include multiple tests to identify a wider spectrum of vision problems, especially those affecting near-vision.
 3. Parents must be educated on these points so they do not defer vision care for their children.
 4. We must provide resources for parents who cannot afford eye exams or glasses for their children, as well as make it easier for them to follow through.
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- Children's vision must be screened
- Screenings should identify broader spectrum of vision problems
- Parents need to be educated
- Resources must be provided for those who cannot afford vision care

See references within the body of this document for citations made in the Executive Summary.

A Literate Population is the Backbone of a Healthy Society

Today, literacy is defined as how people use written information in order to function in society rather than merely basic reading ability. Now, more than ever, adults need a higher level of literacy to function well. Society has become more complex and low-skill jobs are disappearing. Therefore, inadequate levels of literacy among a broad section of the population potentially threaten the strength of economies and the social cohesion of nations.¹

To this end, federal and state governments, educational institutions, businesses, and non-profit organizations are working to improve educational opportunities for children. *No Child Left Behind*, the proliferation of standardized testing, and the U.S. Department of Health and Human Services' *Healthy People 2010* are evidence of this. Even so, only a few organizations, outside of those dedicated to eye care, are addressing one of the elemental issues affecting literacy today – poor vision in children. Essentially, the children with untreated vision problems are left behind before they even start school.²

When Children Do Not See Well, Their School Performance Suffers

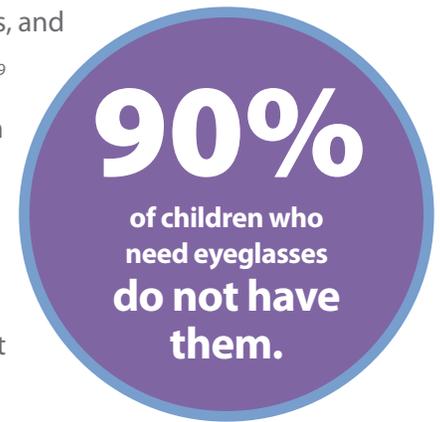
As we work to improve schools and get more books and computers into the hands of children, we must not overlook a prerequisite learning tool – good vision. Simply put, when children cannot see well, their school performance suffers. Experts estimate that 80% of what we learn comes through the visual processing of information.^{3,4,5,6} **Yet two out of three children in the United States do not receive any preventive vision care before entering elementary school.**⁷ Once children enter school, the problem only gets worse:

- According to the National Parent Teacher Association, more than 10 million children in this country suffer from vision problems that may contribute to poor academic performance.⁸



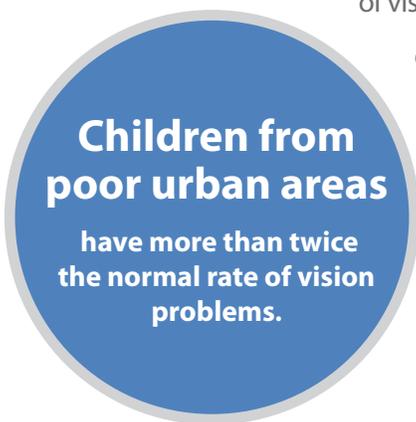
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- Vision disorders are the fourth most common disability in the United States, and they are one of the most prevalent handicapping conditions in childhood.⁹
- It is hard to believe, but estimates tell us vision problems are prevalent in 25% of all schoolchildren.^{10 11 12}
- A study of 5,851 children, ages 9 to 15 years old, indicated that nearly 20% needed eyeglasses. However, only 10% of that group had them.¹³ “Thus, 90% of those children requiring prescriptive eyeglasses were not wearing them.”¹⁴



In school districts in disadvantaged areas, the statistics are even more alarming.¹⁵

- In research with Title I students in the fifth through eighth grades, and academically and behaviorally at-risk children ages 8 to 18, up to 85% of these children had vision problems that were either undetected or untreated.¹⁶
- “Children from poor urban areas, many of whom are ethnic minorities, experience more than twice the normal rate of vision problems.”¹⁷ Without the proper vision skills, these children will be at risk of dropping out of high school.¹⁸



- Teenagers with mediocre high school academic records and low Scholastic Aptitude Test (SAT) scores have been found to have significant numbers of undetected or untreated vision problems. They are at risk of not completing their college programs.¹⁹

By any measure, the level of inadequate vision care for children is significant. Moreover, its societal consequences have been linked to high school drop-out rates, social and emotional problems, juvenile delinquency, adult literacy problems, and incarcerations. The impact on workforce quality and productivity is evident as well.

