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TO SCREEN OR NOT TO SCREEN

The University of Southern Mississippi

To Screen or Not to Screen
Parent's Perceptions of Eye Care Prevention for Pre-School Age Children

by

Bonnie Keaton

A Thesis
Submitted to the Honors College of
The University of Southern Mississippi
in Partial Fulfillment
of the Requirement for the Degree of
Bachelor of Interdisciplinary Studies
in the Department of Interdisciplinary Studies

May 2016

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Abstract

One in 20 children is at risk for permanent vision loss from disorders such as amblyopia and strabismus (Why Save Sight, 2016). Despite vision disorders and childhood blindness being a common disability in children, preventative vision screenings are not at the center of prevention discussions. Studies have suggested that vision screenings for young children are beneficial in preventing permanent vision loss (Vision Screenings for Healthy Vision, 2016). Vision screenings for preschool children are important and require more attention in the United States. This descriptive study addressed parental perceptions of early detection of vision problems among preschoolers in southeast Mississippi as well as what barriers prevent children from receiving preventative vision screenings. “Parents” for this study included mothers, fathers, grandparents, foster parents, and legal guardians. Parents at two different optometry clinics completed a ten-question survey to determine their opinions on this issue. Parents from both locations (85.7%; N=49) reported that young children ages 3 to 5 should have a vision screening before starting preschool. The most frequent reported barrier (16.3%) of children not having regular screenings was noted as the child passing their school screening. Overall, these findings explored the parental perceptions of the need for young children between the ages of 3 and 5 to have screenings completed before entering preschool.

Keywords: vision screening, prevention, detection, children, preschoolers, Mississippi

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Chapter 1: Introduction

Only 21% of preschoolers receive adequate vision screenings (FocusFirst, 2015). Of children who do receive vision screenings, 40% of children who fail their screenings do not receive additional follow up care (Why Save Sight, 2016). In March 2015, an expert panel of the United States National Center for Children's Vision Health adopted new vision-screening guidelines for preschool-age children. The panel recommended that all children between the ages of 3 and 6 should have their eyesight checked on an annual basis (Marsh-Tootle et al., 2012). Some states, such as Michigan and Arkansas, have already recognized the seriousness of the problem and enacted laws requiring vision screenings for preschool age children. Mississippi has no statewide mandates for screening children before they reach school and is one of 19 states with no laws requiring eye screenings. Clearly, the lack of any laws on the subject is a barrier to early detection of vision problems among Mississippi's preschoolers.

Background

FocusFirst, a vision screening program aimed at preschoolers in Alabama for the last ten years, documented that 10.6% of preschoolers failed their initial vision screening and required further follow-up. Many of the preschoolers identified in the screening process in Alabama required further examination by an eye care professional were diagnosed with a serious condition affecting their vision. Ms. Baker, a parent of a child who failed a vision screening in Alabama, emphasized the importance of early detection of vision problems in young children:

You want to make sure your child is fed. You want to make sure they have the clothes they need. You want to do anything you can to make sure they have a fair

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chance. And it's so unfair because she (the daughter) didn't know she couldn't see out of her left eye (FocusFirst, 2015, para. 2).

Common visual problems in young children include refractive error, strabismus, and amblyopia. Vision impairment caused by these conditions can reduce quality of life, function, safety, and overall school performance. Amblyopia and strabismus can affect normal visual development at a critical period of visual development, possibly resulting in irreversible vision loss. Identification of vision problems prior to school entry could help identify children who might benefit from early interventions to correct or improve vision. Children at a young age do not realize that they cannot see properly. Therefore, it is imperative for them to be screened.

Many children in America are living in poverty. In Mississippi alone, 35% of children are living in poverty (U.S. Census Bureau, 2015; Annie Casey Foundation, 2015). Poverty is “a condition of misery, hopelessness, and dependency” (Wood, 2003, p. 707). Poverty can be described as an economic state that does not allow for provision of basic family and children needs (Wood, 2003). When it comes to children, ten percent who are poor are extremely poor and approximately six million of these children are younger than 6. Most children living in poverty are more vulnerable to the environment around them, which compromises their health. Wood (2003) found that children living in poverty have higher rates of poor health as noted by higher rates of hospital admissions and higher death rates. This is due to inadequate access to preventive care (Wood, 2003). Wood determined that poverty was prevalent in the United States and affected children in many ways. Without proper interventions, children are caught in a cycle of poverty and declining health. The British Columbia Health researchers found that children are not

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seeing an eye doctor or having vision screenings due to barriers such as living in a rural or remote area, lack of access to an eye doctor, finances, and lack of awareness of the need for early vision screenings (British Columbia Health, 2012).

The lack of adequate vision screenings among preschoolers is also the result of poor public awareness about the importance of eye care in young children and the inability of young children to recognize their own vision problems. For those families who are economically disadvantaged and/or lack access to appropriate medical care, these issues are even greater. It is not a surprise that a large number of preschoolers in south Mississippi live in poverty. The state poverty rate for children in Mississippi is 35% and it is noted that Mississippi has the highest poverty rate for children in the United States (U.S. Census Bureau, 2015; Annie Casey Foundation, 2015). Unfortunately, the number of children living in poverty in many south Mississippi counties exceeds the state average. For instance, Walthall County has a 38.3% poverty rate, while Forrest and Marion Counties are both at 37%. A 41% poverty rate was found for children who reside in Pike Count (U.S. Census Bureau, 2015; Annie Casey Foundation, 2015).

The lack of transportation for families in Mississippi is directly tied to the poverty rate. Researchers from the Children's Health Fund in 2013 found that lack of transportation played a large role in children not receiving proper health care (Robeznieks, 2014). In fact, the researchers identified that 55 of Mississippi's 82 counties were at high risk for transportation barriers to healthcare access. All but two Mississippi counties were also identified by the study as health professional shortage areas.

