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### Vision impossible

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## Vision impossible

### Abstract

Vision Impossible was designed to help promote vision awareness to the general public as well as to help bring various health professions together and educate them as to the different visual demands that each profession may experience. Vision Impossible was also intended to be a fundraising event to help raise money for the renovation of Jefferson Hall. Ninety-four subjects, consisting mainly of optometry students, took part in two trial runs of a ten-event course, designed to challenge the visual system in various ways. The trial runs were conducted at Pacific University and were used to assess the efficiency of the event design and data was collected for normative purposes. However, Vision Impossible was unable to implement the originally designed fundraising event. Factors which contributed to this included flaws with some of the event designs as well as unavailability of equipment, inability to obtain donations for prize incentives, and logistical problems concerning the event location and timing. However, Vision Impossible did succeed in developing a final course design as well as obtaining normative results for these course events should this endeavor be attempted in the future.

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# VISION IMPOSSIBLE

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A thesis submitted to the faculty of the  
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## ABSTRACT

Vision Impossible was designed to help promote vision awareness to the general public as well as to help bring various health professions together and educate them as to the different visual demands that each profession may experience. Vision Impossible was also intended to be a fundraising event to help raise money for the renovation of Jefferson Hall. Ninety-four subjects, consisting mainly of optometry students, took part in two trial runs of a ten-event course, designed to challenge the visual system in various ways. The trial runs were conducted at Pacific University and were used to assess the efficiency of the event design and data was collected for normative purposes. However, Vision Impossible was unable to implement the originally designed fundraising event. Factors which contributed to this included flaws with some of the event designs as well as unavailability of equipment, inability to obtain donations for prize incentives, and logistical problems concerning the event location and timing. However, Vision Impossible did succeed in developing a final course design as well as obtaining normative results for these course events should this endeavor be attempted in the future.

## INTRODUCTION

Optometry has long had to deal with the fact that some confusion exists among the general public (and likely among other health care professionals) as to the exact role of the optometrist in the health care field. The optometric profession, therefore, should continue to look for ways to promote community awareness about optometry and the primary role that optometry can play in the vision care field. A need also exists to find ways to increase awareness among health care practitioners about how the various health care fields interrelate with optometry. Fostering the interaction of optometrists and other health care providers will help us all provide better overall patient care. To achieve these goals, the Vision Impossible project was developed.

As designed, Vision Impossible consists of 40 teams composed of students from various health professions programs in the Portland area. The teams compete against each other on the Vision Impossible event day in a kind of visual "obstacle course" consisting of 10 events engineered to challenge their visual systems. As a part of participating in the event, the teams will collect pledges of funds from sponsors prior to the event day, similar to the method used to collect donations for "walkathon"-type fundraisers. Prizes are awarded both to the teams that collect the most donations as well as those who perform best on the Vision Impossible events. As the student teams participate in the Vision Impossible course, a community vision fair will also be held, with goals of promoting community education about the visual system, providing free vision screenings, and increasing the patient base at Pacific University's Vision Clinics. The data collected from the events will be used to develop profiles of the visual skills possessed by members of the various health professions represented at the event.

## METHODS

The development of the course events was fundamental to this fundraising project. Since this project was designed to educate other health professionals as to the function and importance of vision in their respective careers, each event highlighted a specific aspect of vision which was important to a particular health professional's task. In order to accomplish this, a survey was sent out to the various health professions with questions concerning what particular visual tasks they are required to perform throughout a typical day at work (see appendix 1). From these surveys as well as interviews, an initial course of ten events was developed. Some of the events were already standard optometric tests, while others were designed specifically for Vision Impossible. Following is a brief description of each event. A more detailed explanation of these events can be found in Appendix 2.

1. Figure Ground<sup>7</sup> – This is an essential skill which may be important for professionals such as microbiologists, pathologists, and medical technologists. It allows for quick and accurate identification of abnormal cells and tissues in a field of healthy ones. This standardized test involves identifying specific patterns inside a set of complex pictures. Time and number of correct responses are grading factors.

2. 4 x 4 Pegboard<sup>8</sup> – This standardized test requires fine control of visual motor integration and a great deal of concentration skills which may be important to a surgeon. Contestants are asked to fill up a pegboard with pegs in the order of left to right and top to bottom. The pegs are divided into two piles, left and right, with the request for contestants to pick up the pegs with a midline crossing manner (i.e. using their left hands to reach the right pile and their right hands to reach the left pile). Time is the grading factor.
3. Altered Perception<sup>11</sup> – This demonstrates adaptation effects such as when medical technologists must look into microscopes for extended periods of time. This was performed with the subject wearing 8<sup>Δ</sup> base-out prism goggles and sitting ten feet away from a target (donut-shaped target with inner ring measuring 6 inches in diameter and outer concentric ring measuring 14 inches in diameter). The subjects then tossed 8 bean bags at the target and was scored accordingly:
  - 3 points – bean bag thrown into center ring
  - 2 points – bean bag rests on ledge between inner and outer ring
  - 1 point – bean bag thrown into surrounding outer ringScoring demonstrated how visual strain reduced performance.
4. Continuous Response Circle and Puzzle<sup>11</sup> – This standardized test is aimed toward EMTs (emergency medical technicians) and emergency room doctors. People's lives are dependent on these professionals to focus their attention to various tasks concurrently and continuous response circles is a perfect test to reflect this ability. A continuous response circle with 3 categories (i.e. animal name, boy's name, and the name of a U.S. city) is drawn on a blackboard next to a table with a small jigsaw puzzle. The contestants are asked to call out the first name that comes to mind in each category. In between each cycle, the contestants have to stop and place one piece of the puzzle in its proper location. Contestants repeat this cycle as many times as possible without duplicating any names. Grading is based on the number of names and correctly placed puzzle pieces in a set amount of time.
5. Contrast Sensitivity<sup>1,2,3,4</sup> – Radiologists are responsible for noticing subtle differences in the contrast of x-ray pictures, MRIs, ultrasound readings, etc., hence having a keen ability in contrast detection may be a valuable asset. To test this skill, a Vistech chart with a built-in self-adjusting illumination system is used. Contestants use forced choice to decide which circles show contrast grating versus the ones that do not. Grading criterion is the number of correct identifications.
6. Tachistoscope<sup>1,5,6</sup> – Patients rely on their pharmacists to have a good visual memory while working under intense conditions. Good visual memory may give pharmacists the benefit of remembering the location of different drugs in the pharmacy, hence allowing for quick and accurate drug retrieval for patients. A tachistoscope is needed for this standardized test along with a series of cards with numbers. Contestants are given a short time to view numbers that are flashed on a screen and are then required to

- write down what they saw. Accuracy is the grading criterion.
7. D-15 Hue Discrimination<sup>9,10</sup> – This is a standardized test which tests a person's ability to discriminate between color variations. This skill may be important to the dentist who must have good color discrimination, particularly with shades that reflect teeth enamel and built-up plaque. This test would need a yellow-green series from the D-100 color set. To make the test more challenging and less time consuming, contestants are required to use only one eye. Contestants are given a set amount of time to finish arranging the shades in their correct order. The number in correct order is needed for grading.
  8. Stereomobility<sup>2</sup> – This is a skill of recognizing depth and responding to it in a short amount of time. This skill is important in just about any medical field, however, the field that we want to emphasize are physician's assistants in instances such as recognizing any abnormality of the back of a patient's throat in cases of infection, or in abnormalities of the uterus and cervix during gynecology exams, or the ability to take cultures from the appropriate location. Chiropractors may benefit from this skill because it allows them to perceive bone and tissue protrusion in abnormal locations. Contestants are required to put on a pair of red/green glasses and observe the computer screen flashing different sets of circles at various stereoacuity levels from a slow to faster rate. One circle in each set projects depth and it is the contestant's job to quickly localize which circle it is. Grading is dependent upon the number of correct circles identified.
  9. Mirror Reversal<sup>12</sup> – this demonstrates the dexterity required to work with objects which are viewed through a left to right reversing mirror as may be required by dental hygienists. Subjects stood 50 cm away from a mirror which was tilted 45 degrees so that the subject could see a ball suspended, also at a distance of 50 cm, away from the mirror. Subjects were given a short pointer and, while looking solely at the image of the ball in the mirror, were to bring that pointer slowly upwards to touch the ball. After 3 seconds, the subject was told to stop and the distance between the pointer and the ball was then measured. Each subject was given three trials.
  10. Haynes Distance Rock (10 feet)<sup>1,2,3,5</sup> – This test is aimed toward the skill of accommodative facility which may be needed in the professions of physical therapy, occupational therapy and medical transcription. Physical and occupational therapists need to have good accommodative facility so that they are able to easily shift focus between observing the patient's actions to the patient's chart. Good accommodative facility is important to medical transcriptionists because they have to constantly shift focus between the hard copy and the computer screen. Without good accommodative facility, they would not be efficient at their jobs. Contestants are asked to stand at a certain distance away from the distance Haynes chart while holding a near Haynes chart. They are asked to alternately call out letters from the distance and near chart in the order of left to right and top to bottom. The number of correct letters called in a set



amount of time is the grading criterion.

