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Sonia Kim Chung  
*Pacific University*

Kristin Lynn Liffick  
*Pacific University*

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## Visual and behavioral profiles of socially 'at-risk' juveniles

### Abstract

The aim of this investigation is to examine the prevalence of visual dysfunction, behavior problems, and co-existing conditions between the two in the socially "at-risk" juvenile population. A sample of 70 socially "at risk" juveniles was drawn from alternative classrooms in the public schools and a training facility for boys. A visual screening battery was administered on -site at each of the three facilities. The screening consisted of: acuity measurement, static retinoscopy, cover test, near point of convergence, stereo acuity, accommodative facility, mobility (DEM), visual-motor perception (Beery), and direct ophthalmoscopy. Behavior profiles were assessed by the classroom teacher utilizing the Child Behavior Check List (Achenbach). "Failure" was designated as any "clinical" score. All 70 subjects failed some area of visual function ranging from 0% in ocular disease to 70% in visual-motor perception to 71% in refractive problems. All subjects displayed some sort of clinically significant behavior problem ranging from 4% in somatic complaints to 27% who measured anxious/depressed. Co-existing conditions with 'fail' scores that were 20% congruent for boys were: refractive status: withdrawn/depressed; visual motor perception: anxious/depressed. Co-existing conditions with 'fail' scores that were 20% congruent for girls were: refractive status: delinquent behavior; accommodative facility: thought problems, attention problems, delinquent behavior; Visual motor perception: delinquent behavior. It was found that juveniles from alternative classrooms exhibit a high prevalence of visual dysfunction along with certain behavior problems. This study suggests that certain visual dysfunction might be viewed as relative risk factors in these behavior problems. No conclusion can be drawn as to cause and effect. However, one is tempted to speculate that juveniles with visual dysfunction will do less well meeting academic demands and hence become prime targets for alternative education.

### Degree Type

Thesis

### Degree Name

Master of Science in Vision Science

### Committee Chair

Willard B. Bleything

### Subject Categories

Optometry

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**Visual and Behavioral Profiles  
of Socially 'At-Risk' Juveniles**

**By**

**SONIA KIM CHUNG**

**KRISTIN LYNN LIFFICK**

**A thesis submitted to the faculty of the  
College of Optometry  
Pacific University  
Forest Grove, Oregon  
for the degree of  
Doctor of Optometry  
May 2000**

**Advisor:**

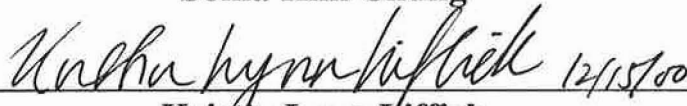
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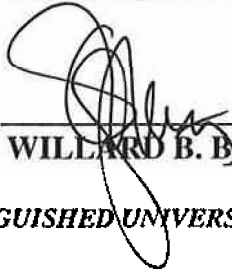
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Sonia Kim Chung



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Kristin Lynn Liffick



12/15/00

WILLARD B. BLEYTHING, OD, MS, FAAO, FCOVD, FNAPO

***DISTINGUISHED UNIVERSITY PROFESSOR OF PUBLIC HEALTH AND OPTOMETRY***

**Sonia Kim Chung graduated cum laude from Boston University with a B.A. in psychology with a minor in biology. She will graduate from Pacific University with a Doctorate of Optometry and a Masters in Education of Visual Function in Learning in May of 2001. She plans to move to Arizona and work in a vision therapy practice.**

**Kristin Liffick graduated from the University of Washington with a honors level B.A. in art history. She will graduate from Pacific University with a Doctorate of Optometry in May of 2001. She plans to return to the Seattle area and work in a vision therapy practice emphasizing childhood development.**

## **Abstract:**

The aim of this investigation is to examine the prevalence of visual dysfunction, behavior problems, and co-existing conditions between the two in the socially “at-risk” juvenile population. A sample of 70 socially "at risk" juveniles was drawn from alternative classrooms in the public schools and a training facility for boys. A visual screening battery was administered on –site at each of the three facilities. The screening consisted of: acuity measurement, static retinoscopy, cover test, near point of convergence, stereo acuity, accommodative facility, mobility (DEM), visual-motor perception (Beery), and direct ophthalmoscopy. Behavior profiles were assessed by the classroom teacher utilizing the Child Behavior Check List (Achenbach). "Failure" was designated as any "clinical" score.