Significance

If comparing the state of Mississippi to Alabama, there are many differences that can be found between the two when it comes to preventative vision screenings.

Unfortunately, gaps in literature and data elude that the state of Mississippi lacks preventive services for preschool age children when it comes to vision screenings.

Further research on these perceptions and barriers is needed in southeast Mississippi.

Statement of Problem

Poverty, lack of transportation and a shortage of health care professionals are a few barriers to eye care prevention among preschool population (British Columbia Health, 2012). Failure to recognize the need for glasses is also still one of the main barriers responsible for impaired vision in children today (Neville, Raddi, & Vlemer, 2015). Further investigation of parental perceptions and barriers for this area are needed. This author is seeking to explore if these noted factors are barriers in the geographical area of interest.

Research Questions

Based on these barriers and constraints, this research explores parent's perceptions of eye care prevention strategies among preschool children and barriers to screenings. For the purposes of this research, the following questions were addressed: 1) Do parents agree that preventative vision screenings for children 3 to 5 years old are important? 2) Are there barriers that prevent children from receiving preventative vision screenings? Therefore, these findings explored parental perceptions of the need for young children between the ages of 3 and 5 to have screenings completed before entering

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preschool as well as what barriers prevent children from receiving preventative vision screenings.

Chapter 2: Literature Review

During the literature review process, articles were found using databases like EBSCOhost, Google Scholar, PubMed, and nursing journals. Also, websites like Focus First, Annie Casey Foundation, Center for Disease Control and Prevention (CDC), U.S. Census Bureau and Children's Eye Foundation were used during the literature collection process. Using these databases, keywords were used to find the appropriate journal articles for this research. Keywords used throughout this process were vision screenings, poverty, children, eye health, prevention, detection, Mississippi, and preschool. After using these keywords to find appropriate articles, the articles were then narrowed down by their language and relevance to this study.

Prevention

In the United States, vision disorders are the fourth most common disability (Ciner, et al., 1999). Despite vision disorders being such a common disability, vision screenings are not usually at the center of discussions on prevention. However, many studies (Couser, N. L., 2014; CDC, 2016) have specified that vision screenings in young children are quite beneficial in saving loss of vision. The United States Preventive Services Task Force recommends that all children between the ages of 3 to 5 should have a vision screening completed in order to catch different conditions like amblyopia, strabismus, etc. (CDC, 2016).

The Centers for Disease Control and Prevention (2016) states that amblyopia, which is also called lazy eye, is the most common cause of vision loss in young children. However, damage caused by amblyopia can be reversed with early treatment (Rubin, 1993). Research is suggesting that it might be too late to correct vision issues like

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amblyopia in children ages 5 and 6 (Rubin, 1993).

Prevent Blindness America recently presented their platform for children's eye health. They believe that children are living with unnecessary vision loss that could be corrected if caught early on (Prevent Blindness America, 2008). Their plan is intended to build a strategy promoting children's vision health in the United States and a framework for unifying important resources from the vision health community, both organizations and individuals, to work together to expand vision health services. The platform's six planks consist of professional vision care, vision screening, school readiness and vision, children's eye safety, public awareness and understanding of children's vision and eye health, and pediatric vision and eye health research (Prevent Blindness America, 2008). Healthy People 2020 aim to reduce childhood occurrence of vision impairments through early detection and making sure children are receiving treatment in a timely manner (Chu, Huany, Barnhardt, & Chen, 2014).

Health Care Workers Perception of Prevention

Optometrists, public health administrators and pediatric ophthalmologists in Ontario were surveyed regarding their opinions and experiences with preschool vision screening. Reed and Kraft (2004) concluded that all health care providers strongly supported preschool vision screenings. The results from the survey also included that lack of sufficient funding, education, and government support are barriers to preschool vision screenings (Reed & Kraft, 2004). Many providers reported that they are not involved with screening programs anymore due to lack of organization and structure of the program (Reed & Kraft, 2004). Since providers do believe that screenings are important, revamping screening programs could generate more support and involvement from vision

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health care providers. More support, in turn, would provide more resources to insure the availability of additional screening programs in areas where access to healthcare is limited.

Kemper and Clark (2006) evaluated the barriers to preschool vision screenings based off pediatricians' attitudes. The study used a survey as their instrument to look at pediatricians' practice and attitudes toward preschool vision screenings. The results concluded that most of the pediatricians that were a part of the data collection endorsed preschool vision screenings as important (Kemper & Clark, 2006). Of the pediatricians surveyed, 62% believed that there should be reimbursement for vision screenings. Only 51% of pediatricians reported that they bill insurance separately for formal vision screenings (Kemper & Clark, 2006). Out of the pediatricians asked, 3% reported that they thought screening is unnecessary. They believe that vision problems would be identified elsewhere (Kemper & Clark, 2006).

A study conducted in the state of Alabama focused on pre-school vision screenings in primary care offices around Alabama. The purpose of the study was to assess the barriers, practices and facilitators of preschool vision screenings at pediatric primary care offices. The study took into consideration the physicians, nurses, and certified medical assistants (Marsh-Tootle et al., 2012). The results of this study indicated that a few barriers that cause lack of vision screenings are due to difficulty in testing preschoolers, distractions in the office, time constraints, and limited reimbursement for the services (Marsh-Tootle et al., 2012).

