

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

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Abstract

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. However, research has shown, of children in the 9 to 15 years old age group, only 10% who needed eyeglasses actually had them. Children with undiagnosed and untreated vision problems grow up to become adults with undiagnosed and untreated vision problems. The failure to detect and treat children's vision disorders affects the rates of adult criminality, literacy and labor productivity.

Children must have the vision care and vision skills required in order to perform successfully in school and workplace environments. As children progress through their school years they must be checked regularly for vision problems. These screenings or examinations should include multiple tests to identify a wider spectrum of vision problems, especially those affecting near-vision. Parents must be educated on these points so they do not defer vision care for their children. Resources should be provided for those who cannot afford eye exams or glasses for their children, as well as to make it easier for follow through.

Key Words

children's vision care, literacy, school performance

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 threatens 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. The proliferation of standardized testing, "No Child Left Behind," and the United States (US) 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 health and vision examinations are addressing one of the elemental issues affecting literacy today – poor vision in children. Essentially, children with untreated vision problems are left behind before they even start school.²

When Children Do Not Have Good Vision, 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 do not have good vision, their school performance suffers. Experts estimate that 80% of what we learn comes through the visual processing of information,³⁻⁶ yet two out of three children in the US do not receive

any preventive vision care before entering elementary school.⁷ Vision disorders are the fourth most common disability in the US, and are one of the most prevalent handicapping conditions in childhood.⁸ Once children enter school, the problem only gets worse as approximately 25% of schoolchildren have a vision problem.⁹⁻¹¹ 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.¹²

School districts in disadvantaged areas have statistics that are even more alarming.¹³ Of 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.¹⁴ Children from poor urban areas, many of whom are ethnic minorities, experience more than twice the normal rate of vision problems.¹⁵ Without the proper vision skills, these children will be at risk of dropping out of high school.¹⁶ Teenagers with mediocre high school academic records and low Scholastic Aptitude Test (SAT) scores have been found to have significant undetected or untreated vision problems. They are at risk of not completing their college programs.¹⁷

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 also evident.

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How Vision Problems Are Addressed in Schools

Most parents assume children's vision problems are addressed by schools. As of 2009, nine states do not require children to receive any preventive vision care before starting school or during the school years. Vision screenings are required in 39 states (including the District of Columbia), but 32 states do not require children that fail the screening to receive an eye exam by an eye doctor.¹⁸

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 if a child has good eyesight for the classroom. In fact, the Snellen chart is nearly synonymous with good vision for many even though it only tests that a child can clearly see letters 3/8" high from a distance of 20'. 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 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. The definition of good vision needs to be updated to reflect the technical requirements of the learning environment of the 21st century and discourage the use of the Snellen chart as the sole arbiter of good vision. In today's society, students entering first grade must be able to write in complete sentences, read independently, and be able to retell and comprehend what they read.¹⁹ 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% to 67% do not receive the recommended follow-up care by a vision care professional.^{20,21} For example, in the state of Arkansas, 45% of the children referred by school nurses for follow-up vision examinations did not receive them.²² In Texas, according to state health officials, 42% did not receive the appropriate follow-up care.²³ 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.²⁴ Therefore, 90% of those children requiring prescriptive eyeglasses were not wearing them.²⁵

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.²⁶

Logistical: Logistical issues include transportation to the doctor's office and childcare for other family members. Taking time off work, especially when the caretaker works in a low-skilled job for an hourly wage is also a factor.²⁶

Vision care is not a priority: 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.²⁶

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. Title I students, juvenile offenders, illiterate adults, academically at-risk college students, and academically/behaviorally at-risk public school students have a higher prevalence of undetected vision problems.²⁷ Between 1992 and 2003, there was a decline in the average prose literacy of adults between the ages of 25 and 39.²⁸ A significant number of undetected and untreated vision problems are found in adults in the lowest levels of literacy.²⁹ When evaluating adults with literacy problems, 66% to 74% of the samples failed vision screenings.³⁰ 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.³¹

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.³² In the US, 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 in the US stood at 2,319,258. With the number of adults in the US numbering 230 million, the incarceration rate is one in every 99.1 adults.³³

In 2000, previously undetected vision problems were found in populations of adjudicated adolescents, with percentages as high as 74%.³⁴ In a 2003 national assessment of prison inmates, only 43% had obtained a high school diploma or a high school equivalency certification before the start of their incarceration.³⁵ 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.

Vision Care, Literacy, and Workplace Productivity

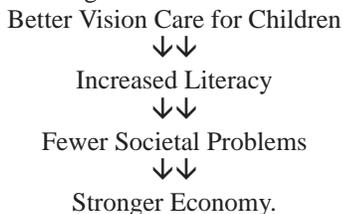
Better vision care means a more literate and productive workforce. It has been estimated that "...a 1% rise in literacy scores translates into a 2.5% relative rise in labor productivity and a 1.5% increase in gross domestic product (GDP) per person."³⁶ Today the goal of almost all employers is "high performance workplaces that integrate technology, work process, and organization ... practices that can adapt to changing business conditions."³⁷ To achieve this goal, employers are spending billions of dollars to upgrade the basic skills of many employees. In fact, in 2006, US organizations spent an astounding \$5.8 billion on basic skills such as remedial reading, writing, and math.³⁸ 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.^{38,39} One economist estimates the US "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."⁴⁰

Healthy vision is vital for a productive and efficient workplace. The US 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%.⁴¹ Today's children must have the necessary vision skills to perform successfully in school and in the workplace.

CONCLUSION

As children progress through their school years, they must be screened for vision problems. These screenings should include multiple tests to identify a wider spectrum of vision problems especially those affecting near-vision. Parents must be educated on these points so they do not defer vision care for their children. 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-care, 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. It is as simple as connecting the dots:



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ABOUT THE ESSILOR VISION FOUNDATION

Essilor Vision Foundation is a public charity whose mission is to eliminate poor vision and its lifelong consequences starting with children.

- The Essilor Vision Foundation provides free eye exams and new prescription eyewear through in-school and partnership programs to children who cannot get them otherwise
- The Essilor Vision Foundation educates parents, teachers, caregivers, and community leaders to be aware of the implications of poor vision and watch for signs of vision problems in children

By helping children see clearly today, we give them a better chance of succeeding tomorrow.

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