

BARRIERS TO VISION THERAPY FOR MICHIGAN OPTOMETRISTS

by

Samantha Krystyne Fordyce

Has been approved

9 May, 2015

APPROVED:

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Faculty Advisor

ACCEPTED

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by
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This paper is submitted in partial fulfillment of the
requirements for the degree of

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Ferris State University
Doctor of Optometry Senior Paper
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BARRIERS TO VISION THERAPY FOR MICHIGAN OPTOMETRISTS

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March 12, 2015

Date

ABSTRACT

Background: There is a known prevalence of binocular vision dysfunctions in primary care optometry, but many practitioners do not offer vision therapy to treat some of these basic dysfunctions. To better understand why some optometrists choose not to practice vision therapy, this survey was dispersed to Michigan practitioners. Specifically, it will evaluate the percentage of those not offering vision therapy, the reasons for not offering, and the rate of referral to practitioners who do offer vision therapy. *Methods:* A survey was sent to current Michigan optometrists via email. 809 surveys were sent, with a 9.9% response rate. Results were analyzed to find trends and most common barriers to offering vision therapy. *Results:* 37% of participants reported offering vision therapy. According to the practitioners who do not offer vision therapy, poor reimbursement through insurance and time involved with managing and working with patients were listed as the main barriers to not offering vision therapy. *Conclusions:* According to the survey a majority of the practitioners who do not offer vision therapy do refer patients for vision therapy services and 49% of practitioners who do not offer vision therapy reported having a good referral source geographically close.

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CHAPTER 1

INTRODUCTION

Americans suffer from binocular vision anomalies every day, some who have never been diagnosed. According to Scheiman and Wick, the prevalence of convergence insufficiency in the general population is 3-5% and the prevalence of convergence excess is 4-6%.¹ The prevalence of binocular vision anomalies are 8.5 times greater than the prevalence of ocular disease in children six to 18 years old.^{2,3} A study of almost 1,700 patients between the ages of 18 and 38 showed that 11.4% presented with accommodative insufficiency, 5.9% presented with convergence insufficiency, and 10.3% with accommodative infacility. When all of the binocular vision dysfunctions were combined, the percentage of prevalence in the general population was 56%.³ In a smaller study, 36 subjects were given a Developmental Eye Movement (DEM) test. Subjects with a standard score of 92 or lower were retested one or more years later. Upon the retest, 72% (26 subjects) failed the DEM ratio again, while only 36% improved upon retesting. In conclusion, this study showed that untreated oculomotor dysfunction is more likely to persist over time than it is to self-correct.⁴

There have been several studies performed demonstrating vision therapy as a viable treatment option for many binocular vision anomalies. One of the mainstream studies for vision therapy was the Convergence Insufficiency Treatment Trial (CITT)

study. The results demonstrated that after 12 weeks of treatment, the in-office based vision therapy/orthoptics was most effective at improving signs and symptoms of convergence insufficiency.⁵ The results of this study also showed that pencil push-ups, the common treatment for convergence insufficiency, were just as ineffective as in-office placebo vision therapy.⁵ When looking at the treatment of amblyopia, it has been shown that the use of Bangerter filters during active therapy can reduce the amount of suppression and promote binocularity.⁶ There have also been some documented cases in which vision therapy has been shown to be effective for adults with childhood onset of basic intermittent exotropia. After completing 20 to 30 sessions of in-office vision therapy, these patients maintained exophoria at all distances and had normal vergence ability, even when evaluated five years post-therapy.⁷

If there is such a large prevalence of binocular vision dysfunctions, and we have studies that prove vision therapy is an effective treatment option, why then do some optometrists choose not to treat some of these basic disorders with vision therapy? Do they refer their patients for vision therapy? What are some of the barriers to offering vision therapy? Those are some of the questions that this study aimed to investigate.