All 70 subjects failed some area of visual function ranging from 0% in ocular disease to 70% in visual-motor perception to 71% in refractive problems. All subjects displayed some sort of clinically significant behavior problem ranging from 4% in somatic complaints to 27% who measured anxious/depressed. Co-existing conditions with 'fail' scores that were 20% congruent for boys were: refractive status: **withdrawn/depressed**; visual motor perception: anxious/depressed. Co-existing conditions with 'fail' scores that were 20% congruent for girls were: refractive status: delinquent behavior; accommodative facility: thought problems, attention problems, delinquent behavior; Visual motor perception: delinquent behavior.

It was found that juveniles from alternative classrooms exhibit a high prevalence of visual dysfunction along with certain behavior problems. This study suggests that certain visual dysfunction might be viewed as relative risk factors in these behavior problems. No conclusion can be drawn as to cause and effect. However, one is tempted to speculate that juveniles with visual dysfunction will do less well meeting academic demands and hence become prime targets for alternative education.

We thank Beta Sigma Kappa for the generous financial support it gave to our research project. In addition, we greatly appreciate and thank the volunteers who helped us **perform** our vision screenings. **Our** classmates generously donated time out of their hectic lives to help us complete the screenings. In addition, our thanks to the administration and classroom teachers of several schools who allowed us to visit their classrooms and spent additional hours completing paperwork to make this project happen. Finally, we give our warmest thank you to Dr. Willard B. **Bleything**. He has supplied us with many hours of his time, unflagging support, and friendship.



## Introduction

Conduct disorders have been a problem for educators for many years. Disruptive children in the classroom lose the full benefits of the educational process, pose a distraction for other children, and lessen the effectiveness of the teacher's efforts. What seems simple 'disruptive classroom behavior' problem in the early grades sometimes becomes a major problem as the child progresses through the school system. For example, research studies have established that disruptive behavior as early as the first grade is a reliable predictor of juvenile delinquency when children enter their teens.<sup>1</sup> There is also substantial data showing the association between learning disabilities and juvenile delinquency.<sup>2-13</sup> These studies indicate that 80-90% of the juvenile delinquent population is learning disabled and are behind in reading by 4-5 grade levels. So, research has shown a strong correlation that disruptive behavior in the first grade puts a child at particular risk for anti-social behavior as a teen-ager, and that juvenile delinquents are often also learning disabled.

Research has also established that the juvenile delinquent population has a high prevalence of health problems, including a variety of visual dysfunctions.<sup>14-25</sup> Most recent studies indicate the prevalence of vision disorders in the juvenile delinquent population to be as high as 62%.<sup>26</sup> Problems are particularly evident in eye movement and near focusing skills, as well as two-eyed coordination. All of these visual skills are essential for meeting the demands of the classroom. When visual dysfunctions are present, the child is not fully equipped to benefit from classroom instruction.

There is a strong literature base to indicate the relationship between visual dysfunction and learning disabilities.<sup>27-33</sup> Problems particularly evident in the learning disabled population are poor eye movement skills, near focusing problems and difficulty with two-eyed coordination.

It is, therefore, no coincidence that the visual profile of the learning disabled (LD) child matches that of the juvenile delinquent. However, caution is appropriate in developing this argument. Clearly, not all LD children turn out to be juvenile delinquents. However, it can be extrapolated that LD children have a greater risk of becoming juvenile delinquents due to their visual profile.

In summary, research has shown three clear associations: vision disorders and juvenile delinquency, vision disorders and learning disabilities, and learning disorders and juvenile delinquency. The question this research attempts to answer is "Do children with disruptive behavior in early grades have a higher than normal prevalence of visual dysfunction?" The theoretical model is that children who must depend upon a poorly functioning visual system have difficulty meeting the demands of the classroom and act out their frustration in the form of disruptive behavior. The aim of this study, then, is to examine the hypothesis that there is an association between disruptive classroom behavior in middle school age "at risk" students and visual dysfunction.