Parents Perception of Prevention

The way children learn relies 80% on their vision and 25% of all children have vision problems; therefore good vision is crucial to learning (Kimel, 2006). In a study completed in 2006 in Illinois, parental attitudes were reviewed about follow-up exams after their child failed a vision screening (Kimel, 2006). Kimel (2006) stated that many children are not receiving professional eye examinations after failing vision screenings. Kimel used this study to determine the barriers that stand in the way of follow up care based off of parental perceptions. After public school students failed their vision screenings the parents of the children who did not have follow-up examinations were interviewed (Kimel, 2006). Out of the 55 families that agreed to participate in the study, 44 children had not received follow-up exams when interviewed (Kimel, 2006). The results of the study presented that 85% of the families that participated were low-income families (Kimel, 2006). The barriers that these children were faced with based on the parental perceptions and views were as follows: 31% reported financial barriers, 9% had lack of transportation, 29% of families did not believe their child needed a professional exam, 38% did not believe the results, 38% did not see an exam as a priority, and 18% were not interested in a follow-up (Kimel, 2006). Overall, the results of Kimel's study were able to reflect the attitudes of parents when it comes to eye care prevention and how perception of the family members is a big barrier stopping children from receiving the eye care they need.

In a follow-up study based on vision screenings in primary care offices, telephone interviews were conducted with parents of preschool age children who had an abnormal vision-screening test in their primary care office (Kemper, Uren & Clark, 2006). The

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interview surveys were conducted two months after referral to allow time for follow-up (Kemper, Uren & Clark, 2006). The interview surveys found that one parent reported that her child had a “lazy eye” but did not notice any “big problems,” therefore they are waiting “until it gets worse and absolutely necessary” to have a follow-up exam (Kemper, Uren, & Clark, 2006). The telephone surveys also revealed that one parent did not go through with a follow-up exam because it was not a requirement for entering kindergarten while another parent did not follow-up because she did not believe her child had a vision problem (Kemper, Uren & Clark, 2006). The results of this study reflect that parents’ lack the knowledge of the benefits of early intervention and therefore stand as a barrier for their children to receive preventive, beneficial vision treatment.

Prevention Awareness

In a study completed through affiliation with the Southern College of Optometry, it was determined that children did not receive proper vision care because of their parent’s attitudes on preventive eye care (Oswald & Russell, 2009). With help from the Southern College of Optometry, a total of 3,931 vision screenings were performed (Oswald & Russell, 2009). In order for the children to be evaluated, a consent form was sent to the parents, which included a few questions. The questions asked:

Has your child had an eye exam by an eye care practitioner? 2) If not, select the most appropriate reason: A) No Insurance B) Passed pediatrician screening C) Passed school screening D) Financially unable E) Child has no problem F) Other (Oswald & Russell, 2009, pg. 1).

The results of the study indicated that both parents and pediatricians’ attitudes towards vision care should also be considered as barriers to early detection (Oswald & Russell,

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2009). The study also indicated that in order for the importance of vision screenings to be well-known, education of parents and health care providers is needed (Oswald & Russell, 2009).

Nearly 80% of preschool age children never receive an eye examination (Castanes, 2003). Castanes (2003) explored the social, economic, and political barriers contributing to underutilization of vision screenings among preschool age children and found that social contextual barriers were ignorance and inconvenience. The author also concluded that ignorance was a huge barrier that had to be addressed in order to spread the message of the importance of vision screenings (Castanes, 2003).

Gower et al. (2013) discussed the barriers that lead to patients not having follow-up exams after failing a vision screening. Of the patients who participated, the results indicated that the biggest barrier (60%) was lack of transportation or not enough funds to get transportation (Gower et al., 2013). The barriers also presented were as follows: 34% say forgetting is a barrier and 26% saying scheduling conflicts (Gower et al., 2013).

Neville, Raddi, & Vlemer (2015) discussed that parental cooperation is still a big problem when it comes to children who have failed their vision screening and need to have secondary screenings. Their results have shown that after completing one school vision study, it took around eighteen months for children to see an eye care specialist after failing a vision screening and being referred out (Neville, Raddi, & Vlemer, 2015). The authors found that children coming from low income families faced barriers like financial, logistical and social barriers when it came to follow up care after these children failed their vision screenings (Neville, Raddi, & Vlemer, 2015). Overall, the authors concluded that parental influence is preventing timely intervention when it comes to

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children receiving follow-up care after failing an initial vision screening (Neville, Radii, & Vlemer, 2015).

Prevention and Treatment Success: National and International

The Where Healthy Eyes and Ears Lead to Success (W.H.E.E.L.S) program was established in the Richmond, Virginia area to provide vision screenings to preschool age children. This program is a mobile program that provides vision and hearing screenings to preschools around the area (Couser, 2014). The program has provided 12,402 preschoolers with free vision screenings (Couser, 2014). From September 2010 to March 2014, 15,075 preschoolers were offered a free vision screening and 12,402 were screened (Couser, 2014). Based on the screenings, 3,018 failed the screening and were referred for further treatment (Couser, 2014). The W.H.E.E.L.S. program has displayed that having a mobile vision-screening program that uses photo-screening technology in targeting children prior to school entry is an efficient and cost-effective way to detect vision disorders in a timely manner (Couser, 2014).

The Lion's Club is an international nonprofit organization using their platform to help save sight by establishing a sight program that provides different eye care to people all over the world. Along with vision screenings, they set out to provide glasses to those in need but cannot afford them. Since they established their sight program, they have been able to save the sight of 15 million children (Lions Club International, 2016). They have also been able to prevent severe vision loss for over 30 million people all around the world (Lions Club International, 2016). Not only do they provide vision screenings for people all over the world, they also provided needed surgeries for those who cannot afford surgery. They have been able to provide close to 8 million cataract surgeries since

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the sight program began (Lions Club International, 2016). They also established a KidSight program that has been successful in screening over 440,000 children (Vision Screenings for Healthy Vision, 2016). Overall, this organization is able to provide vision screenings to thousands of people every year.