Two trial runs of these events were conducted so that norm values could be attained. There were 48 participants in the first trial run, most of which were optometry students and their spouses. Each of these subjects participated in each of the ten events to provide an initial set of normative data. It was also found through this first trial run that there existed some inherent faults with some of these events. As a result, some of these events were discarded, while others were modified slightly. A second trial run was then conducted to test those events which were modified. Participants of this second trial run consisted of 46 entering first year optometry students.

## RESULTS

The purpose for the trial runs was to establish normative data for each of the ten events which would be used as a comparison for the performance of the health care professional students during the actual fundraising event. The following table summarizes the means and standard deviations for the ten events.

EVENT	MEAN SCORE	STANDARD DEVIATION
Figure Ground	14.0 responses/90 sec	1.5
Pegboard	30.0 sec	4.3
Altered Perception	2.01 points	1.21
Continuous Response Circle and Puzzle	7.7 cycles/150 sec	1.9
Contrast Sensitivity	5.5 correct responses	0.9
Tachistoscope	72.97 %	15.73
Hue Discrimination	8.9 error score	12.2
Stereomobility	5.9 correct responses	2.5
Mirror Reversal	1.7 cm	1.9
Haynes Distance Rock	15.1 cycles/30 sec	2.7

A more detailed table of individual results can be found in appendix 3, which also shows the breakdown of the event scores with regards to age, gender, and optometry vs. non-optometry participants.

## DISCUSSION

Vision Impossible was designed to educate the public as well as other health professionals regarding different visual demands, while at the same time, to raise funds to help with the renovation of Jefferson Hall. We were successful in constructing the event, however, we were unable to carry out the actual fundraiser.

The main focus for the planning of Vision Impossible centered around the course events. Ten events were initially planned, however, after the first trial run, there were some flaws that were discovered in some of the events, and it was also decided that the number of events would need to be reduced to eight for the real event. The events that needed modification included altered perception and mirror reversal. With the altered perception event, there were some people that were not able to fuse the target and therefore were not experiencing the intended convergent effect of the base-out prism. As for the mirror-reversal event, some of the participants were using motor memory to locate the target rather than using the visual cues in the mirror. It was also questionable as to whether or not it would be possible to include some of the other events due to availability of equipment. In particular, there was an insufficient number of pegboards for the pegboard event, puzzles for the continuous response circle and puzzle event, and computers for the stereomobility event.

Participants of Vision Impossible were to include students from various health professional programs in the Portland metro area. The event would be able to support forty teams of eight members each for a total enrollment of 320 participants. A list of the professional programs that were contacted can be found in appendix 4. These teams would compete for a chance to win various prizes. One set of prizes was to be awarded to the three top-scoring teams in the event course and another set of prizes was to be awarded to those individuals who raised the most money towards the renovation of Jefferson Hall.

Obtaining prizes for the event also proved to be difficult. The main prize for the event was to be a car awarded to the individual who managed to raise the most money for the fundraiser event. Several attempts were made to meet with various auto-dealers, however, Vision Impossible was unable to secure a donation from any of the local companies. Donations were also sought for other prizes including computers, trips for two, bicycles, and electronic equipment. Although numerous contacts were made with a wide variety of businesses, donations of prizes for the Vision Impossible team participants were difficult to obtain, mainly due to the unfamiliarity of the businesses with this type of event. Without the incentive of prizes, it then became difficult to recruit team members from the health professional schools contacted.

Although Vision Impossible was unable to carry out the actual fundraising event, we were successful in laying down the groundwork for the event should someone else attempt to try this in the future. The events have been designed and initial normative data has already been obtained for the events. Sample correspondence letters and brochures (see appendix 5) have been designed and a potential participant base has also been established. We had planned to carry out the fundraising event in correlation with Pacific University's Founder's Day Celebration, which, we believe, would have been beneficial to both of the events. However, another possibility would be to hold the event during Save Your Vision Week, since one of the primary goals of Vision Impossible was to educate the public regarding vision. However, it should be noted that if the event were to be run during Save Your Vision Week, then it cannot be held as a fundraising event. Other suggestions to those who may attempt this in the future include narrowing the focus of the event and concentrating on either the community fair/vision screening aspect of Vision

Impossible or on the fundraising/health professions awareness aspects of the event, fundraising on a smaller scale with smaller prizes (e.g. T-shirts or coupons for vision exams), or simply continuing the event as an annual orientation week tradition to introduce the first year optometry students to a variety of optometric tests and exercises.

## Appendix 1

Vision Impossible: Challenge Your Eyes Beyond 20/20 -- Health Professionals Questionnaire

HOW \_\_\_\_\_ USE THEIR EYES

1. Brief Description of the Profession
2. What percentage of the professional's day is spent doing near tasks, versus far, versus intermediate? (how near is near?)
3. What is the profession's main visual task during an average day of work and how long is spent doing this task?
4. Do the professionals ever experience eyestrain or headaches from work or specific tasks at work? What are these tasks?
5. Are there, or should there be, any vision requirements to enter this profession? (eg. - good distance vision or hand-eye coordination)
6. How do these professionals or their patients interact with Optometrists?
7. Can you think of areas where these professionals could improve or increase their contact with Optometrists?
8. Can you think of any visual needs in this profession that are not being met?
9. Information received from:

Please include additional information on the back of this sheet!

## Appendix 2

### Figure Ground:

Subjects were shown several presentations. Each card consisted of a row of 4 pictures composed of a series of lines and geometric shapes. Hidden within one of these pictures was a shape which the subjects were required to identify. This shape was shown separately above the row of pictures. Scores were based on the number of shapes correctly identified in 90 seconds.

### 4 x 4 Pegboard:

Each pegboard consisted of sixteen holes arranged in a 4 x 4 grid pattern. Each peg had a groove on it such that it must be oriented properly before it will slide into the appropriate hole on the pegboard. Fifteen pegs were placed in front of the subjects such that eight pegs were placed on the right hand side of the board and seven pegs on the left side. Subjects were to use their right hand to pick up pegs on the left side of the board and vice versa and must place the pegs on the board from top to bottom and left to right. The score for the test was the time it took for the subject to finish placing all fifteen pegs.

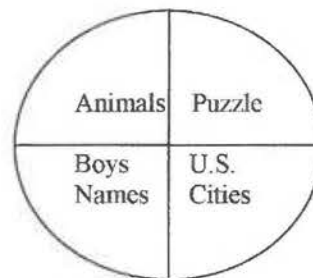
### Altered Perception:

Subjects were placed in a chair ten feet away from a donut-shaped target (with the inner ring measuring 6 inches in diameter and the outer concentric ring measuring 14 inches in diameter with a total height of 5 inches). Subjects were initially given two bean bags which they tossed towards the target as practice throws. Subjects were then given 8<sup>A</sup> base-out prism glasses to wear and were then given 8 more bean bags to toss towards the target. Subjects were scored as follows:

- 3 points – bean bag thrown into center ring
- 2 points – bean bag rests on ledge between inner and outer ring
- 1 point – bean bag thrown into surrounding outer ring

### Continuous Response Circle and Puzzle:

A circle, similar to the diagram on the right, was drawn on the blackboard. Subjects stood in front of a table on which puzzle pieces were placed faced down. Starting from the top left quadrant, subjects were to continue through the circle in a clock-wise fashion. For each quadrant, except for the puzzle, subjects were to call out a name corresponding to the category in that part of the circle. When the subjects reached the puzzle section, they were to pick up a piece of the



puzzle and were to place it correctly into the puzzle. Subjects were to continue around the circle without repeating the same name twice for any one category. Scores were based on the number of cycles completed within 150 seconds.

#### Contrast Sensitivity:

Subjects stood three meters away from the Vistech Contrast Sensitivity unit. This unit had five categories (A,B,C,D and E) which increased in the level of acuity from category A to category E. There were two rows of contrast circles for each category with decreasing level of contrast from left to right, and subjects were to call out which of the circles had the contrasting lines, either the top or the bottom circle, for each set. There were eight sets of circles for each category. Subjects were scored based upon the highest numbered patch in each of the five rows called correctly.

#### Tachistoscope:

Subjects sat ten feet away from a projector screen and with the use of a tachistoscope, fourteen presentations of numbers were shown to the subjects. Each presentation lasted for 0.10 seconds and consisted of a row of 5 to 7 numbers. Subjects were instructed to write down what numbers they had seen during the presentation and were scored based on the accuracy of both the correct identification of the numbers as well as the proper position of the numbers in the sequence.

#### Hue Discrimination:

Subjects were presented with one tray of the 100-Hue Test (Series 85-21). This test consisted of twenty-one color samples which the subjects were required to arrange to form a smooth color sequence starting with a fixed color sample at one end of the tray. Subjects were given a time limit of two minutes to complete the arrangement and were notified of elapsed times at 1 minute, at 1 minute 30 seconds and at 1 minute 45 seconds. Subjects were then given an error score. This score was calculated by summing the differences between the number of a misplaced cap and the number of the two caps adjacent to it.