CHAPTER 2

METHODS

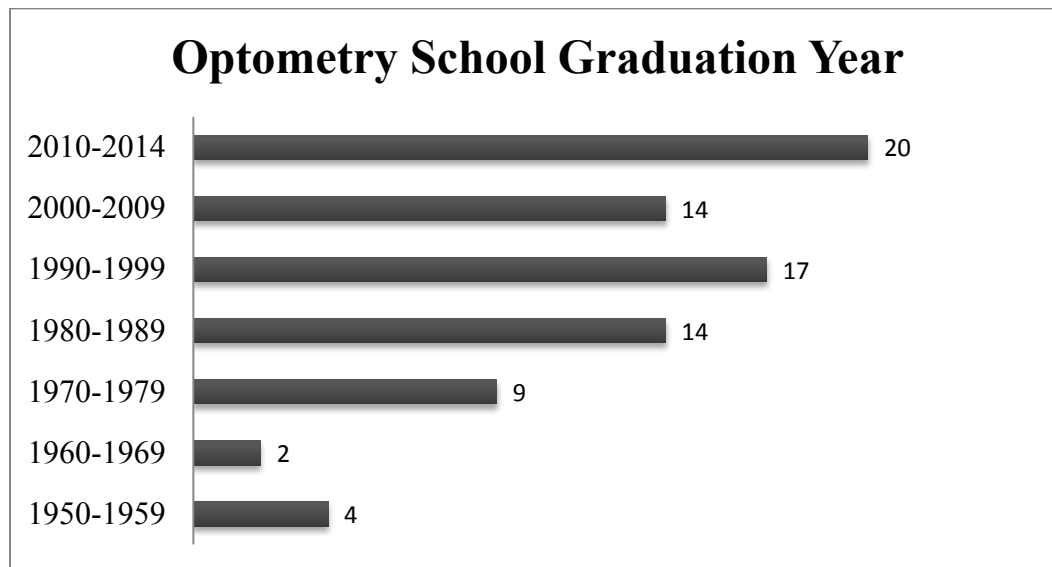
To better understand barriers to practicing vision therapy in Michigan, a 14-question survey was compiled and sent via email to Michigan Optometrists (see Appendix B). The survey was dispersed via the Michigan Optometric Association to current members (809 members). The survey consisted of questions about Michigan practitioners and if they included vision therapy in their practice. If the optometrist responded yes, more specific questions were asked regarding the type of vision therapy and the conditions they often manage. If the optometrist responded no, more specific questions as to why they do not offer vision therapy and if they refer their patients with binocular vision dysfunctions were investigated. At the end of the survey, all participants were asked what the barriers to offering vision therapy are. The survey also asked if the participants would be interested in a “how-to” kit, providing practitioners the opportunity to learn basic vision therapy procedures and teach their staff how to treat some of the basic binocular vision dysfunctions. Also, comments, questions, and concerns were offered at the end of the survey. All surveys were anonymous and were approved by the Ferris State University IRB board as complying with the human subject guidelines.

CHAPTER 3

RESULTS

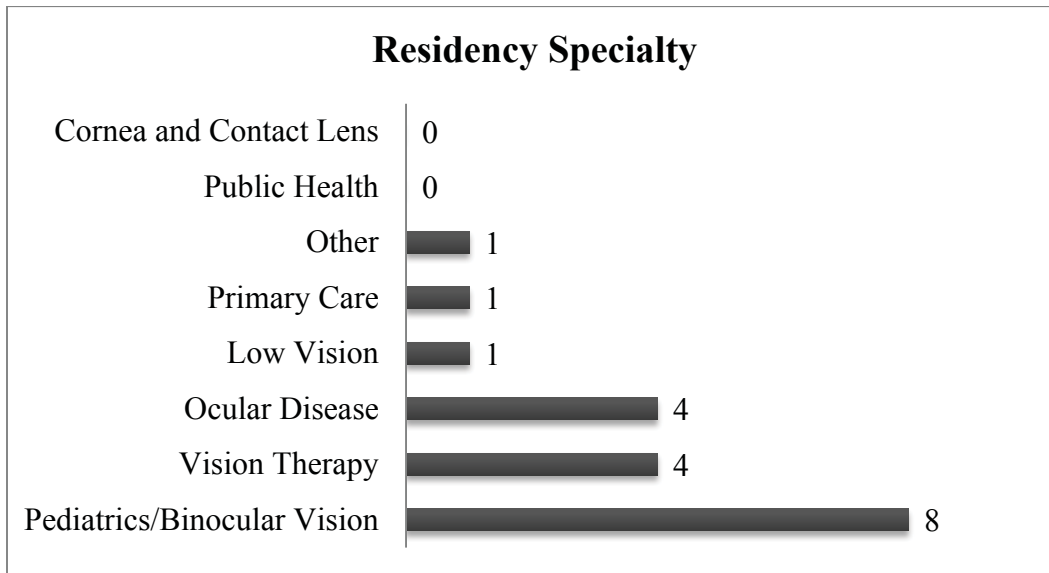
809 surveys were emailed to Michigan optometrists, 134 optometrists visited the survey, and 80 surveys were completed, indicating a 9.9% response rate. When evaluating when the respondents graduated, 65 of the 80 respondents graduated after 1980 (figure I).

Figure I



Of the respondents, 20% (n=16) completed an optometric residency, while 80% (n=64) did not. The majority of respondents who completed an optometric residency received training in the areas of pediatrics/binocular vision and/or vision therapy (figure II).