How Vision Problems Are Addressed in Schools

Most of us assume children’s vision problems are addressed by schools. Unfortunately, 16 states do not require children to receive any preventive vision care before starting school or during the school years; 33 states (including the District of Columbia) require vision screening, but 27 of them do not require children that fail the screening to receive an eye exam by an eye doctor.²⁰

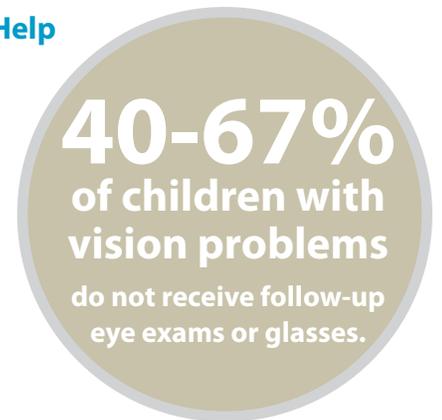
When schools conduct vision screenings, in most cases, they only test distance vision, whereas, most classroom activity involves near vision. Reliance upon the Snellen chart — a 150-year-old test — often determines whether a child has *good eyesight* or *good vision* for the classroom. In fact, today, the Snellen chart is nearly synonymous with *good vision* even though its 20/20 eye chart only tests whether or not a child can clearly see letters 3/8” high from a distance of 20 feet. That is fine when determining if a child can see the chalkboard at the front of the room, but not if he or she can see well close-up to read a book, for example, or view a computer screen.

The deficiencies in school vision screenings would not be so important if most parents did not rely on them to assess their children’s vision health. To that end, the definition of *good vision* needs to be updated to reflect the technical requirements of the learning environment of the 21st century and, likewise, so does the use of the Snellen

chart as the sole arbiter of *good vision*. More tests need to be added to school screening protocols to detect near-vision problems or other potential vision issues that may hinder a child's ability to read, learn, and perform well in school.

Only about Half of the Children Who Fail Vision Screenings Get the Help They Need

When children are identified with vision problems during school screenings, an estimated 40% – 67% of them do not receive the recommended follow-up care by a vision care professional.^{21,22} For example, in the state of Arkansas, 45% of the children referred by school nurses for follow-up vision examinations never received them.²³ In Texas, according to state health officials, 42% did not receive the appropriate follow-up care.²⁴ Findings are similar across the U.S.



Why are these percentages of non-compliance by parents and guardians so high?

What are the barriers to vision care for children?

- **Financial:** Many families do not have vision insurance and cannot afford to take their child to see an eye care professional or pay for glasses
- **Logistical:** Logistical issues include transportation to the doctor's office, childcare for other family members, and taking time off work, especially when the caretaker works in a low-skilled job for an hourly wage.
- **Vision care is not a priority²⁵:** In some cases, families view vision care as an expense that can be deferred. In other cases, parents simply do not believe their child has a vision problem.

Given the low rate of follow up to school vision screenings and the resulting high number of children in need of eye exams and glasses, is it any wonder "Johnny can't read?"