#### Stereomobility:

Subjects wore red/blue glasses and sat 90 cm away from a computer on which they were shown eight presentations. Each presentation consisted of four circles, one of which had a different stereoacuity level compared to the other three and would therefore, be perceived as having a different depth level. Four of the presentations tested gross disparity and were flashed at rates of 2000 msec., 1000 msec., 500 msec., and 250 msec. The other four presentations tested fine disparity and were flashed at rates of 125 msec., 62 msec., 31 msec., and 15 msec. Subjects were required to identify which of the four circles differed in stereoacuity level in each set of presentations. Scores were based on the number of correct circles identified.

### Mirror Reversal:

Subjects stood 50 cm away from a mirror which was tilted 45 degrees so that the subject was able to see a ball suspended from the ceiling. This ball was also set at 50 cm away from the mirror. Subjects were given a short pointer and, while looking solely at the image of the ball in the mirror, were to bring the pointer slowly upwards to touch the ball. After three seconds, the subject was told to stop and the distance between the pointer and the ball was then measured and recorded as the score for that event. Each subject was given three trials.

### Haynes Distance Rock:

Subjects stood ten feet away from a distance Haynes chart and were given a near Haynes chart to hold in their hands. Each chart consisted of several rows of letters evenly spaced on the page, with the distance chart having larger letters compared to the near chart. Subjects were then instructed to alternately call out letters from the distance and near charts in the order of left to right and top to bottom. Scores were based on the number of cycles called out in 30 seconds, with one cycle consisting of one letter from the distance chart and one letter from the near chart.

## Appendix 3

## Results From Vision Impossible Trial Run1

	Age	M/F	OD/NOD	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
1	13	f	nod	12.00	40.00	0.50	7.00	5.25	0.27	4.00	5.00	4.00	12.00
2	23	m	od	13.00	35.00	2.00	10.75	6.00	0.61	6.00	8.00	1.00	14.00
3	23	f	od	15.00	28.00	3.00	8.00	6.50	0.74	5.00	4.00	3.17	15.00
4	23	f	od	14.00	30.00	1.00	7.00	6.50	0.73	7.00	10.00	0.00	16.00
5	23	f	od	16.00	29.00	2.00	8.00	5.25	0.71	8.00	3.00	0.00	16.00
6	23	f	od	15.00	25.00	1.50	7.00	5.50	0.82	8.00	3.00	3.00	15.00
7	24	f	od	13.00	28.00	0.50	8.00	4.50	0.62	0.00	10.00	1.17	13.00
8	24	m	od	16.00	27.00	1.50	7.50	6.75	0.78	6.00	5.00	3.67	16.00
9	24	f	od	13.00	33.00	2.50	9.00	6.00	0.74	0.00	5.00	1.17	15.00
10	24	f	od	12.00	25.00	1.50	10.75	6.75	0.71	4.00	6.00	5.50	16.00
11	24	f	od	15.00	32.00	1.50	8.50	5.50	0.86	0.00	12.00	0.50	14.00
12	24	m	od	14.00	32.00	0.50	9.00	4.00	0.95	48.00	3.00	2.00	12.00
13	25	m	od	13.00	21.00	4.00	8.50	6.25	0.82	2.00	5.00	1.33	19.00
14	25	m	od	14.00	26.00	1.50	6.75	5.75	0.69	2.00	4.00	0.00	14.00
15	25	f	nod	16.00	22.00	1.50	12.75	6.00	0.55	38.00	4.00	0.00	15.00
16	25	f	od	14.00	28.00	1.50	10.00	6.75	0.74	4.00	5.00	0.67	19.00
17	25	m	od	12.00	29.00	2.50	7.00	4.75	0.53	4.00	8.00	0.00	13.00
18	25	f	od	13.00	41.00	0.50	4.00	6.25	0.67	14.00	5.00	4.00	18.00
19	25	f	od	14.00	40.00	3.00	6.00	6.25	0.68	4.00	12.00	0.00	16.00
20	26	f	nod	12.00	29.00	1.00	6.25	5.75	0.72	5.00	5.00	0.67	13.00
21	26	m	od	15.00	33.00	3.00	4.00	5.75	0.73	2.00	7.00	0.00	12.00
22	26	f	od	15.00	28.00	5.00	7.50	5.50	0.86	40.00	9.00	1.67	15.00
23	26	m	od	16.00	29.00	3.00	11.00	5.50	0.88	0.00	10.00	3.33	13.00
24	26	m	nod	12.00	30.00	2.00	7.25	6.25	0.88	6.00	7.00	4.83	16.00
25	27	f	nod	10.00	38.00	0.50	8.00	5.25	0.68	2.00	8.00	1.17	13.00
26	27	f	nod	14.00	30.00	0.50	7.25	4.75	0.51	2.00	3.00	0.67	13.00
27	27	m	od	15.00	26.00	3.00	8.75	5.25	0.96	6.00	7.00	1.33	24.00
28	27	m	nod	13.00	29.00	2.00	8.50	4.50	0.22	12.00	4.00	2.83	15.00
29	27	f	od	15.00	29.00	2.00	10.50	6.25	0.51	8.00	3.00	0.33	15.00
30	27	m	od	10.00	32.00	4.50	8.50	5.25	0.76	6.00	5.00	0.00	19.00
31	28	m	od	16.00	22.00	1.50	8.50	4.75	0.89	0.00	6.00	0.67	21.00
32	28	m	od	14.00	33.00	3.00	4.00	5.00	0.78	4.00	2.00	1.67	14.00
33	28	m	od	15.00	24.00	3.00	7.00	3.25	0.86	42.00	4.00	0.67	12.00
34	28	m	nod	15.00	31.00	3.50	4.00	7.25	0.88	4.00	7.00	0.00	14.00
35	28	m	od	16.00	31.00	3.00	9.00	6.50	0.80	2.00	3.00	0.33	15.00
36	29	m	od	13.00	29.00	1.00	6.00	5.50	0.80	2.00	4.00	1.83	18.00
37	29	m	od	15.00	31.00	3.50	10.50	5.75	0.87	0.00	9.00	0.30	19.00
38	30	m	od	15.00	31.00	4.00	7.00	5.75	0.80	45.00	8.00	0.33	15.00
39	30	f	od	14.00	34.00	1.50	8.00	4.75	0.73	6.00	4.00	0.83	14.00
40	30	m	nod	14.00	27.00	0.50	5.00	3.50	0.61	17.00	4.00	1.00	10.00
41	32	f	od	14.00	32.00	0.50	6.00	6.00	0.60	8.00	7.00	4.50	16.00
42	33	f	nod	15.00	32.00	1.00	7.00	4.00	0.56	10.00	4.00	0.33	14.00
43	35	f	nod	14.00	27.00	2.50	5.00	4.75	0.65	6.00	6.00	9.33	10.00
44	38	m	od	15.00	34.00	1.50	8.50	4.75	0.82	8.00	7.00	2.67	14.00
45	43	m	od	12.00	32.00	0.50	8.00	5.50	0.96	4.00	5.00	3.00	14.00
46	44	f	od	14.00	29.00	1.00	8.00	6.50	0.93	8.00	10.00	2.67	16.00
47	44	m	od	15.00	28.00	4.00	8.00	4.50	0.82	2.00	4.00	0.17	18.00
48	50	f	od	14.00	30.00	2.00	7.00	5.75	0.69	5.00	8.00	1.67	14.00

28.042	Average	13.979	30.021	2.0104	7.6979	5.5052	0.7297	8.875	5.9792	1.6663	15.083
6.4576	Std Dev	1.4658	4.3245	1.205	1.9137	0.8805	0.1573	12.209	2.5222	1.8656	2.6724