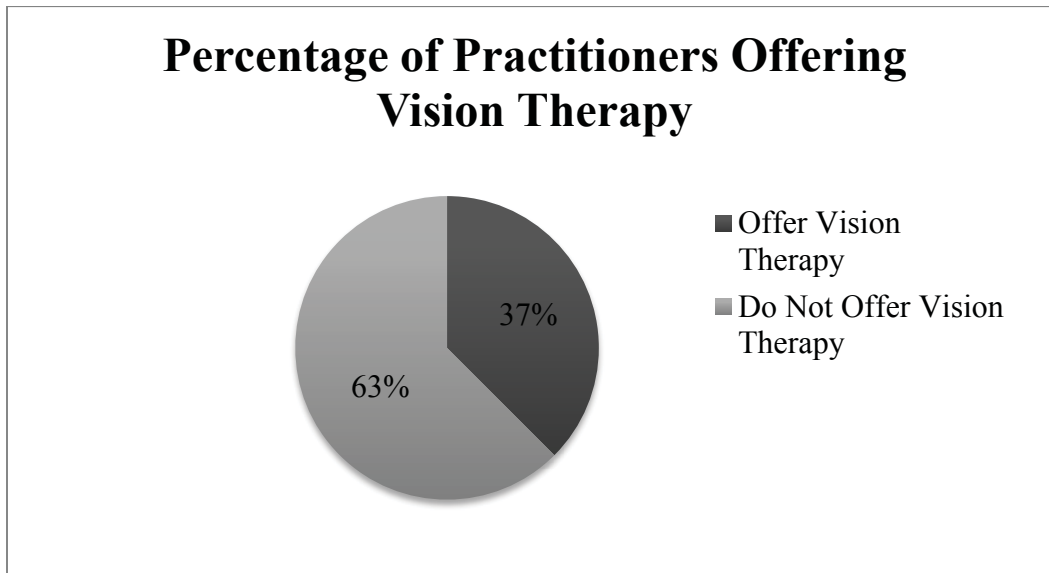
Figure II



*Other residency completed: participant did not respond

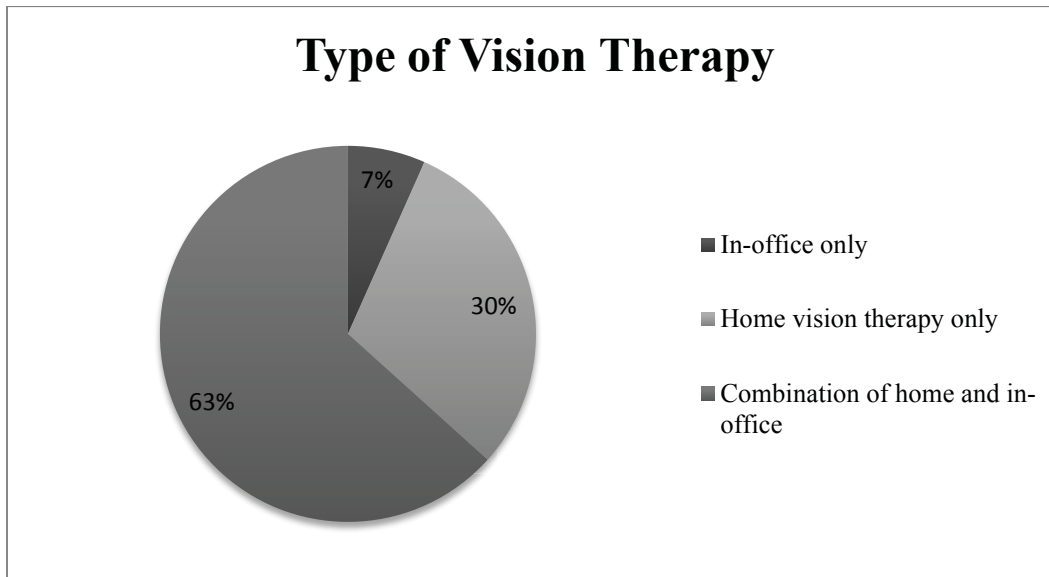
According to the survey, 37% (n=30) of respondents offer vision therapy in their practice while 63% (n=50) do not (figure III).