Consequences of Uncorrected Vision Problems

When vision problems are not detected early, they can negatively affect a child throughout his or her lifetime. **Research has found that Title 1 students, juvenile offenders, illiterate adults, academically at-risk college students, and academically and behaviorally at-risk public school students have a higher prevalence of undetected vision problems.**²⁶

"Every year across the country, a dangerously high prevalence of students — disproportionately poor and minority — disappear from the educational pipeline before graduation from high school."²⁷

- "Only about one-half (52%) of students in the principal school systems of the fifty largest cities complete high school with a diploma. That rate is well below the national graduation rate of 70%, and even falls short of the average for urban school districts across the country (60%)."²⁸
- "Only six of these fifty principal districts reach or exceed the national average. In the most extreme cases (Baltimore, Cleveland, Detroit, and Indianapolis), fewer than 35% of students graduate with a diploma."²⁹

How many of these dropouts had vision problems and could have had their life trajectories changed if they had received appropriate vision care as children? Consider this:

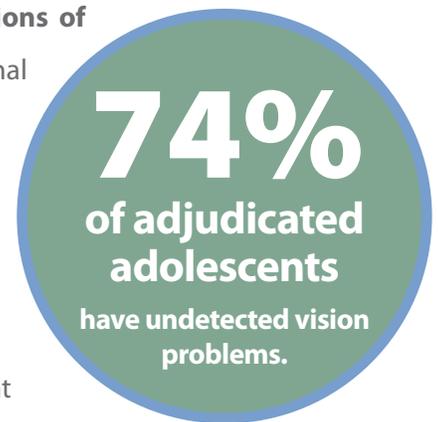
- Previous research has shown a significant number of undetected and untreated vision problems in adults in the lowest levels of literacy.³⁰

- When evaluating adults with literacy problems, studies have indicated ranges of 66% to 74% of their populations failed vision screenings.³¹
- Between 1992 and 2003, there was a decline in the average prose literacy of adults between the ages of 25 and 39.³²
- Many of these adults are the children of yesterday who had undiagnosed and untreated vision problems and grew up to become part of the adult literacy problem we face today.³³

The Link Between Undetected and Untreated Vision Problems, Literacy, and Incarceration

Vision problems can lead to inadequate academic performance in school, self-esteem issues with attendant emotional components and, when triggered by other factors, antisocial behavior.³⁴ In the United States, the incarceration of juvenile and adult offenders is continually increasing in numbers and cost. At the beginning of 2008, the total inmate count at state, federal, and local jails stood at 2,319,258 people in the U.S. With the number of adults in the U.S. numbering 230 million, the incarceration rate is one in every 99.1 adults.³⁵

In 2000, previously undetected vision problems were found in populations of adjudicated adolescents, with percentages as high as 74%.³⁶ In a 2003 national assessment of prison inmates, published in May 2007, only 43% of them had obtained a high school diploma or a high school equivalency certification before the start of their incarceration.³⁷ Social and economic problems such as literacy, high school dropout rates, juvenile delinquency, and adult criminality are complex issues. Even so, vision is often overlooked as a contributing factor, despite overwhelming evidence that it plays a critical role in childhood development and school performance.

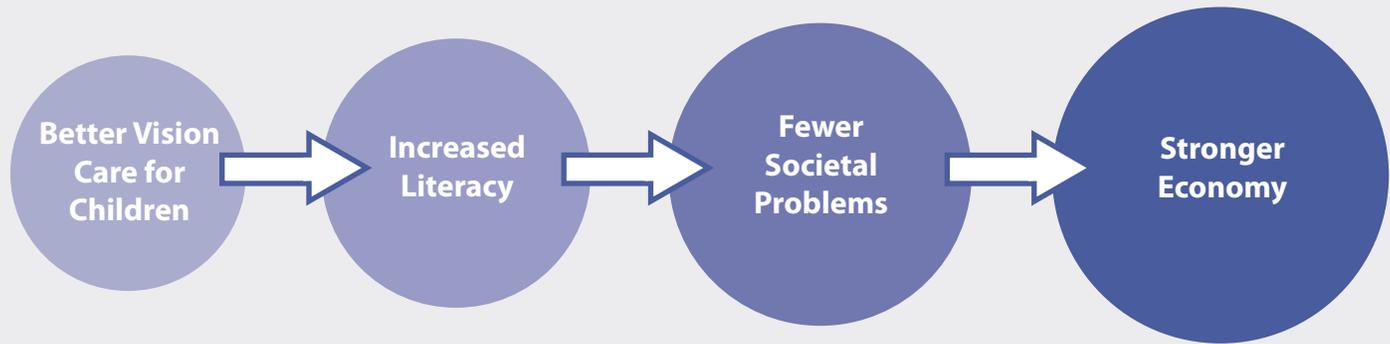


One economist estimates the United States “could reduce the number of crimes committed by 100,000 each year and save \$1.4 billion annually, if 1% more males graduated from high school each year.”³⁸