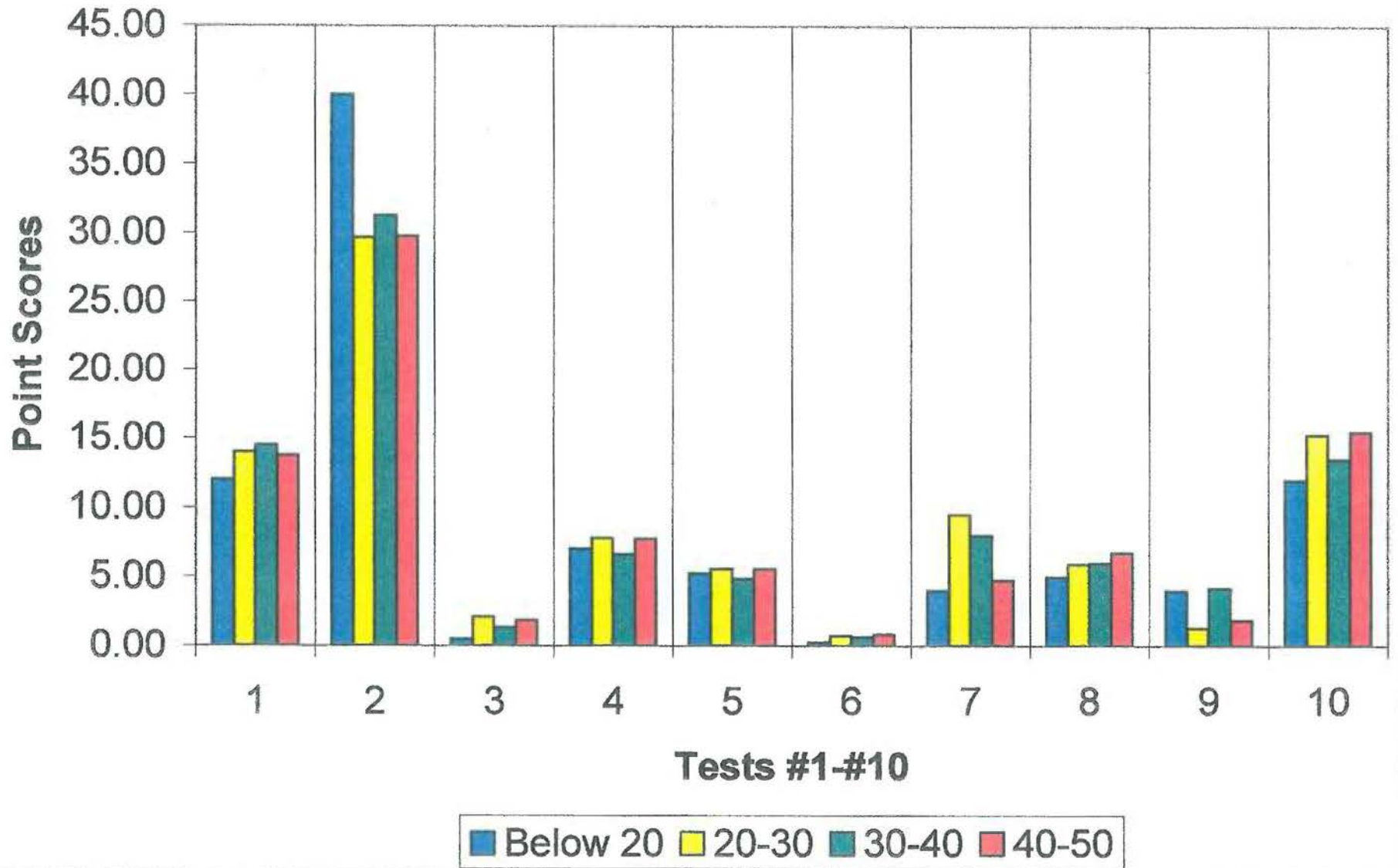


## Age vs Point Score

	Age	M/F	OD/NOD	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
1	13	f	nod	12.00	40.00	0.50	7.00	5.25	0.27	4.00	5.00	4.00	12.00
2	23	m	od	13.00	35.00	2.00	10.75	6.00	0.61	6.00	8.00	1.00	14.00
3	23	f	od	15.00	28.00	3.00	8.00	6.50	0.74	5.00	4.00	3.17	15.00
4	23	f	od	14.00	30.00	1.00	7.00	6.50	0.73	7.00	10.00	0.00	16.00
5	23	f	od	16.00	29.00	2.00	8.00	5.25	0.71	8.00	3.00	0.00	16.00
6	23	f	od	15.00	25.00	1.50	7.00	5.50	0.82	8.00	3.00	3.00	15.00
7	24	f	od	13.00	28.00	0.50	8.00	4.50	0.62	0.00	10.00	1.17	13.00
8	24	m	od	16.00	27.00	1.50	7.50	6.75	0.78	6.00	5.00	3.67	16.00
9	24	f	od	13.00	33.00	2.50	9.00	6.00	0.74	0.00	5.00	1.17	15.00
10	24	f	od	12.00	25.00	1.50	10.75	6.75	0.71	4.00	6.00	5.50	16.00
11	24	f	od	15.00	32.00	1.50	8.50	5.50	0.86	0.00	12.00	0.50	14.00
12	24	m	od	14.00	32.00	0.50	9.00	4.00	0.95	48.00	3.00	2.00	12.00
13	25	m	od	13.00	21.00	4.00	8.50	6.25	0.82	2.00	5.00	1.33	19.00
14	25	m	od	14.00	26.00	1.50	6.75	5.75	0.69	2.00	4.00	0.00	14.00
15	25	f	nod	16.00	22.00	1.50	12.75	6.00	0.55	38.00	4.00	0.00	15.00
16	25	f	od	14.00	28.00	1.50	10.00	6.75	0.74	4.00	5.00	0.67	19.00
17	25	m	od	12.00	29.00	2.50	7.00	4.75	0.53	4.00	8.00	0.00	13.00
18	25	f	od	13.00	41.00	0.50	4.00	6.25	0.67	14.00	5.00	4.00	18.00
19	25	f	od	14.00	40.00	3.00	6.00	6.25	0.68	4.00	12.00	0.00	16.00
20	26	f	nod	12.00	29.00	1.00	6.25	5.75	0.72	5.00	5.00	0.67	13.00
21	26	m	od	15.00	33.00	3.00	4.00	5.75	0.73	2.00	7.00	0.00	12.00
22	26	f	od	15.00	28.00	5.00	7.50	5.50	0.86	40.00	9.00	1.67	15.00
23	26	m	od	16.00	29.00	3.00	11.00	5.50	0.88	0.00	10.00	3.33	13.00
24	26	m	nod	12.00	30.00	2.00	7.25	6.25	0.88	6.00	7.00	4.83	16.00
25	27	f	nod	10.00	38.00	0.50	8.00	5.25	0.68	2.00	8.00	1.17	13.00
26	27	f	nod	14.00	30.00	0.50	7.25	4.75	0.51	2.00	3.00	0.67	13.00
27	27	m	od	15.00	26.00	3.00	8.75	5.25	0.96	6.00	7.00	1.33	24.00
28	27	m	nod	13.00	29.00	2.00	8.50	4.50	0.22	12.00	4.00	2.83	15.00
29	27	f	od	15.00	29.00	2.00	10.50	6.25	0.51	8.00	3.00	0.33	15.00
30	27	m	od	10.00	32.00	4.50	8.50	5.25	0.76	6.00	5.00	0.00	19.00
31	28	m	od	16.00	22.00	1.50	8.50	4.75	0.89	0.00	6.00	0.67	21.00
32	28	m	od	14.00	33.00	3.00	4.00	5.00	0.78	4.00	2.00	1.67	14.00
33	28	m	od	15.00	24.00	3.00	7.00	3.25	0.86	42.00	4.00	0.67	12.00
34	28	m	nod	15.00	31.00	3.50	4.00	7.25	0.88	4.00	7.00	0.00	14.00
35	28	m	od	16.00	31.00	3.00	9.00	6.50	0.80	2.00	3.00	0.33	15.00
36	29	m	od	13.00	29.00	1.00	6.00	5.50	0.80	2.00	4.00	1.83	18.00
37	29	m	od	15.00	31.00	3.50	10.50	5.75	0.87	0.00	9.00	0.30	19.00
38	30	m	od	15.00	31.00	4.00	7.00	5.75	0.80	45.00	8.00	0.33	15.00
39	30	f	od	14.00	34.00	1.50	8.00	4.75	0.73	6.00	4.00	0.83	14.00
40	30	m	nod	14.00	27.00	0.50	5.00	3.50	0.61	17.00	4.00	1.00	10.00
	26		Ave	14.00	29.67	2.13	7.82	5.57	0.74	9.51	5.92	1.32	15.28
	2.10263		Std dev	1.54	4.39	1.20	2.05	0.90	0.14	13.44	2.65	1.44	2.73

41	32	f	od	14.00	32.00	0.50	6.00	6.00	0.60	8.00	7.00	4.50	16.00
42	33	f	nod	15.00	32.00	1.00	7.00	4.00	0.56	10.00	4.00	0.33	14.00
43	35	f	nod	14.00	27.00	2.50	5.00	4.75	0.65	6.00	6.00	9.33	10.00
44	38	m	od	15.00	34.00	1.50	8.50	4.75	0.82	8.00	7.00	2.67	14.00
	34.5		Ave	14.50	31.25	1.38	6.63	4.88	0.66	8.00	6.00	4.21	13.50
	2.645751		Std dev	0.58	2.99	0.85	1.49	0.83	0.11	1.63	1.41	3.82	2.52
45	43	m	od	12.00	32.00	0.50	8.00	5.50	0.96	4.00	5.00	3.00	14.00
46	44	f	od	14.00	29.00	1.00	8.00	6.50	0.93	8.00	10.00	2.67	16.00
47	44	m	od	15.00	28.00	4.00	8.00	4.50	0.82	2.00	4.00	0.17	18.00
48	50	f	od	14.00	30.00	2.00	7.00	5.75	0.69	5.00	8.00	1.67	14.00
	45.25		Ave	13.75	29.75	1.88	7.75	5.56	0.85	4.75	6.75	1.88	15.50
	3.201562		Std dev	1.26	1.71	1.55	0.50	0.83	0.12	2.50	2.75	1.27	1.91
	13.00		Below 20	12.00	40.00	0.50	7.00	5.25	0.27	4.00	5.00	4.00	12.00
	26.00		20-30	14.00	29.67	2.13	7.82	5.57	0.74	9.51	5.92	1.32	15.28
	34.50		30-40	14.50	31.25	1.38	6.63	4.88	0.66	8.00	6.00	4.21	13.50
	45.25		40-50	13.75	29.75	1.88	7.75	5.56	0.85	4.75	6.75	1.88	15.50