Figure III



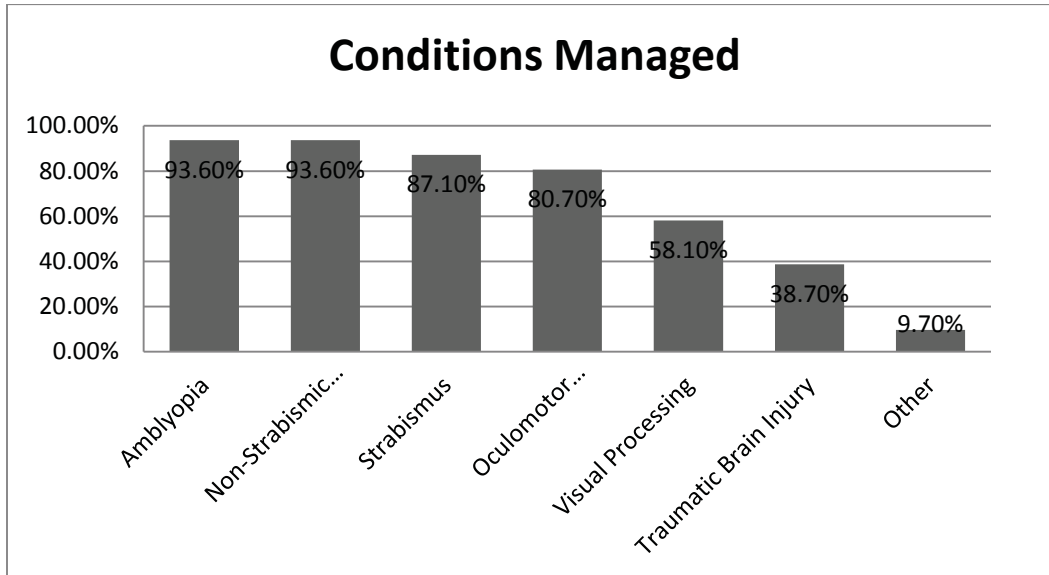
Of the practitioners offering vision therapy, 63% (n=19) offer a combination of home and in-office vision therapy, whereas 30% (n=9) offer home therapy only, and 7% (n=2) offer in-office vision therapy only (figure IV).

Figure IV



The majority of the respondents, 72% (n=21), who do offer vision therapy are a referral source for other practitioners. When looking specifically at those practitioners who do offer vision therapy, some of the most common conditions that they manage are amblyopia (n=29), non-strabismic binocular vision disorders (n=29), strabismus (n=27), and oculomotor dysfunction (n=25) (figure V).

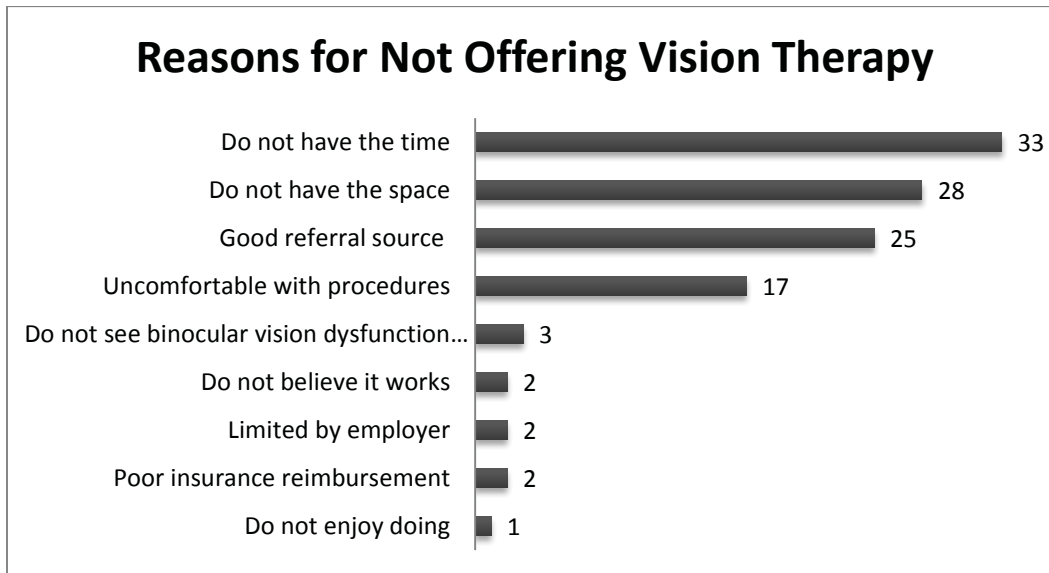
Figure V



*Other conditions managed: Post stroke, special needs, Developmental & Behavior Techniques, Perceptual Motor & Visual Motor Enhancement Skills

When practitioners who do not offer vision therapy were asked why they do not offer vision therapy, 65% (n=33) responded that they do not have time, 55% (n=28) responded that they do not have the space, and 49% (n=25) responded that there is a referral source geographically close (figure VI).