Scientists today are reporting that widespread early detection and prevention strategies are vital and inevitable for good health (Rubin, 1993). New methods have been developed to aid in screening children who are not able to read an eye chart. In Australia, a program was established called the *New South Wales Statewide Eyesight Preschooler Screening Program*. This program was a state funded, universal screening program for four-year-old children (Blows, Murphy, Martin, & Davies, 2014). This program screened 65,834 four-year-old children. Of the children screened, 6,421 were referred to an eye health professional for further assessment (Blows et al., 2014).

Many states do not require mandatory vision screenings for children before entering school. They also do not sponsor or fund programs that provide vision screenings. Like the program implemented in Australia, a program was started in British Columbia that screened for vision disorders in children not yet 6 years of age (British Columbia Health, 2012). The authors of this study conducted vision screenings over a three-year period. Results from this study showed that one in five children were referred to an eye doctor after completing the screening (British Columbia Health, 2012). This study also found the following: six percent of kindergarteners were referred for stereopsis; 28.6 percent of referred children in the sample of 5,568 were prescribed treatment; 60 percent of referred 3 year olds saw an eye doctor within one year of their vision screening; 50 percent of kindergarteners referred saw an eye doctor within a year

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of screening; 1.5 percent of 3 year olds had visited an eye doctor before their screening, and 3.8 percent of kindergarteners had visited an eye doctor before their screening (British Columbia Health, 2012).

Chapter 3: Methodology

Overview

This study investigated parental perceptions and views toward eye care prevention for preschool age children as well as their view on what barriers stand in the way of these children receiving eye care prevention screenings/exams. The population identified as “parents” include mothers, fathers, grandparents, foster parents, and legal guardians. This study was conducted in a city in southeast Mississippi over a two-month period.

Participants

A convenience sample of 55 English reading mothers, fathers, grandparents, legal guardians, and foster parents who have or have had young children who are presently ages 3 to 5 or have been ages in the last ten years were surveyed as the participants of this study. These parents are either raising or have raised children in south central Mississippi. Completion of the survey will indicate parent willingness to participate in the study voluntarily. No incentives were offered during this research process. Participant exclusion includes any other persons bringing in a child, not English reading, and unaccompanied minors coming into the clinics. This study was also under the assumption that all participants would answer the questions truthfully in order to provide accurate data.

Research Design

This study was conducted by distributing a ten-question survey at two different optometry clinics (Appendix A). The adult participant will be bringing in children or entering into one of two offices, location A or location B. Both locations are across the six lane highway from each other. Location A is next door to a national retail optical

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whereas location B has a private retail shop located in their office. Location A is also right in the middle of a major shopping area in southeast Mississippi. To begin the research process, letters of support were obtained from the two participating clinics. After applying and obtaining approval from the University of Southern Mississippi IRB (See Appendix D), surveys were printed and distributed to each clinic. At the clinics, surveys, a lock box, flyers (See Appendix B), front desk instructions, and contact information were dropped off. Front desk workers at both clinics were instructed on how to give out the surveys once the research start date began. Each clinic was given a front desk instruction page (See Appendix C) that explained to the front desk workers that if someone wanted to participate, they were handed a survey and informed to fill out all parts of the survey and return it to the lock box located at the front desk. They also were to inform potential participants that if they had any questions to use the contact information located on the first page of the survey or the information located on the drop box. The front desk staffs were also informed that they would have no contact with the lock box. The completed surveys were picked up around every two weeks during the research period. Research collection began on December 21, 2015 and ended on February 15, 2016. Data collected will be kept confidential and will not have an impact on the eye care treatment provided at both locations that participated in the research process. After the surveys are completed, the number of parents who believe that preschoolers should be screened and why will be tabulated and then compared to the number of parents who believe preschoolers should not be screened in order to determine their views on prevention through screenings. The results will also be analyzed to determine barriers were reported that impede early detection of vision problems in young children as well as

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follow up treatment after failing an initial screening. Each survey completed will be assigned a number and letter depending on which clinic the survey was completed at. The results of the surveys were entered into an Excel spreadsheet using a personal password protected computer. Once all data had been recorded and analyzed, surveys were placed back in the secure lock boxes and will be shredded and disposed of six months after all graduation requirements have been fulfilled.

Variables

The dependent variable of this study is a parent's perception of prevention for eye care. Perception can be defined as "the way you think about or understand someone or something" (Merriam-Webster Online, 2015). The different variables that will also play a part in this research will be the effect of age on treatment outcome, impact of socio-economic status of patient/patient's family on treatment outcome, impact of presence/absence of health insurance coverage on treatment outcome, and the influence of parental understanding of the importance of comprehensive eye examinations on treatment outcomes following vision screening.

The demographic variables that will be a part of this study will include relation to the child (i.e. mother, father, grandmother), income status, insured, uninsured, eye health history, and age of their child at the time of their screening. The surveys will also ask questions that will discern whether influence of socio-economic status of the patient's family plays into the participants' views and attitudes.

Chapter 4: Results

Combined Locations

The survey was distributed to two optometry clinics in order to obtain parents' attitudes on vision screenings as well as possible barriers for follow up screenings. After being given out at two clinics, 55 surveys were completed. Of those 55, 30 surveys were completed at Location A and 25 surveys were completed at Location B. Out of the 55 surveys completed, only 49 surveys could be used to be analyzed. Six surveys, three from each location, had to be excluded due to either not answering if they were 18 years of age or older or marking that they were under the age of 18.

Combined Locations' Demographics

All children being seen at both locations must have been accompanied by an adult 18 years of age or older in order to be seen. Of the 49 participants, 100% stated they were over the age of 18. The 49 participants also were asked about their relationship to the child in question. After combining the two locations, 81.6% identified themselves as the mother where as 12.2% identified themselves as the father. Of the 49 participants, 2.1% stated they were the foster parent and 4.1% stated they were the grandparent.