# Age vs Point Score

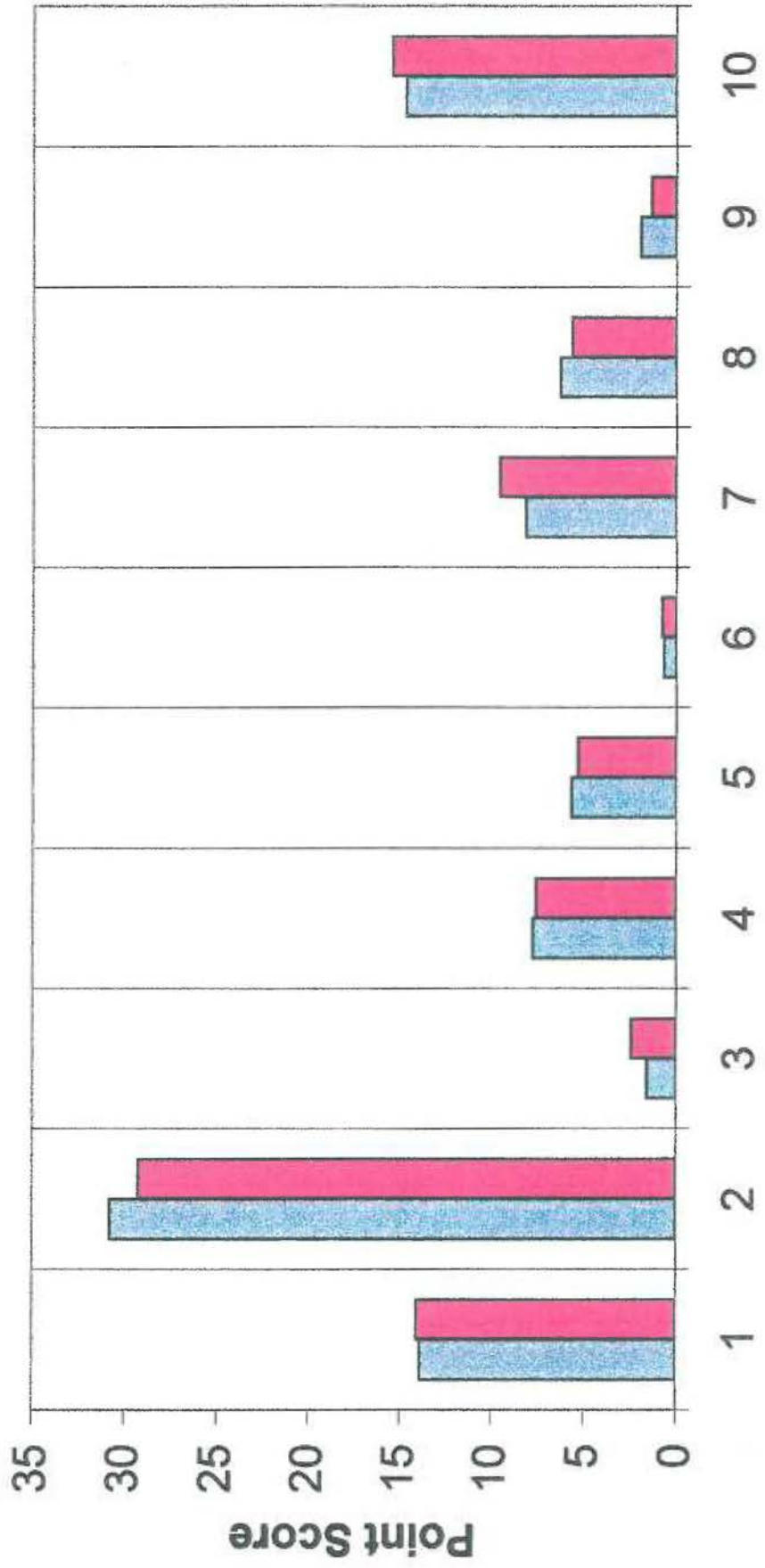


## Gender vs Point Score

	Age	M/F	OD/NOD	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
1	13	f	nod	12.00	40.00	0.50	7.00	5.25	0.27	4.00	5.00	4.00	12.00
2	23	f	od	15.00	28.00	3.00	8.00	6.50	0.74	5.00	4.00	3.17	15.00
3	23	f	od	14.00	30.00	1.00	7.00	6.50	0.73	7.00	10.00	0.00	16.00
4	23	f	od	16.00	29.00	2.00	8.00	5.25	0.71	8.00	3.00	0.00	16.00
5	23	f	od	15.00	25.00	1.50	7.00	5.50	0.82	8.00	3.00	3.00	15.00
6	24	f	od	13.00	28.00	0.50	8.00	4.50	0.62	0.00	10.00	1.17	13.00
7	24	f	od	13.00	33.00	2.50	9.00	6.00	0.74	0.00	5.00	1.17	15.00
8	24	f	od	12.00	25.00	1.50	10.75	6.75	0.71	4.00	6.00	5.50	16.00
9	24	f	od	15.00	32.00	1.50	8.50	5.50	0.86	0.00	12.00	0.50	14.00
10	25	f	nod	16.00	22.00	1.50	12.75	6.00	0.55	38.00	4.00	0.00	15.00
11	25	f	od	14.00	28.00	1.50	10.00	6.75	0.74	4.00	5.00	0.67	19.00
12	25	f	od	13.00	41.00	0.50	4.00	6.25	0.67	14.00	5.00	4.00	18.00
13	25	f	od	14.00	40.00	3.00	6.00	6.25	0.68	4.00	12.00	0.00	16.00
14	26	f	nod	12.00	29.00	1.00	6.25	5.75	0.72	5.00	5.00	0.67	13.00
15	26	f	od	15.00	28.00	5.00	7.50	5.50	0.86	40.00	9.00	1.67	15.00
16	27	f	nod	10.00	38.00	0.50	8.00	5.25	0.68	2.00	8.00	1.17	13.00
17	27	f	nod	14.00	30.00	0.50	7.25	4.75	0.51	2.00	3.00	0.67	13.00
18	27	f	od	15.00	29.00	2.00	10.50	6.25	0.51	8.00	3.00	0.33	15.00
19	30	f	od	14.00	34.00	1.50	8.00	4.75	0.73	6.00	4.00	0.83	14.00
20	32	f	od	14.00	32.00	0.50	6.00	6.00	0.60	8.00	7.00	4.50	16.00
21	33	f	nod	15.00	32.00	1.00	7.00	4.00	0.56	10.00	4.00	0.33	14.00
22	35	f	nod	14.00	27.00	2.50	5.00	4.75	0.65	6.00	6.00	9.33	10.00
23	44	f	od	14.00	29.00	1.00	8.00	6.50	0.93	8.00	10.00	2.67	16.00
24	50	f	od	14.00	30.00	2.00	7.00	5.75	0.69	5.00	8.00	1.67	14.00
25	23	m	od	13.00	35.00	2.00	10.75	6.00	0.61	6.00	8.00	1.00	14.00
26	24	m	od	16.00	27.00	1.50	7.50	6.75	0.78	6.00	5.00	3.67	16.00
27	24	m	od	14.00	32.00	0.50	9.00	4.00	0.95	48.00	3.00	2.00	12.00
28	25	m	od	13.00	21.00	4.00	8.50	6.25	0.82	2.00	5.00	1.33	19.00
29	25	m	od	14.00	26.00	1.50	6.75	5.75	0.69	2.00	4.00	0.00	14.00
30	25	m	od	12.00	29.00	2.50	7.00	4.75	0.53	4.00	8.00	0.00	13.00
31	26	m	od	15.00	33.00	3.00	4.00	5.75	0.73	2.00	7.00	0.00	12.00
32	26	m	od	16.00	29.00	3.00	11.00	5.50	0.88	0.00	10.00	3.33	13.00
33	26	m	nod	12.00	30.00	2.00	7.25	6.25	0.88	6.00	7.00	4.83	16.00
34	27	m	od	15.00	26.00	3.00	8.75	5.25	0.96	6.00	7.00	1.33	24.00
35	27	m	nod	13.00	29.00	2.00	8.50	4.50	0.22	12.00	4.00	2.83	15.00
36	27	m	od	10.00	32.00	4.50	8.50	5.25	0.76	6.00	5.00	0.00	19.00
37	28	m	od	16.00	22.00	1.50	8.50	4.75	0.89	0.00	6.00	0.67	21.00
38	28	m	od	14.00	33.00	3.00	4.00	5.00	0.78	4.00	2.00	1.67	14.00
39	28	m	od	15.00	24.00	3.00	7.00	3.25	0.86	42.00	4.00	0.67	12.00
40	28	m	nod	15.00	31.00	3.50	4.00	7.25	0.88	4.00	7.00	0.00	14.00
41	28	m	od	16.00	31.00	3.00	9.00	6.50	0.80	2.00	3.00	0.33	15.00