The Child Behavior Checklist, an extensive behavioral assessment battery, is frequently used by educators to assess school age children. This battery was utilized to gauge the specific behavioral traits of our subject pool. Our hypothesis is children identified as having behavioral problems by the Child Behavior Checklist will also score poorly on a battery of visual tests.

If, indeed, it is determined there to be an association between disruptive behavior and visual dysfunction, a process can be considered for early identification of these children. Early identification will ultimately serve to maximize the learning opportunities for these children and consequently remove a potential risk factor for more serious anti-social behavior.

## **Method and procedures:**

Our study was performed on juveniles from Oregon during a 3 month period between March and May 2000. Three sites were chosen; one rural, one in suburbia, and one in a treatment facility for boys with behavior problems. Three main examiners conducted the study with the help of 15 second and third-year optometry students from Pacific University College of Optometry. All visual testing was done on-site at the schools in conference rooms or classrooms. Equipment and forms were furnished by Pacific University College of Optometry. The subjects were screened for refractive, binocular vision, perception, motility, and ocular disease disorders utilizing a detailed, specific list of **pass/fail** criteria. The following tests were performed:

-Sharpness of vision far and near (visual acuity)

A standard Snellen lighted acuity box was used to measure distance acuity. The acuity box stand was placed 6 meters from the subject, and the subject sat in a chair as he/she called off the letters. The near acuity was measured with the reduced Snellen acuity chart, at a measured distance of 40 centimeters with a near lamp illuminating the chart.

-Refractive Status (Static retinoscopy)

Free space static retinoscopy was performed in a darkened room, with the participant sitting in a chair, **looking** at the Snellen acuity light box at 6 meters, wearing glasses that compensated for the **working** distance of the scoper. Free lenses from a standardized lens **kit** were used to neutralize the reflex. Each examiner had at least two years of experience.

-Eye movements (ocular motility)

Range of motility was tested with a standard 1 millimeter colored bead attached to a 10 centimeter clear wand. Each participant was asked to follow the bead, which was moved in front of him/her at a standard speed. Subjective evaluations were made by the examiner in reference to the amount of supportive head movement and the accuracy to which the movements were done. Motility was also assessed with the Developmental Eye Movement (DEM) Test.

-DEM

Participants were tested at a well lit table on an individual basis. Each individual was told to read the vertical and horizontal columns as quickly as possible without making mistakes. Test times were recorded using hand held stopwatches. All tests were scored according to the DEM instruction booklet by one of the principal investigators.

-Two-eyed coordination (cover test, near point of convergence, stereo acuity)

Cover test was performed at both distance (6 meters) and near (40 centimeters). The cover-uncover was done first, followed by the alternate cover test, and finishing with the cover-uncover test. The subject either looked at a letter on the Snellen acuity box standing 6 meters away, or at a bead 40 centimeters away.

-Near point of convergence

Near point of convergence was tested using the same standard 1 millimeter bead. The bead was placed at eye level directly in front of the subject, starting at 50 centimeters. It was

slowly moved towards the nose until the subject reported seeing the bead double, or the examiner saw a breakdown of binocularity.

#### -Stereopsis

Stereo acuity was tested using the Wirt circles and the Stereo butterfly. The participant wore Polaroid glasses, while observing the Randot tests at 40cm, with standard illumination.

#### -Near-far focusing ability (accommodative facility)

Accommodative facility was measured with  $\pm$  2.001-2.00 diopter flippers. The subject was asked to clear the 6M paragraph of the Donders' nearpoint card, which was held at 40 centimeters with standard near illumination, with the (+) side of the flipper held before the student first. The number of cleared cycles (+ and - is one cycle) was counted over a duration of two minutes.

#### -Discrimination of form (Beery VMI)

The Beery Visual Motor Integration (VMI) Test investigates the important areas of visual discrimination, figure-ground discrimination, visual completion, and visual memory by a motor response from the patient. There are 23 forms, increasing in difficulty ranging from a simple diagonal line to a complex 3-D form. The subject was given a piece of unlined white paper and pencil, and asked to copy the form "exactly as it appears" onto their paper. They were told no erasing was permitted, and that there was no time limit. (Note: due to the subjectivity of scoring, this test was analyzed by one examiner to keep the inter-examiner reliability high.)