Table 1

Demographics: Relationship to the Child

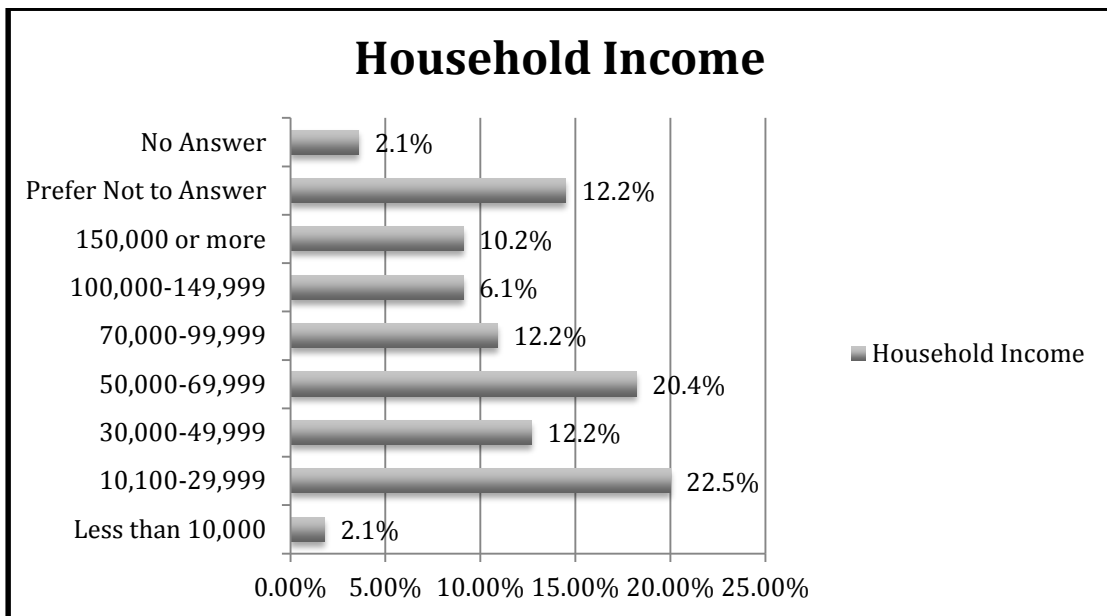
Relationship to the Child	Participating Locations		
	Location A	Location B	Combined Locations
Mother	74.1%	90.0%	81.6%
Father	14.8%	9.1%	12.2%
Foster Parent	3.7%	0%	2.1%
Grandparent	7.41%	0%	4.1%

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The surveys also reported the different household incomes of the participants. The most reported household income was in the \$10,100-\$29,999 range at 22.5%. The next most reported income was \$50,000-\$69,999 at 20.4%. The other incomes came in as follows: \$30,000-\$49,999 (12.2%), \$70,000-\$99,999 (12.2%), \$100,000-\$149,999 (6.1%), \$150,000 or more (10.2%), less than \$10,000 (2.1%). Six participants (12.2%) reported that they preferred not to answer where as 2.1% (1 participant) did not answer the question at all.

Table 2

Demographics: Household Income



In order to determine the area the participants reside, one demographic question addressed the participants' zip code of residence. After analyzing all completed surveys from both locations, 32.6% reported city of residence the same as both participating optometry clinics. The remainder of the participants (53.1%) listed they were from eight other Mississippi cities and two Louisiana cities. Of the 49 participants, 14.3% listed they were from another area but did not specify the area. Based from the listed residential zip

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codes, participants traveled approximately a 60-mile radius east of the clinics and a 75-mile radius west of the clinics.

Perceptions and History

The first six questions of the survey referred to vision screenings and eye health history. The first question asked if the child in question had ever had an eye exam. Of the 49 participants, 71.4% reported that the child had an exam before whereas 28.6% reported the child had not had an eye exam before. The participants were then asked if they had selected that the child had not had an exam before, what was the reason behind it. The results were as follows: 69.4% did not answer the question, 16.3% stated the child had passed the school screening, 6.1% stated the child had no problem, 4.1% reported the child had passed the pediatrician screening, 2% selected the other selection, and 2% stated that lack of transportation was a factor. The third question assessed the age of the children when they first had an exam. Three to 6 years old came in as the top answer choice at 46.9%. The results then showed that 26.5% reported the child was first examined between the ages of 7-10 years old, 12.24% at 0-2 years old, 10.2% at 11-15 years old, and 4.1% reported the child had never been examined before.

The fourth question assessed if the child in question had been screened and referred for further eye evaluations by a health care professional. 40.8% answered yes that the child had been screened and referred whereas 59.2% answered no. The question was also asked if visual impairments or eye diseases ran in the child's family. Of the participants, 65.3% answered yes that visual impairments and eye diseases do run in the child's family where 32.6% answered no and 2.1% did not answer the question at all.

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The main question assessed the parents' perception on if they believe children should have a vision screening before starting preschool. The majority of the responses came back yes (85.7%) and only 12.2% did not believe that children should have a vision screening before preschool. Of the total 49 participants, only 2.1% did not answer this question.

Table 3

Perceptions and History Questions

Questions	Combined Locations		
	Yes	No	No Answer
Has this child ever had an eye exam by an eye care practitioner?	71.4%	28.6%	0%
Has this child been screened and referred for further eye evaluation by a health care professional (school nurse, pediatrician)?	40.8%	59.2%	0%
Do visual impairments or eye disease run in the child's family?	65.3%	32.6%	2.1%
Do you believe children should have a vision screening before starting preschool (PreK ages 3 to 5)?	85.7%	12.2%	2.1%

Location A Perceptions and History

Of the 49 surveys completed overall, 27 surveys were completed at location A.