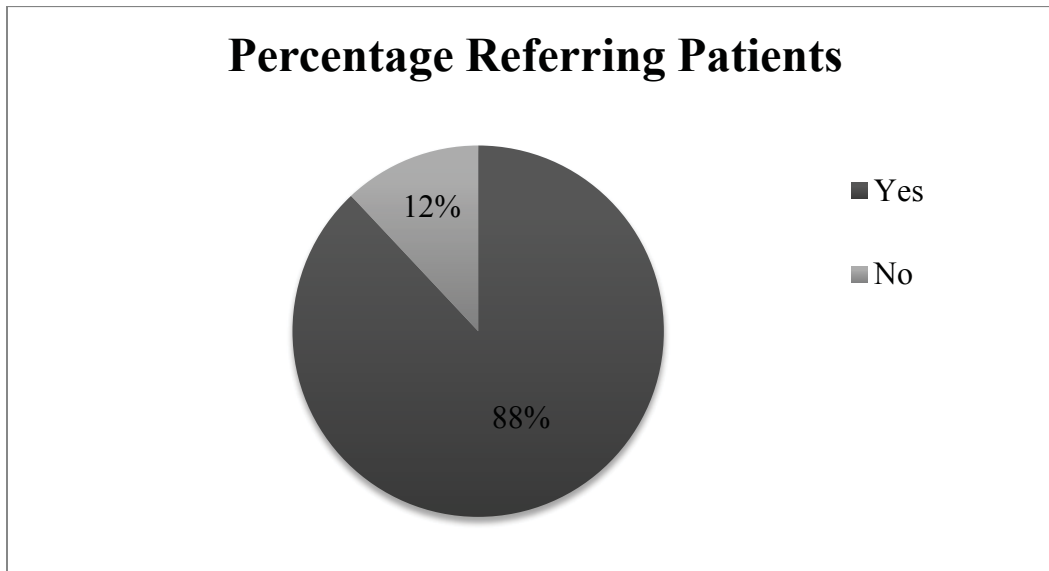
Figure VI



*Other reasons listed for not offering vision therapy: Refer to a doc who rents space at my office once a week, don't have patient population and interest in pursuing, retired, work in corporate, poor insurance coverage, lack of reimbursement through insurance, limited by employer (retail), not covered by insurance, lack of insurance and patient base that doesn't want/can't afford therapy costs

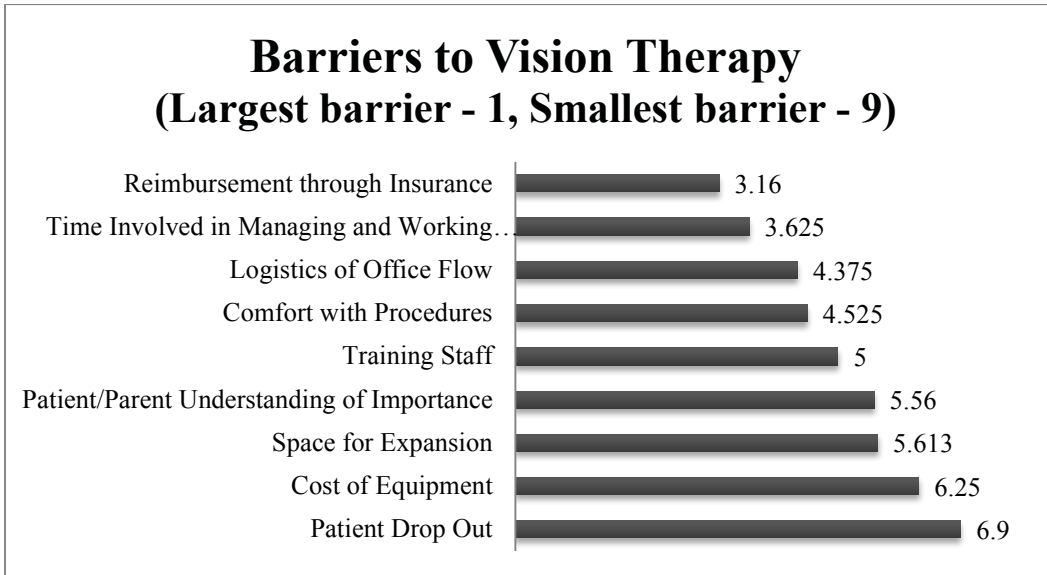
Of the practitioners who do not offer vision therapy, 88% (n=44) refer their patients (figure VII).