42	29	m	od	13.00	29.00	1.00	6.00	5.50	0.80	2.00	4.00	1.83	18.00
43	29	m	od	15.00	31.00	3.50	10.50	5.75	0.87	0.00	9.00	0.30	19.00
44	30	m	od	15.00	31.00	4.00	7.00	5.75	0.80	45.00	8.00	0.33	15.00
45	30	m	nod	14.00	27.00	0.50	5.00	3.50	0.61	17.00	4.00	1.00	10.00
46	38	m	od	15.00	34.00	1.50	8.50	4.75	0.82	8.00	7.00	2.67	14.00
47	44	m	od	15.00	28.00	4.00	8.00	4.50	0.82	2.00	4.00	0.17	18.00
48	43	m	od	12.00	32.00	0.50	8.00	5.50	0.96	4.00	5.00	3.00	14.00
	27.417		Female	13.875	30.792	1.5833	7.7708	5.6771	0.6784	8.1667	6.2917	1.9592	14.708
	28.667		Male	14.083	29.25	2.4375	7.625	5.3333	0.7809	9.5833	5.6667	1.3733	15.458
	7.4069		Female	1.3929	4.8899	1.07	1.8909	0.7535	0.1374	10.059	2.8965	2.2438	1.8992
	5.4347		Male	1.5581	3.6146	1.2007	1.974	0.9771	0.1619	14.225	2.099	1.3779	3.2701

# Gender vs Point Score



Tests #1-#10

Female Male

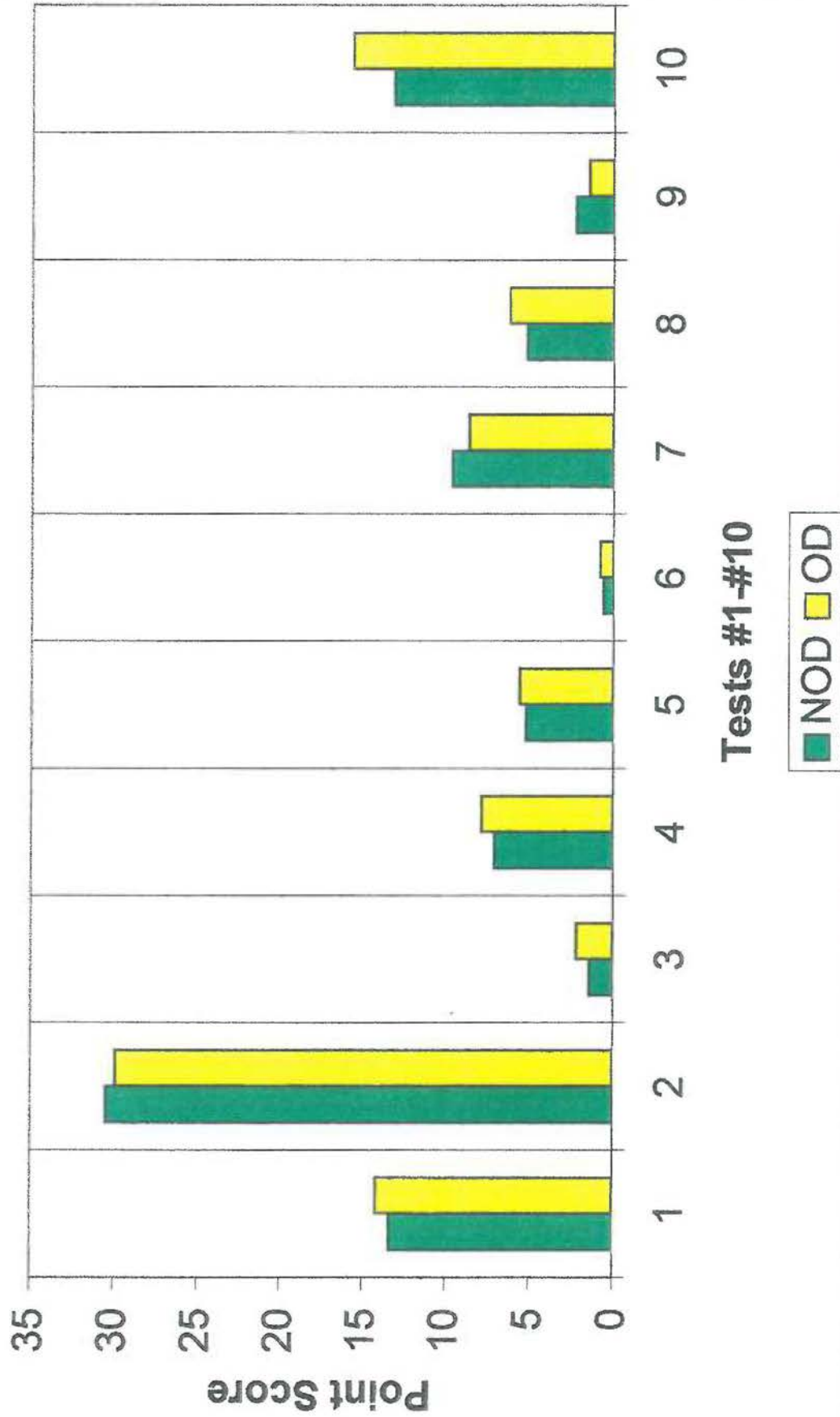
## Non Opt Students vs Opt Students

	Age	M/F	OD/NOD	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
1	13	f	nod	12.00	40.00	0.50	7.00	5.25	0.27	4.00	5.00	4.00	12.00
2	25	f	nod	16.00	22.00	1.50	12.75	6.00	0.55	38.00	4.00	0.00	15.00
3	26	f	nod	12.00	29.00	1.00	6.25	5.75	0.72	5.00	5.00	0.67	13.00
4	26	m	nod	12.00	30.00	2.00	7.25	6.25	0.88	6.00	7.00	4.83	16.00
5	27	f	nod	10.00	38.00	0.50	8.00	5.25	0.68	2.00	8.00	1.17	13.00
6	27	f	nod	14.00	30.00	0.50	7.25	4.75	0.51	2.00	3.00	0.67	13.00
7	27	m	nod	13.00	29.00	2.00	8.50	4.50	0.22	12.00	4.00	2.83	15.00
8	28	m	nod	15.00	31.00	3.50	4.00	7.25	0.88	4.00	7.00	0.00	14.00
9	30	m	nod	14.00	27.00	0.50	5.00	3.50	0.61	17.00	4.00	1.00	10.00
10	33	f	nod	15.00	32.00	1.00	7.00	4.00	0.56	10.00	4.00	0.33	14.00
11	35	f	nod	14.00	27.00	2.50	5.00	4.75	0.65	6.00	6.00	9.33	10.00
12	23	m	od	13.00	35.00	2.00	10.75	6.00	0.61	6.00	8.00	1.00	14.00
13	23	f	od	15.00	28.00	3.00	8.00	6.50	0.74	5.00	4.00	3.17	15.00
14	23	f	od	14.00	30.00	1.00	7.00	6.50	0.73	7.00	10.00	0.00	16.00
15	23	f	od	16.00	29.00	2.00	8.00	5.25	0.71	8.00	3.00	0.00	16.00
16	23	f	od	15.00	25.00	1.50	7.00	5.50	0.82	8.00	3.00	3.00	15.00
17	24	f	od	13.00	28.00	0.50	8.00	4.50	0.62	0.00	10.00	1.17	13.00
18	24	m	od	16.00	27.00	1.50	7.50	6.75	0.78	6.00	5.00	3.67	16.00
19	24	f	od	13.00	33.00	2.50	9.00	6.00	0.74	0.00	5.00	1.17	15.00
20	24	f	od	12.00	25.00	1.50	10.75	6.75	0.71	4.00	6.00	5.50	16.00
21	24	f	od	15.00	32.00	1.50	8.50	5.50	0.86	0.00	12.00	0.50	14.00
22	24	m	od	14.00	32.00	0.50	9.00	4.00	0.95	48.00	3.00	2.00	12.00
23	25	m	od	13.00	21.00	4.00	8.50	6.25	0.82	2.00	5.00	1.33	19.00
24	25	m	od	14.00	26.00	1.50	6.75	5.75	0.69	2.00	4.00	0.00	14.00
25	25	f	od	14.00	28.00	1.50	10.00	6.75	0.74	4.00	5.00	0.67	19.00
26	25	m	od	12.00	29.00	2.50	7.00	4.75	0.53	4.00	8.00	0.00	13.00
27	25	f	od	13.00	41.00	0.50	4.00	6.25	0.67	14.00	5.00	4.00	18.00
28	25	f	od	14.00	40.00	3.00	6.00	6.25	0.68	4.00	12.00	0.00	16.00
29	26	m	od	15.00	33.00	3.00	4.00	5.75	0.73	2.00	7.00	0.00	12.00
30	26	f	od	15.00	28.00	5.00	7.50	5.50	0.86	40.00	9.00	1.67	15.00
31	26	m	od	16.00	29.00	3.00	11.00	5.50	0.88	0.00	10.00	3.33	13.00
32	27	m	od	15.00	26.00	3.00	8.75	5.25	0.96	6.00	7.00	1.33	24.00
33	27	f	od	15.00	29.00	2.00	10.50	6.25	0.51	8.00	3.00	0.33	15.00
34	27	m	od	10.00	32.00	4.50	8.50	5.25	0.76	6.00	5.00	0.00	19.00
35	28	m	od	16.00	22.00	1.50	8.50	4.75	0.89	0.00	6.00	0.67	21.00
36	28	m	od	14.00	33.00	3.00	4.00	5.00	0.78	4.00	2.00	1.67	14.00
37	28	m	od	15.00	24.00	3.00	7.00	3.25	0.86	42.00	4.00	0.67	12.00
38	28	m	od	16.00	31.00	3.00	9.00	6.50	0.80	2.00	3.00	0.33	15.00
39	29	m	od	13.00	29.00	1.00	6.00	5.50	0.80	2.00	4.00	1.83	18.00