The first question assessed if the child had ever had an eye exam by an eye care

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practitioner. 81.48% reported that their child had been examined before whereas 18.52% reported their child had never had an exam completed before. The second question asked if the child had never had an exam before, what had prevented them from receiving a screening. Of the participants, 77.78% did not respond to this question. However, 3.7% reported that their child had no problem, 7.4% reported that their child had passed the pediatrician screening, 3.7% reported their child had passed the school screening, and 3.7% reported lack of transportation hindered their child from receiving an exam. The third question assessed the age range in which the child had their first eye exam. 48.15% reported that their child had an exam between the ages of 3 to 6 years old. 7 to 10 years old and 0-2 years old both came in with 18.52%. Only 7.41% selected that their child had been seen between the ages of 11 to 15 years old and 7.41% selected the never option which meant their child had not had an exam before.

The next questions asked if the child had been screened and referred for further eye evaluation by a health care professional. 48.1% reported yes whereas 51.9% reported no that their child had not been screened or referred out for further evaluation. The following question asked the parent if they believed that children should have a vision screening before starting preschool. The parents answered the question as followed: 81.48% stated yes, 14.8% stated no, and 3.7% did not answer. The last question the pertained to the child in question's vision asked if visual impairments or eye disease ran in the child's family. The results showed that 66.67% reported yes that it does run in the family where 29.63% reported no and 3.7% did not answer the question.

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Table 4

Location A: Perceptions and History Questions

Questions	Location A		
	Yes	No	No Answer
Has this child ever had an eye exam by an eye care practitioner?	81.48%	18.52%	0%
Has this child been screened and referred for further eye evaluation by a health care professional (school nurse, pediatrician)?	48.1%	51.9%	0%
Do visual impairments or eye disease run in the child’s family?	66.67%	29.63%	3.7%
Do you believe children should have a vision screening before starting preschool (PreK ages 3 to 5)?	81.48%	14.8%	3.7%

Location A Demographics

The last four questions were related to the participants’ demographics. When asked how the participant was related to the child, 74.1% reported they were the mother, 14.8% reported they were the father, 7.41% reported they were the grandparent and 3.7% reported to be a foster parent to the child (Refer to Table 1). Of the 27 participants, 100% reported to be over the age of 18.

The following question asked what zip code did the location A participants resided. Of the responses, 29.62% reported they resided in the area in which the clinics were located. 18.52% choose the other option but did not list the zip code area in which

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they reside in. 51.85% choose the other option and listed they resided in a 60 to 75 mile radius of the two participating locations.

The final question asked the participant about their household income. The most reported income came in at \$10,100-\$29,999 at 33.3%. The other incomes came in as follows: 3.7% preferred not to answer, 3.7% did not answer the question at all, 3.7% reported an income of \$30,000-49,999, 14.81% reported \$50,000-\$69,999, 18.52% reported \$70,000-\$99,999, 14.81% reported \$150,000 or more, and 7.4% reported \$100,000-\$149,999.

Location B Perceptions and History

At location B, 22 surveys were completed. Of those 22 surveys, 59.1% reported that the child in question has had an eye exam before whereas 40.9% reported the child had not had an eye exam before. The most appropriate reasons as to why the child had not been examined before were as follows: 59.1% did not answer the question, 31.8% reported the child had passed the school screening, and 9.1% noted the child had no problem. For the children who had been examined before, the participants answered the question to what age the child had their first eye exam completed. Results indicated 4.5% had been seen between the ages of 0-2 years old, 13.6% between the ages of 11 to 15 years of age, and 36.4% between the ages of 7 to 10 years of age. The most reported answer came in with children (45.5%) having exams done between the ages of 3-6 years old.

The following question asked the participant if the child in question had been screened or referred for further evaluations. The analyzed results indicated that 31.8% reported yes that the child had been referred for further evaluations while 68.2%

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answered no that the child had not been referred out for further evaluations. The participant was then asked if they believed that children should have vision screenings before starting preschool. 90.9% answered yes to this question stating that they do believe children should be screened. However 9.1% did report no to the question that they do not believe children should be screened before starting preschool. The next question moved on the family history of the child when it comes to vision. The question addressed familial visual impairments or eye disease. Of the total participants at location B, 63.6% reported yes to this question that visual impairments and eye disease run in the child’s family where 36.4% reported no.

Table 5

Location B: Perceptions and History Questions

Questions	Location B		
	Yes	No	No Answer
Has this child ever had an eye exam by an eye care practitioner?	59.1%	40.9%	0%
Has this child been screened and referred for further eye evaluation by a health care professional (school nurse, pediatrician)?	31.8%	68.2%	0%
Do visual impairments or eye disease run in the child’s family?	63.6%	36.4%	0%
Do you believe children should have a vision screening before starting preschool (PreK ages 3 to 5)?	90.9%	9.1%	0%

Location B Demographics

At location B, 90.9% of the participants reported they were the mother of the child whereas 9.1% reported they were the father (Refer to Table 1). Of the 22 participants, 100% reported being over the age of 18.

The following question asked what zip code the participant resided in. Based off the answer choices listed on the survey (See Appendix A), 36.4% reported they were from the same area that both locations were located, 9.1% listed they were from a different area but did not include a zip code, and 54.5% reported they were from a different area and listed the zip code. These participants resided between a 60 to 75 miles radius from the two participating locations.

The final demographic question asked about the family household income. After analyzing the data, 22.7% of the participants preferred not to answer. The most reported family income came in at \$50,000-\$69,999 at 27.3%. The next most reported household income came in at \$30,000-\$49,999 with 22.7%. Only 9.1% of the participants reported their family household income was \$10,100-\$29,999. The remaining incomes that could have been selected all came in at 4.5% each. They are as follows: less than \$10,000, \$70,000-\$99,999, \$100,000-\$149,000, and \$150,000 or more.