Figure VII



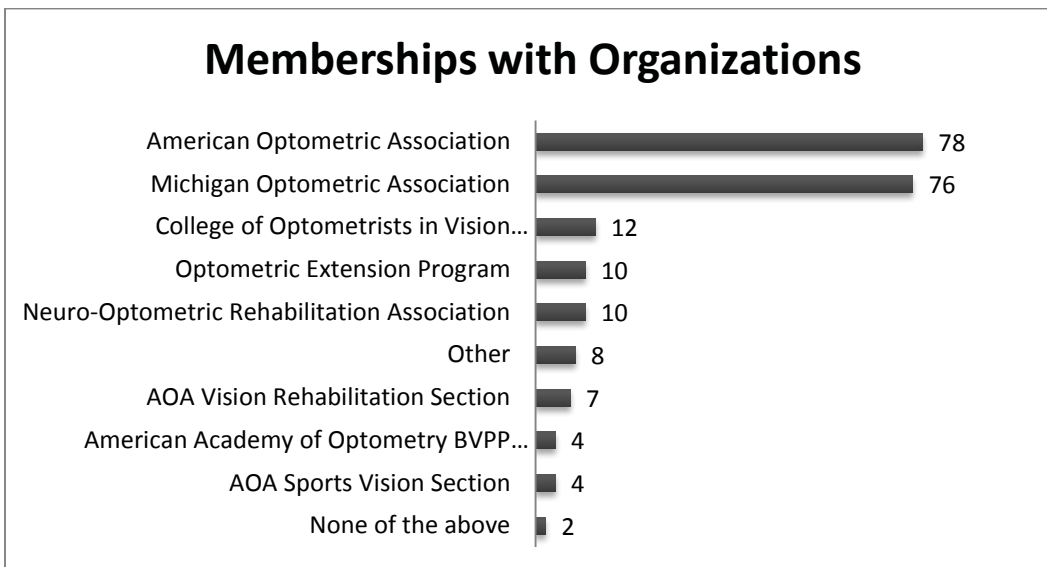
All respondents of the survey were then asked to rank the largest barriers to offering vision therapy in their practice, 1 being the largest barrier and 9 being the smallest barrier. The barriers were ranked by calculating the average ranking value and then placed in order from smallest numerical value (largest barrier) to the largest numerical value (smallest barrier). According to this study, the three largest barriers to offering vision therapy are reimbursement through insurance, time involved in managing and working with patients, and logistics of office flow. The three smallest barriers to offering vision therapy are space for expansion, cost of equipment, and patient dropout (figure VIII).

Figure VIII



All of the respondents were asked what organizations they have memberships with, 78 out of the 80 participants are members of the American Optometric Association and 76 out of the 80 are members of the Michigan Optometric Association (figure IX).

Figure IX



*Other organizations mentioned: Associate member of COVD (so patients can find me on the website, then I refer the patient if they need vision therapy), American Board of Optometry, MOA children's vision committee, American Academy of Optometry, American Public Health Association, Saginaw Valley Optometric Association, National Association of Veterans Affairs Optometrists

All of the respondents were also asked if the practitioners were interested in a "how-to" vision therapy kit to help train the doctor and staff on how to do basic vision therapy procedures to treat basic binocular dysfunctions, 53% (n=42) responded that they were not interested.

The respondents were also given the opportunity to add comments, questions, or concerns at the end of the survey (see Appendix C). A few of the repeated comments or concerns were the participant was already practicing full scope vision therapy services and did not need a vision therapy kit to aid in learning vision therapy activities, practitioners were more interested in hiring an associate who specializes in pediatrics and vision therapy rather than learning the procedures themselves, and many participants expressed concern with the amount of time required to learn the activities and the amount of time spent with a patient.

CHAPTER 4

DISCUSSION

According to the survey, 20% of respondents completed a residency, with the majority of these respondents receiving training in the areas of pediatrics/binocular vision and/or vision therapy. The survey indicated that 37% of the participants offer vision therapy, with the majority (63%) offering both in-office and home-based vision therapy. Of the participants who do offer vision therapy, 72% are referral sources. Some of the most common conditions managed by the practitioners offering vision therapy are amblyopia (94%), non-strabismic binocular vision disorders (94%), strabismus (87%), and oculomotor dysfunction (80%). According to the 63% of the participants who do not offer vision therapy in their practice, 88% responded that they do refer their patients for vision therapy. Some reasons practitioners chose to not offer vision therapy are they do not have time, they do not have the space, and they have a referral source geographically close.

When all participants were asked what the barriers to offering vision therapy were, there was a large variety in the ranking of the barriers. The top four barriers to offering vision therapy for all participants, in order from largest to smallest are poor reimbursement through insurance, too much time involved in managing and working with patients, figuring out the logistics of office flow, and being uncomfortable with procedures.