40	29	m	od	15.00	31.00	3.50	10.50	5.75	0.87	0.00	9.00	0.30	19.00
41	30	m	od	15.00	31.00	4.00	7.00	5.75	0.80	45.00	8.00	0.33	15.00
42	30	f	od	14.00	34.00	1.50	8.00	4.75	0.73	6.00	4.00	0.83	14.00
43	32	f	od	14.00	32.00	0.50	6.00	6.00	0.60	8.00	7.00	4.50	16.00
44	38	m	od	15.00	34.00	1.50	8.50	4.75	0.82	8.00	7.00	2.67	14.00
45	44	f	od	14.00	29.00	1.00	8.00	6.50	0.93	8.00	10.00	2.67	16.00
46	44	m	od	15.00	28.00	4.00	8.00	4.50	0.82	2.00	4.00	0.17	18.00
47	50	f	od	14.00	30.00	2.00	7.00	5.75	0.69	5.00	8.00	1.67	14.00
48	43	m	od	12.00	32.00	0.50	8.00	5.50	0.96	4.00	5.00	3.00	14.00
	27		NOD	13.364	30.455	1.4091	7.0909	5.2045	0.5947	9.6364	5.1818	2.2573	13.182
	28.351		OD	14.162	29.892	2.1892	7.8784	5.5946	0.7698	8.6486	6.2162	1.4905	15.649
	5.5857		NOD	1.7477	5.0073	0.9954	2.3218	1.0713	0.2109	10.452	1.6011	2.8586	1.94
	6.7339		OD	1.344	4.1686	1.2154	1.7713	0.8108	0.1129	12.807	2.7094	1.4614	2.6164



# Non Opt Students vs Opt Students



## Vision Impossible

### Professional Programs in the area and Contact Names Spring 1997

- Chiropractic:** Western States Chiropractic Coll. Sara Heinicke, Student Activities  
2900 NE 132nd 140 admitted in fall  
Portland, OR 97230 40 " in winter  
251-2802 (Sara H.) [3 year program] = 500 ish?
- Dentistry:** OHSU College of Dentistry Contact name: Maxanne (Staff)  
611 SW Campus Dr 70 Freshmen DMD  
Portland 70 Sophomore DMD  
494-8220 72 Junior DMD  
67 Senior DMD = 279 total
- Dental Hygiene:** OHSU School of Dental Hygiene Contact name: Maxanne (Staff)  
611 SW Campus Dr 36 Juniors  
Portland 35 Seniors = 71  
494-8220
- Emergency Medical Tech:**  
College of Emergency Services  
9735 SW Sinshine Ct Suite 700  
Beaverton  
644-9999
- Healing Arts:** East-West College of the Healing Arts  
4531 SE Belmont  
Portland  
231-1500
- Massage Therapy:**  
Ewing Institute of Therapeutic Massage (no school licensing, just  
3800 SW Cedar Hills Blvd, Suite 195 massage appts. offered)  
Beaverton, OR  
644-1307
- Medical Assisting:**  
Pioneer Pacific College Contact name: Burkey (staff)  
25195 SW Parkway Ave 35 week program;  
Wilsonville, OR 97070 start every 5 weeks.  
682-3903
- Western Business College Contact name: Kate Helland (Staff)  
425 SW Washington 9 mo. medical administrative

Portland, OR  
222-3225

15 mo. Cert. med assisting  
18 mo. associate of applied science  
med. assisting  
60-75 students per academic yr

**Medicine:** OHSU Medical School  
494-8220

Contact name: Tina (Staff)  
96 ( X four years) = 384

**Naturopath:** National College of  
Naturopathic Medicine

499-4343, x. 301  
(no numbers yet)

**Nursing:** OHSU School of Nursing  
494-7790

Bachelor of Science in Nursing  
(no numbers yet)

University of Portland  
School of Nursing  
5000 N. Willamette Blvd  
Portland, OR 97203  
283-7211

Contact name: Jane Martin  
70 Juniors  
70 Seniors = 140  
**Student Nursing Association**  
**President: Renee Englehart**

**Occupational Therapy:**

Pacific University OT  
2043 College Way  
Forest Grove, OR 97116  
359-2203

494-3151  
46 total in program  
**Co-Presidents:**  
**Kelly Burke**  
**Donna Perryman**  
UC Box 684

**Paramedicine:** Paramedic Training Institute  
Beaverton  
590-4039

**Pharmacy:**

**Physical Therapy:**

Pacific University PT  
2043 College Way  
Forest Grove, OR 97116

Contact name: Jean  
36 (X 3 classes) = 108  
**1st yr: Ben Nelson**  
**2nd yr: Brad Speer**  
**3rd yr: Eric Roth**

**Physician Assisting:**

**Professional Psychology:**

Pacific University Professional Psych  
359-2240

Contact name: Kristin (staff)  
Master of Science prog, 7 years to

## Vision Impossible!

UC Box 1999 ♦ 2043 College Way ♦ Forest Grove, Oregon ♦ 97116 ♦ (503) 359-2253

August 5, 1997

Dear Student Representative,

On behalf of the Vision Impossible thesis team of Pacific University College of Optometry, I would like to invite you and your class peers to participate in a unique vision awareness event, **Vision Impossible**.

Vision Impossible is the title of a day event aimed to educate student members of the health professions about how we use our eyes in our respective fields. The members of the thesis team Vision Impossible are hosting a visual performance obstacle course on **September 20, 1997**--previous experience not necessary to participate!

Our goals for the Vision Impossible event are listed below:

1. To show members of the health professions the visual demands that are required of them to perform efficiently;
2. To foster a camaraderie among the new members of the health professions and to educate one another in our care philosophies;
3. To establish normative data for the ten events as part of a thesis project;
4. To raise funds for Pacific University's nonprofit philanthropic group, Amigos Eye Care Inc. Amigos Eye Care brings free eye examinations and used eye glasses to impoverished populations around the world. Trips in 1996-1997 took students and advising optometrists to Thailand, Indonesia, Brazil, Romania, Mexico, and Jamaica. Each trip generally serves over two thousand people who otherwise could not afford eye care. Many have never had the opportunity to see their environment as we do in this country.

Participation in Vision Impossible does not come without rewards:

### Individual Pledge Prizes

- highest raffle\* dollar amount earns a 1997 automobile!
- 2nd highest raffle\* dollar amount earns a mountain bike
- 3rd highest raffle\* dollar amount earns a **complete Visual Performance Package (complete vision exam PLUS frames, lenses, and a year supply of contact lenses with solutions)**

\*Funds for the event will be raised by raffle tickets sold for a new FORD EXPLORER!

# Vision Impossible!

UC Box 1999 ♦ 2043 College Way ♦ Forest Grove, Oregon ♦ 97116 ♦ (503) 359-2253

## Team Performance Prizes

- highest team point<sup>o</sup> total: the team earns up to 4% of total funds raised to use toward a graduating class event
- 2nd highest team point total: each member earns a pair of Ray-Ban sunglasses
- 3rd highest team point total: each member earns a free dinner for two at a Portland area restaurant

<sup>o</sup> Team point totals will be determined by performance of individual team members on the ten obstacle course events

For a time commitment of a few hours on a September Saturday, there is much to gain by participating in Vision Impossible.

The team is actively seeking participating teams of **eight individuals** from each class in your respective school program. If you would like to enter more than one team from each class, we encourage you to do so! Please respond quickly, though, as space for only 40 teams is available. Our desire is to have as many varied health professions participate as possible--chiropractic, dentistry, emergency medical technicianry, massage therapy, medical assisting, medicine, naturopathic medicine, nursing, occupational therapy, oriental medicine, paramedicine, pharmacy, physical therapy, physician assisting, and pre-health professions.

As the teams coordinator for Vision Impossible, I look forward to hearing from you. I would like to extend a dinner invitation to you and a guest so that a few members of our thesis team may more fully explain Vision Impossible to you. Thank you for your time!