Vision Care, Literacy, and Workplace Productivity

Better vision care means a more literate and productive workforce. It has been estimated that “...a 1% rise in literacy scores translates into a 2.5% relative rise in labor productivity and a 1.5% increase in GDP per person.”³⁹ “Today the goal of almost all employers is ‘high performance workplaces that integrate technology, work process, and organization ... practices that can adapt to changing business conditions.’”^{40, 41} To achieve this goal, employers are spending billions of dollars to upgrade the basic skills of many employees. In fact, in 2006, U.S. organizations spent an astounding \$5.8 billion on basic skills such as remedial reading, writing, and math.⁴² Smaller companies often do not offer basic skills training. The limited literacy skills of employees cost businesses and taxpayers \$20 billion annually in low wages, profits, and productivity.^{43, 44}

Healthy vision is vital for a productive and efficient workplace. “The U.S. Census Bureau predicts that between 2000 and 2040, the number of Americans aged 65 and over will more than double to 77 million, while the number of prime working age adults between 25 and 54 will increase by only 12%.”⁴⁵ **Today’s children must have the necessary vision skills to perform successfully in school and in the workplace.**



Connect the Dots: Studies suggest that improved vision care can positively affect literacy, societal issues (high school drop-outs, juvenile delinquency, social behavior), and the economy.

How can we attain this goal?

1. As children progress through their school years, they must be screened for vision problems.
2. These screenings should include multiple tests to identify a wider spectrum of vision problems especially those affecting near-vision.
3. Parents must be educated on these points so they do not defer vision care for their children.
4. We must provide resources for parents who cannot afford eye exams or glasses for their children and, whenever possible, make it easier for them to follow through.

Finally, leaders in business, education, government, health, and the non-profit sector must come together to make vision care a priority, including affordable access to prescription eyeglasses, for all children. By doing so, we can ensure a more literate society and a strong economic future.

About the Author

Joel N. Zaba, M.A., O.D., is a practicing optometrist specializing in learning-related vision problems in adults and children, as well as a researcher and author of research articles about vision and its relationship to learning, literacy, school performance, at-risk schoolchildren, and juvenile delinquency. Dr. Zaba has lectured and presented his research on these topics throughout the United States and in Europe.

Among his many accomplishments, Dr. Zaba has served as chairman of the Communications Division of the American Optometric Association and spokesperson for the Vision Council of America. He also was consulting editor to the *Journal of Learning Disabilities* and a member of the editorial board of the *Journal of Behavioral Optometry*.

Currently in private practice in Virginia Beach, Virginia, Dr. Zaba served for over a decade as the vision consultant for the Norfolk (Virginia) Public School System and as a part-time faculty member of the Old Dominion University School of Continuing Education.

About Essilor Vision Foundation

Essilor Vision Foundation is a public non-profit charity established by Dallas-based Essilor of America, the leading manufacturer of optical lenses in the United States. The foundation's mission is to achieve better lives through better sight by creating and supporting activities that advance good vision and its benefits and offering special help to those who need it most.

We strive to give children a brighter future by helping them see the world more clearly. Our current programs focus on:

- Improving the quality of school vision screening so fewer children slip through the cracks
- Providing eye exams and eyeglasses to children who could not get them otherwise
- Educating parents and communities about the importance of children's vision care and the role it plays in literacy, society, and the economy

We believe that, by working together, we can make children's lives better – both now and in the future. Join us today. Help us provide our children better lives through better sight.

Endnotes

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