One limitation of the survey is that 12 of the 20 respondents who did complete a residency specialized in pediatrics/binocular vision and/or vision therapy. Also, the survey demonstrated 12 participants who are members with the College of Optometrists in Vision Development (COVD). This group makes up 15% of the respondents in this survey, which could have caused a bias in the data. However, we can evaluate the trends between the practitioners who do offer vision therapy and who do not, and attempt to minimize this bias. Another limitation is the low number of responses to the survey. Of the 809 surveys dispersed, only 80 were completed. That is a response rate of only 10%. Although conclusions can be drawn from the data provided by this study, those conclusions may not be representative of the state of Michigan Optometrists as a whole.

When asked why they do not offer vision therapy, most practitioners answered that they do not have time and they do not have space. Yet, when looking at what these practitioners answered for the largest barriers of offering vision therapy, time and reimbursement were the most common and prevalent and not even half of the participants ranked space as one of the top four barriers. Greater than 50% of practitioners who do not offer vision therapy also ranked comfort with procedures as one of their top four barriers, yet only 50% of these practitioners who do not offer vision therapy, compared to the 47% of all participants, were interested in the “how-to” vision therapy kit. Despite this low interest in learning more vision therapy procedures, 88% of practitioners who do not offer vision therapy responded that they refer their patients to those who do. This is encouraging that patients with binocular vision disorders are at least being informed of their treatment options, and being referred for appropriate care. When looking at the barriers to vision therapy according to this survey, the solutions to decrease these barriers

and increase the access to vision therapy are not simple answers. Due to the fact that so many practitioners in this study are referring their patients, it makes these barriers less of a concern. The main question that this study really should answer is are the needs of symptomatic binocular vision patients being met? According to this survey, it does appear that patients with binocular vision disorders are being referred for vision therapy.

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<http://www.ncbi.nlm.nih.gov/pubmed/21514898>

To: Dr. Paula McDowell and Samantha Fordyce
From: Dr. Stephanie Thomson, IRB Chair
Re: IRB Application #140805 (Title: *Barriers to Vision Therapy for Michigan Optometrists*)
Date: September 15, 2014

The Ferris State University Institutional Review Board (IRB) has reviewed your application for using human subjects in the study, "*Barriers to Vision Therapy for Michigan Optometrists*" (#140805) and determined that it meets Federal Regulations Review Category *Exempt-1C*. This approval has an expiration date of three years from the date of this letter. **As such, you may collect data according to the procedures outlined in your application until September 15, 2017.** It is your obligation to inform the IRB of any changes in your research protocol that would substantially alter the methods and procedures reviewed and approved by the IRB in this application. Your protocol has been assigned a project number (#140805), which you should refer to in future correspondence involving this same research procedure.

We also wish to inform researchers that the IRB requires annual follow-up reports for all research protocols as mandated by Title 45 Code of Federal Regulations, Part 46 (45 CFR 46) for using human subjects in research. We will send a one-year reminder to note the continuation of this project or to complete the final report. The final-report form is available on the [IRB homepage](#). Thank you for your compliance with these guidelines and best wishes for a successful research endeavor. Please let us know if the IRB can be of any future assistance.

Regards,



Ferris State University Institutional Review Board
Office of Academic Research, Academic Affairs

APPENDIX B

BARRIERS TO VISION THERAPY FOR MICHIGAN OPTOMETRISTS SURVEY

1. What year did you graduate from optometry school? _____
2. Did you complete a post-graduate residency?
 - a. Yes
 - b. No
3. If yes, in what specialty?
 - a. Primary Care
 - b. Ocular Disease
 - c. Cornea and Contact Lens
 - d. Pediatrics/Binocular Vision
 - e. Vision Therapy
 - f. Public Health
 - g. Low Vision
 - h. Other (Please Specify): _____
4. Do you offer vision therapy at your practice?
 - a. Yes (please answer questions 5-7, then 10-13)
 - b. No (please skip to questions 8-13)
5. If yes to #4, what type of therapy?
 - a. In-office vision therapy only

- b. Home vision therapy only
 - c. Combination of home and in-office
6. If yes to #4, are you a referral source for vision therapy?
- a. Yes
 - b. No
7. If yes to #4, which conditions do you manage? (Check all that apply)
- a. Oculomotor dysfunction
 - b. Non-strabismic binocular vision disorders (convergence and accommodation disorders)
 - c. Strabismus
 - d. Amblyopia
 - e. Visual Processing
 - f. Traumatic Brain Injury
 - g. Other (please specify): _____
8. If no to #4, why not? (Check all that apply)
- a. Do not see binocular vision dysfunction patients
 - b. Good referral source geographically close
 - c. Uncomfortable with procedures
 - d. Do not think it works
 - e. Do not have the time to devote to vision therapy
 - f. Do not have the space to set up in-office vision therapy
 - g. Other (please specify): _____
9. If no to #4, do you refer patients to optometrists who do offer vision therapy?