Chapter 5: Discussion

The purpose of this study aimed to address parents' perceptions or attitudes on the issues of early detection and prevention of vision problems among preschoolers in Mississippi as well as the barriers that prevent younger children from receiving preventive vision screenings. Overall, these findings explored the parental attitudes of the need for young children between the ages of 3 and 5 to have screenings completed before entering preschool. By having more preventive screenings being completed before young children enter preschool, vision loss can be reduced.

This author reviewed barriers that prevent children from receiving vision screenings. Parents responding to this question reported the following barriers as to why their children are not screened: 1) child had no problem (6.1%), 2) child passed their school screening (16.3%), 3) child passed their pediatrician screening (4.1%), 4) and a few reported lack of transportation (2%). The remaining parents who indicated their child had a previous screening did not report any barriers to screening. These findings from this study are consistent with the research found in Oswald and Russell's (2009) study conducted in Memphis, Tennessee. Intervening with appropriate treatment may allow early detection of vision issues and allow preschool children to have more success in a school setting.

Limitations

One limitation to this specific research design was that the initial query was directed at English reading parents only. This limitation only allowed us to see one part of the populations' views and opinions. Another limitation that this research ran into was the limited responses we were able to receive. Only having the research data collection

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process at two optometric clinics limited the participation. Not being able to conduct this research at other health care clinics like pediatric offices and walk in clinics limited the scope of participation as well as the diverse responses. As this research study continued, some survey questions about barriers were not being filled out. Lack of fully completed responses to the survey questions asked stopped this study from obtaining more opinions on why some children may not be receiving screenings. One major limitation that was noted with participants not filling out their surveys completely was that six surveys had to be excluded due to either not checking if they were 18 years or older as well as a few marking they were not over 18. Based on their responses, this researcher concluded that the participants might have marked the wrong box for confirming age or over 18. It was determined that these surveys would be excluded, which decreased the total participants from 55 to 49. Not having a specific place for the participant to list what barrier stopped the child from having a screening completed limited the results for this question that could have expanded more data on barriers. This research was limited to two area optometry clinics. Being able to expand the research to different types of health clinics could bring more participation and diversity as to what barriers are preventing children receiving vision screenings.

Further Areas of Study

For further research, having two versions of the survey offered, one in English and one in Spanish, would allow for the parent population to be broadened. Also being able to collect data at more than two clinics would be very beneficial. Being able to reach a broader population could possibly bring light to more opinions and views of why children are not being screened. This research could be expanded to pediatrician offices,

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schools through school nurses, walk in clinics, and even to daycares and preschools to be sent home to the parents in order to have more diverse participants. This research showed that many participants were traveling from different areas around southeast Mississippi. Some participants were only driving 15 minutes whereas some were driving over an hour to see the doctor. For future studies, this research could not only be completed at different health care provider offices but as well as different health care provider offices in a forty-mile radius from Hattiesburg. This would allow for way more participation and diversity.

Improving the survey format would also be beneficial when recreating this research process. During the data analysis process, the study found inconsistent results when it came to the question of asking if the participant was over the age of 18. One question addressing why the child had not been screened prior could be improved. There was an "Other" option listed, but adding in a place for the participant to write out what that other barrier was could have communicated more about what barriers stand in the way of some children receiving preventive screenings. In order to limit how many surveys will have to be excluded, adding a not that says required next to the question about being over the age of 18 could help. Along with that, adding a check box to that question may be eliminating some confusion when it comes to which box to select. After reviewing the survey after the fact, the language of the survey was directed at people from the south. For example, using the phrase "run in the child's family" is a southern way of saying does the child have a family history of vision disorders or diseases. Therefore, if one is to take this survey and have it completed in a different regional area, this author suggest rephrasing the language of the survey to fit the regional area the research will be conducted.

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Along with expanding this research, this author suggests the creation of educational pamphlets or flyers on the importance of vision screenings could aid in helping children receive needed vision screenings. These pamphlets and flyers could be disseminated by various groups and distributed to anyone participating in the research or to anyone who comes into the clinics thereby bringing more awareness to the importance of early preventative vision screenings for young children. From the research conducted along with the literature found, it is important that parents become educated and aware of the importance of preventative vision screenings in order for their children to receive vision screenings to early detect visual problems for school and life activities.

Lack of transportation was a barrier that was selected throughout this research process. In order to improve this barrier to be able to have more children screened, sending out flyer to parents could help aid in letting them know that there are outlets of transportation that can take them to the doctor's office to be screened. The flyer could list all of the modes of transportation their areas offer as well as how far they will take someone. A list of local places to have a vision screening done could also be listed on that flyer sent home to parents.

Summary

Every aspect of a child's health is important, including their vision. This thesis provides a better understanding of parents' attitudes as it pertains to preventative vision screenings for young children between the ages of 3 to 5 years old. This research explored parental perceptions of eye care prevention for preschool age children. The analyzed survey responses indicated that a majority of parents perceive that children should have early vision screenings. This thesis contributes to research already conducted

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on this issue by identifying barriers that may prevent parents from obtaining vision screenings for their young children. This researcher desired to further increase the body of knowledge of parent's perceptions of and barriers to early childhood vision screenings. The implications of this thesis research may help to identify the likely population of parents who may not understand the benefits of early screening. This research may support creation of proper strategies to be identified to maximize the number of children receiving early vision screenings by targeting specific parent populations needing education and addressing likely barriers to screening.