-Eye health (direct ophthalmoscopy/external exam)

Ocular health was performed in a completely dark room using the direct ophthalmoscope. It was done as a screening to rule out any gross ocular disease. Only deviations from the norm were recorded. All other outcomes were recorded as "within normal limits".

All tests were non-invasive and often done in the course of a standard visual examination. The visual testing battery took approximately 30 minutes to administer on each child. Scheduling was done in an overlap fashion at 15 minute intervals so that a maximum of three children were out of the classroom at any one time. Testing duration depended on the number of children at each individual school.

The Child Behavior Checklist (CBCL), originally published by Achenbach and Edelbrock (1983) (see Appendix 1), was utilized to establish child behavior profiles. This test consists of 113 questions describing various behaviors which compose distinct behavioral profiles via a standardized test format. The CBCL was completed by the student's classroom teacher (or teaching aide) from typical observations that took place in the course of normal school activity. This test is highly regarded in the field of developmental psychology and has reliable test-retest and internal consistency characteristics.

All data collected were treated in confidence. The only exception to this was the summary report mailed to each parent or guardian explaining the outcome of their child's vision examination.

Data were recorded on standard forms provided by Pacific University and entered into a data base utilizing Filemaker software (see Appendix 2). Results from the two batteries of tests was examined for any associated traits. Data were exported into Excel software for analysis and

charting. The results of the study will be summarized in a final report and made available to appropriate individuals within the corresponding school districts. If it is deemed useful by the school districts, an in-service session will be scheduled at project completion to share the results of the study and discuss pertinent issues.

## **Subjects**

Our study sample consisted of seventy “at-risk” juveniles between the age of 11 to 17 years, with a mean age of 15 years. There were twelve participants from an alternative classroom in the public school system in Vernonia, Oregon. Among the twelve, some of the students were self-enrolled into the alternative/vocational program, while others were placed due to lack of academic achievement **and/or** lack of ability to relate to their peers. Nine participants were from an alternative program in the public school system in Hillsboro, Oregon. These students were placed into the alternative classroom by administrators due to their lack of academic achievement in the regular system. Forty-nine participants were from an all-boys training facility in Beaverton, Oregon. These boys are mainly wards of the court system, and are placed into this training facility in a last strike attempt to rehabilitate them. All the children have serious emotional and behavioral problems. Only those participants that signed a release form were included in the study.

The sample population consisted of 11 percent female and **89** percent male; **2.8** percent of the sample population were black, **92.2** percent were white, and 5 percent were categorized as "other" (e.g. Hispanic decent, Native American).

## Results

In our experimental design, the "fail" criteria designated for each of the tests was as follows:

Visual acuity distance and near: 20/40 or worse monocular or o.u.

Refractive status : +1.25 or more of hyperopia; -0.50 or more of myopia; -0.75 or more of astigmatism, monocular or o.u.

Cover test: any tropia

NPC: 6/10 centimeters (3/5) inches or greater

Stereo acuity: 80 seconds of arc or worse

Accommodative facility: 8 sec/cycle or more

Motility (DEM): 25 percentile below age appropriate normative value

Visual Motor Perception (Beery) : 1.5 years below age appropriate normative value

Direct ophthalmoscopy: any evidence of ocular disease

Behavioral profiles were assessed by the classroom teacher utilizing the Child Behavior Check List (Achenbach). The teacher assessed each child after a minimum of two months of observation, with a 113-question check list. Failure was any "clinical" score as set by the test norms.

All 70 subjects failed some area of visual function. Scores range from 0% in ocular disease to 70% in visual-motor perception to 71% in refractive status (see Figure 1). All subjects displayed some sort of clinically significant behavior problem ranging from 4% in somatic complaints to 27% in anxious/depressed (see Figure 2).