- a. Yes
- b. No

10. Please rank in order the largest barriers to offering vision therapy in your office:

(1-largest, 9-smallest)

- a. Cost of equipment
- b. Comfort with procedures
- c. Logistics of office flow
- d. Reimbursement through insurance
- e. Space for expansion
- f. Time involved in managing and working with patients
- g. Training staff
- h. Patient/parent understanding of importance
- i. Patient dropout rate

11. Are you a member of any of the following? (Check all that apply)

- a. American Optometric Association
- b. Michigan Optometric Association
- c. College of Optometrists in Vision Development
- d. Optometric Extension Program
- e. Neuro-Optometric Rehabilitation Association
- f. American Academy of Optometry BVPP Section
- g. AOA Sports Vision Section
- h. AOA Vision Rehabilitation Section
- i. None of the above

j. Other (please specify): _____

12. If a “how-to” home vision therapy kit for doctors were available to help you as a doctor learn basic vision therapy procedures and train your staff, would you be interested in expanding your scope of practice to include more vision therapy in your office? The kit would include basic supplies and a CD of “how-to” perform each activity to treat basic binocular vision dysfunctions.

a. Yes

b. No, thank you

13. Comments, Questions, Concerns:

APPENDIX C

COMMENTS, QUESTIONS, AND CONCERNS (QUESTION 13)

Answers:

- I believe office based VT is the best way to go. I've seen many patients who have tried home based programs and did not have near the success of the office based programs. I prefer to refer to the experts, leave it to them. We just need more of them to do it this way, not with home based programs...
- I would love some help on how to train staff to become a therapist. It seems most doctors don't do VT, so therefore they don't look for VT problems, so no referrals.
- The time commitment to learning and starting VT in my office is of great concern to me. I really don't have the time or the interest in VT. If I do hire an associate it would be nice to offer it in my practice, however I don't see myself doing VT or offering it in my present position.
- For clarification: we are a two Dr. practice; my partner does VT so I refer VT patients to him.
- As an almost exclusive provider of vision therapy, I feel that it is important for all ODs to be comfortable with the concept of when to refer patients for vision therapy. I would not discourage other ODs from providing basic vision therapy if they were comfortable doing so, but if I have learned anything from my residency; it is that there is a lot more to vision therapy than a few simple procedures that can be done in any office or at home. Though there is the occasional straightforward CI patient that has no other issues, I have found that most patients requiring vision therapy have other deficits that would benefit from treatment as well. Again, I would not discourage other ODs from providing therapy, but I would be cautious about those who "dabble" in VT and ask that they identify and refer patients who would benefit from more extensive testing and therapy. (Also, I tried to answer #10, but I'm not sure it really applies since most of these are not issues at all in the office I work at).
- Many issues can be addressed via home training IF the patient and/or parents are motivated. Not all of us need an in office type approach. Some OD's do this extensively, but not every OD needs to have extensive in office programs available. We would refer perceptual problems that are not purely muscular for more extensive training.

- Not interested in VT kit because I already teach it to interns :-) I do think it would be a good idea for other docs.
- I appreciate the kit offer but already have the knowledge and skills and are already providing the services full scope.
- No.10 is very confusing. I was not able to rank answers in an appropriate numerical construct.
- Being employed in a retail setting limits the equipment on hand and time per exam. Even when referrals are made, many patients that have the greatest need for VT have parents/guardians that do not understand the importance of attending a consultation for BV/sensorimotor issues.
- I feel that there are many patients who would rather put up with headaches and near fatigue symptoms vs spending extra \$\$, time, and effort in treatment. I promote VT, but only treat about 7 patients per yr.
- I answered yes to question 12, but the answer is really maybe... I would need to know more about this kit...
- Perhaps, the increased medical approach to Optometry has provided less information and education to Optometry Students, then the areas of functional and treatment visual therapy modalities.
- My concerns still hold true but always interested in training staff to aid in treatment options
- I have been fully retired for 10 years
- VT is great - excellent way to grow your practice but not that applicable to VA optometry.
- Dr. Dan Fortenbacher has been one of my partners and provides VT services in our practice. One thing I do not understand is why all kinds of therapy is paid for by Insurance companies, but seldom for vision therapy!
- I had to answer #12 "NO" because I already do home and office VT and am comfortable with the programs I use. I do attend an average of 50 hours of VT CE per year.
- The issue with vision therapy in office regards time management. On top of that, a private practice typically would have to split their practice into a primary care division and one that can do VT. Otherwise, there will be issues with insurance reimbursement.