Regards,



Becky R. Lowrey  
Teams Coordinator, Vision Impossible  
Pacific University College of Optometry

UC Box 1999, Pacific U.  
(503) 357-7272  
lowreyb@pacificu.edu

ENTRY FORM

Team Name: \_\_\_\_\_

Team Leader: \_\_\_\_\_

Team Members:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

College/University: \_\_\_\_\_

Faculty: \_\_\_\_\_

SPONSORS OF "VISION  
IMPOSSIBLE: CHALLENGE  
YOUR VISION BEYOND 20/20"

VISION



IMPOSSIBLE

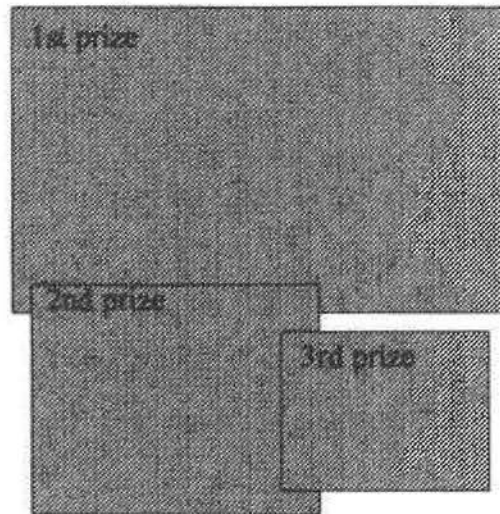
CHALLENGE  
YOUR VISION  
BEYOND 20/20

Challenge your vision, raise some money and win a bike, a trip or even a car! It's all happening September 20, 1997 at "Vision Impossible: Challenge Your Vision Beyond 20/20" and health professional students from around the Portland area are invited to enter the competition. There's lots of prizes to be won by everyone so don't wait, round up some fellow classmates and enter your team now - only forty teams will be allowed to compete. Pacific University College of Optometry has engineered a ten-event course that is guaranteed to push your vision to extremes. There will also be lots of games, prizes and vision screening exams for those of you not entered in the competition. So come and check out all the fun and games at Vision Impossible and learn a little about how you really use your vision at work and at play.

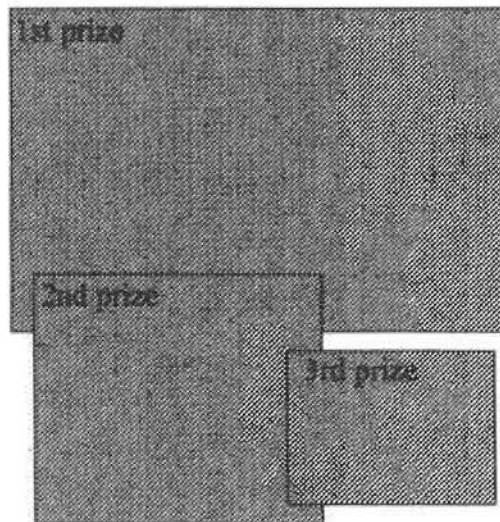
## PRIZES TO BE WON

There will be two sets of prizes being given away at Vision Impossible:

For the top fund raisers:



For the team competition:



## HOW TO ENTER

To enter Vision Impossible, students should form a team of eight members. Submit the team name and roster to Vision Impossible by July 15, 1997. Entrants are required to raise a minimum of \$500.00 per person in the form of donations. Prizes will be given to the three individuals who succeed in raising the most money for Vision Impossible. The money raised through this event will help fund the renovation of the new optometry building as well as the various student optometric organizations at Pacific University.

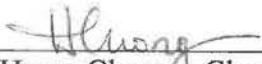
## REFERENCES

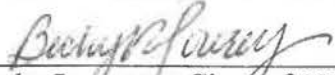
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2. "Olympic O.D.'s Screening for Greatness." Dan O'Conner. *Optometric Management*. Sept. 1996 pp. 67-70.
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4. Vistech 6500 Wall Chart Test System available from: Vistech Consultants Inc., 1372 North Fairfield Rd., Dayton, OH, 45432 (800)-VISTECH
5. *Applied Concepts in Vision Therapy*. Leonard J. Press. Mosby-Year Book, Inc. 1997 pp. 109 & 198.
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7. *Test of Visual Perceptual Skills (Non-Motor)*. Morrison, Gardner. Health Publish Co. 1988. International Book Number 0931421411 in affiliation with Children's Hospital of San Francisco. P.O. Box 3805. San Francisco, CA 94119.
8. Test #6 – Part of the SUNY Developmental Test Battery. Pacific University VT assessment manual.
9. Farnsworth Munsell 100 Hue Test. Munsell Color Company. Baltimore 18 Maryland.
10. Macbeth Corporation Lamp for the 100 Hue Test. Macbeth Corporation. 227 West 17<sup>th</sup> St. New York, New York.
11. Hannu Laukkanen, OD MEd. Personal Interview. June 1997.
12. Paul Kohl, OD. Personal Interview. June 1997.




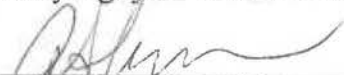
VISION IMPOSSIBLE


Thesis Members:


  
\_\_\_\_\_  
(Henry Chong - Class of 1999)

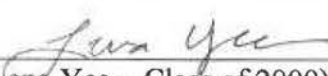
  
\_\_\_\_\_  
(Becky Lowrey - Class of 1999)

  
\_\_\_\_\_  
(Emily Nguyen - Class of 1999)


  
\_\_\_\_\_  
(Anjana Sharma - Class of 1999)

  
\_\_\_\_\_  
(Cindy Strawn - Class of 2000)

  
\_\_\_\_\_  
(Cheryl Wolfe - Class of 1999)

  
\_\_\_\_\_  
(Lena Yee - Class of 2000)

Thesis Advisor:

  
\_\_\_\_\_  
(Salisa Williams, O.D.)

## AUTOBIOGRAPHIES

Henry Chong was born in Vancouver, British Columbia (that's in Canada, eh!). He attended the University of British Columbia where he eventually earned his Bachelor of Science degree in pharmacy in 1995. Immediately thereafter, he decided that counting pills really wasn't his thing and so he decided to change professions and was fortunate enough to be accepted into the 1999 graduating class at Pacific University College of Optometry. With hopes of still graduating in 1999, Henry plans to practice somewhere on the west coast with the eventual hopes of making it back up to the Great White North.

Becky R. Lowrey is a Pacific University College of Optometry student who hails from Lincoln, NE. She received a B.S. in Psychology at the University of Nebraska-Lincoln, and expects to graduate with the Doctor of Optometry and Master in Education, Visual Function in Learning degrees in May 1999. Becky's practice interests lie in the tenets of functional optometry; she would like to practice pediatric vision, neurorehabilitative optometry, and vision therapy. Look for her just about anywhere in practice – possibly Washington, Alaska, Colorado, Nevada, or Kansas City, MO. Personal interests include hiking, spending time with close friends, watching Seinfeld, and traveling (by car, preferably). The highlights of Becky's career in optometry school include two Amigos Eye Care trips – the first to Prudentopolis, Brazil in March of 1997 and the second to El Fuerte, Mexico in November of 1997.

Emily Nguyen was born in Saigon, Vietnam. She came to the United States with her family in the summer of 1985. Seattle has been her home for the past 13 years. Emily received her undergraduate degree of Visual Science at Pacific University. After graduating from optometry school, Emily hopes to find a job in Seattle so that she could be close to her family. Her hobbies include trying new cooking recipes from different countries and reading classic novels (that is whenever there's nothing good on TV!, I'm just kidding about the TV part!).

Anjana Sharma was born in India, raised and married in Canada, and aspires to emigrate to the United States. She earned a B.Sc. degree in biology and mathematics from the University of Alberta in 1989. In 1990, she obtained basic business and accounting skills and opened a multicultural dance studio. Here she instructed East Indian Folk Dance. In 1993, Anjana had her first child, then she began pursuing her long anticipated optometric career. Now with two children, she will graduate from Pacific University in 1999 with four degrees: B.Sc., O.D., MOM, and dedicated wife.

When Anjana is not thinking optometry, this Jill of all trades has a flare for socializing, interior decorating, remodeling, dancing, and the fine arts. She also

enjoys creative activities, sports and music, and looks forward to incorporating these pastimes into her optometric career. Hold onto your hats! Get ready for Fun!!

Cynthia S. Strawn is a member of the Pacific University College of Optometry Class of 2000. She obtained her Bachelor of Science degree in Business Administration from Oregon State University in 1985, and worked in the banking industry for over 10 years after receiving her undergraduate degree. Cindy is proud to be a lifelong Oregon resident, and hopes to practice in Oregon upon graduation from Pacific.

Born in Richmond, B.C., Canada, Cheryl Wolfe decided on Optometry as a career after talking to people in high school and working as a laboratory technician at an optical shop shortly after graduation. After five months of Bible school in Australia, Cheryl did most of her undergraduate studies at the University of British Columbia in the Biochemistry department. Moving to Oregon to attend Optometry school was a big change for Cheryl, but a change that was definitely worthwhile.

Lena Yee was born and raised in Hilo, Hawaii, where she attended Waiakea High School. After graduating in 1991, she moved to Seattle, Washington. There she attended the University of Washington. In 1994, she received a B.A. in zoology. In 1996, she began her program at the Pacific University College of Optometry, from which she will graduate in the year 2000.