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Appendices

Appendix A: Cover Letter and Survey

*To Screen or Not to Screen
Parent's Perceptions of Eye Care Prevention for Pre-School Age Children*

Dear Survey Participant,

Hello my name is Bonnie Keaton and I am a student at the University of Southern Mississippi. I am in the USM Honors College working on my thesis project. I am interested in caregivers' attitudes toward eye exams for children under the age of five. My 10 question survey, *To Screen or Not to Screen: Parent's Perceptions of Eye Care Prevention for Pre-School Age Children*, is available at the front desk for you to take while you are here. I would greatly appreciate your participation.

This is a voluntary and anonymous survey. There is no incentives or compensation for participation. There are also no risks to you with your participation. If you are unable to take this survey today but would like to on a future visit, the survey will be available at the office till February 15, 2015.

My chair is Dr. Cathy K. Hughes at the University of Southern Mississippi Nursing Department on the Hattiesburg Campus. If you have any questions, my chair can be contacted at cathy.hughes@usm.edu, and I can be contacted at bonnie.keaton@eagles.usm.edu. If you would like any follow-up information or results from this survey, you can contact me at the email provided above.

Thanks,

Bonnie Keaton

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(Appendix A Continued)

Vision Screening Survey

Instructions: Please answer the following multiple-choice questions to the best of your ability. Once completed, please return survey to the lock box located at the receptionist desk. Your input is greatly appreciated.

1. Has this child ever had an eye exam by an eye care practitioner?
 - Yes
 - No
2. If not, select the most appropriate reason:
 - No insurance
 - Passed pediatrician screening
 - Passed school screening
 - Financially unable
 - Child has no problem
 - Lack of transportation
 - Other
3. At what age did this child have their first eye exam?
 - 0-2 years of age
 - 3-6 years of age
 - 7-10 years of age
 - 11-15 years of age
 - 16 and up
 - Never
4. Has this child been screened and referred for further eye evaluation by a health care professional (school nurse, pediatrician)?
 - Yes
 - No
5. Do you believe children should have a vision screening before starting preschool (PreK ages 3 to 5)?
 - Yes
 - No
6. Do visual impairments or eye disease run in the child's family?
 - Yes
 - No

Demographics:

7. Please specify your relationship to the child:
 - Mother
 - Father
 - Grandparent
 - Legal Guardian
 - Foster parent
 - Other- List:
8. Are you 18 years of age or older? ____Yes ____No
9. What is the zip code where you reside?
 - 39401
 - 39402
 - Other- List:

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10. What is your household income?

- Less than \$10,000
- \$10,100 to \$29,999
- \$30,000 to \$49,999
- \$50,000 to \$69,999
- \$70,000 to \$99,999
- \$100,00 to \$149,999
- \$150,00 or more
- Prefer not to answer

Appendix B: Flyer

University of Southern Mississippi Honors Thesis Research

Vision Screening Survey

*Principal Investigator:
Bonnie Keaton
Senior at USM
Honor's College*

*Chair:
Dr. Cathy Hughes*

*Questions?
Email:
cathy.hughes@usm.
edu*

To Screen or Not To Screen: Parent's Perceptions of Eye Care Prevention for Pre-School Age Children

The purpose of this study is to:

- Determine parental perceptions toward early prevention when it comes to vision screenings in young children
- Identify the barriers faced when trying to receive screenings or follow up care after a child has failed an initial screening

****If you would be willing to participate in this study, ask the front desk receptionist for a copy of the survey to fill out and return to the secure, lock box located at the front desk.**

All data will remain anonymous.

Thank you for your participation!**

Appendix C: Instructions

Instructions for front desk workers for vision survey:

Timeframe for data collection: mid-December once IRB exemption is obtained to February 15th, 2016

**The lock box will be located at the front desk for participants to drop off their completed surveys.

**Staff members will not have access or contact with the lock box.

**Flyer with all information regarding the survey will be placed next to the lock box.

If a potential participant is wanting to complete the survey:

- Hand them a printed copy of the survey and inform them to fill out all parts of the survey and return it to the lock box located at the front desk
- Inform potential participants that if they have any questions to use the contact information located on the flyer next to the lock box to receive answers to their questions
- Inform potential participants that they will stay anonymous and that you all do not have anything to do with the lock box

If you run out of surveys, contact Bonnie at 985-750-8045 or bonnie.keaton@eagles.usm.edu to come by and drop more surveys off. Also, if you have any questions, do not hesitate to get in contact with me at the above cell number or email.

Thanks,

Bonnie Keaton

Appendix D: IRB Approval



INSTITUTIONAL REVIEW BOARD

118 College Drive #5147 | Hattiesburg, MS 39406-0001

Phone: 601.266.5997 | Fax: 601.266.4377 | www.usm.edu/research/institutional.review.board

NOTICE OF COMMITTEE ACTION

The project has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services (45 CFR Part 46), and university guidelines to ensure adherence to the following criteria:

- The risks to subjects are minimized.
- The risks to subjects are reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered regarding risks to subjects must be reported immediately, but not later than 10 days following the event. This should be reported to the IRB Office via the "Adverse Effect Report Form".
- If approved, the maximum period of approval is limited to twelve months.
Projects that exceed this period must submit an application for renewal or continuation.

PROTOCOL NUMBER: 15121001

PROJECT TITLE: To Screen or Not To Screen: Parent's Perceptions of Eye Care Prevention for Pre-School Aged Children

PROJECT TYPE: New Project

RESEARCHER(S): Bonnie Keaton

COLLEGE/DIVISION: College of Nursing

DEPARTMENT: Nursing

FUNDING AGENCY/SPONSOR: N/A

IRB COMMITTEE ACTION: Expedited Review Approval

PERIOD OF APPROVAL: 12/18/2015 to 12/17/2016

Lawrence A. Hosman, Ph.D.

Institutional Review Board