Comparisons were made as to the visual conditions found vs. the various behavior problems. This is termed co-morbidity. Co-existing conditions with "fail" scores that were 20% congruent or greater for boys were:

Refractive status: withdrawn, anxious/depressed

Visual motor perception: anxious/depressed

Co-existing conditions with "fail" scores that were 20% congruent or greater for girls were:

Refractive status: delinquent behavior

Accommodative facility: thought problems, attention problems, delinquent behavior

VMP: delinquent behavior

The Odds Ratio was computed to determine the relative risk of having a particular behavior profile in the presence of a specific visual dysfunction.

$$\text{Odds Ratio} = \frac{\text{Cases (exposed)}}{\text{Cases (non-exposed)}} \times \frac{\text{Controls (non-exposed)}}{\text{Controls (exposed)}}$$

Only those factors whose true risk was at least two times greater were considered.

Relative risk factors of two times or greater for "withdrawn" profile were:

Refractive status 7.5x

Binocular 2.28x

VMP 4.5x

Relative risk factors of two times greater for "anxious/depressed" profile were:

Binocular 2.13x

VMP 2.83x

Relative risk factors of two times or greater for "social problems" profile were:

VMP 5.05x

Relative risk factors of two times for "thought problems" profile were:

Binocular 2.31x

Relative risk factors of two times for "attention problems" profile were:

Motility (DEM) 2.5x

VMP 2.6x

**Relative risk factors** of two times or greater for "delinquent behavior" profile were:

Motility (DEM) 2.14x

VMP 4.6x

Relative **risk** factors of two times or greater for "aggressive behavior" profile were:

**Refractive status** 2.6x

Binocular 2.39x

## **Discussion**

The purpose of this research project was to investigate a proactive approach to identifying those in the school system with undiagnosed visual problems and compare these results to the behavior profiles. There has been a great deal of research done on the link between delinquency

and visual dysfunction. David Dzik explored the link between reading ability and juvenile delinquency in the Tennessee court system in 1966<sup>19</sup>. Roger Dowis found a significant correlation between learning problems and juvenile delinquency in Boulder, Colorado in 1973<sup>18</sup>. A Congressional Report on this topic was presented by the Comptroller General of the United State in 1977<sup>4</sup>. More recent studies include Stanley Kaseno's look at visual perception and juvenile delinquency (1985)<sup>20</sup>, and Rod Snow's investigation of the visual profiles of at risk youth in Akron, Ohio (1981)<sup>23</sup>. Research has also been done on the link between convergence insufficiency and behavior. In 1999, Eric Borsting used the Connor's Rating Scale for Parents to establish a link between behavior and visual dysfunction<sup>16</sup>.

However, our research project had a different objective. We set out to find if a well utilized and highly respective behavioral assessment battery (Child Behavioral Checklist) would show some association with children with visual problems. Relative risk factors were evident with refractive disorders, binocular dysfunction, motility (DEM), and visual motor perception. These associations, however, did not yield statistically significant correlations between certain problematic behaviors and visual difficulties. If a larger sample size was utilized, and/or a control group consisting of subjects from the general public school system was included, the results may have shown to be statistically significant. Likewise, a more intensive visual examination may be yield more conclusive correlations. Our screening took cursory glimpses into binocularity, ocular motility and visual motor perception. In addition, none of our subjects were cyclopleged. It is highly possible a lengthy individual exam would yield more visual problems than our screenings. Finally, it is possible that the Child Behavior Check List was not the most sensitive behavior assessment battery. Research should be done with different

standardized behavioral assessment forms to see if another is better at pinpointing the children with behavioral problems.

It is unfortunate that the numbers do not reflect what educators experience on a daily basis--children acting out in class due to a visual problem. Therefore, further research in this area is essential. It would be interesting to see a longitudinal study comparing children with "disruptive behavior" in the early years to those who do not, and compare the degree of academic success in later life.

To identify a problem exists is only half the solution. Once identified, these children need some type of visual intervention to help them be successful in school. One group of subjects in our study will be receiving a course of vision therapy through Pacific University. A follow up study is underway to compare the subjects' behaviors before and after visual intervention.

A standardized, easily utilized approach for identifying children with undiagnosed visual disorders in the classroom must be found to help educators do their jobs successfully--and to protect the interests of the children involved, as well as the greater public.

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Figure 1

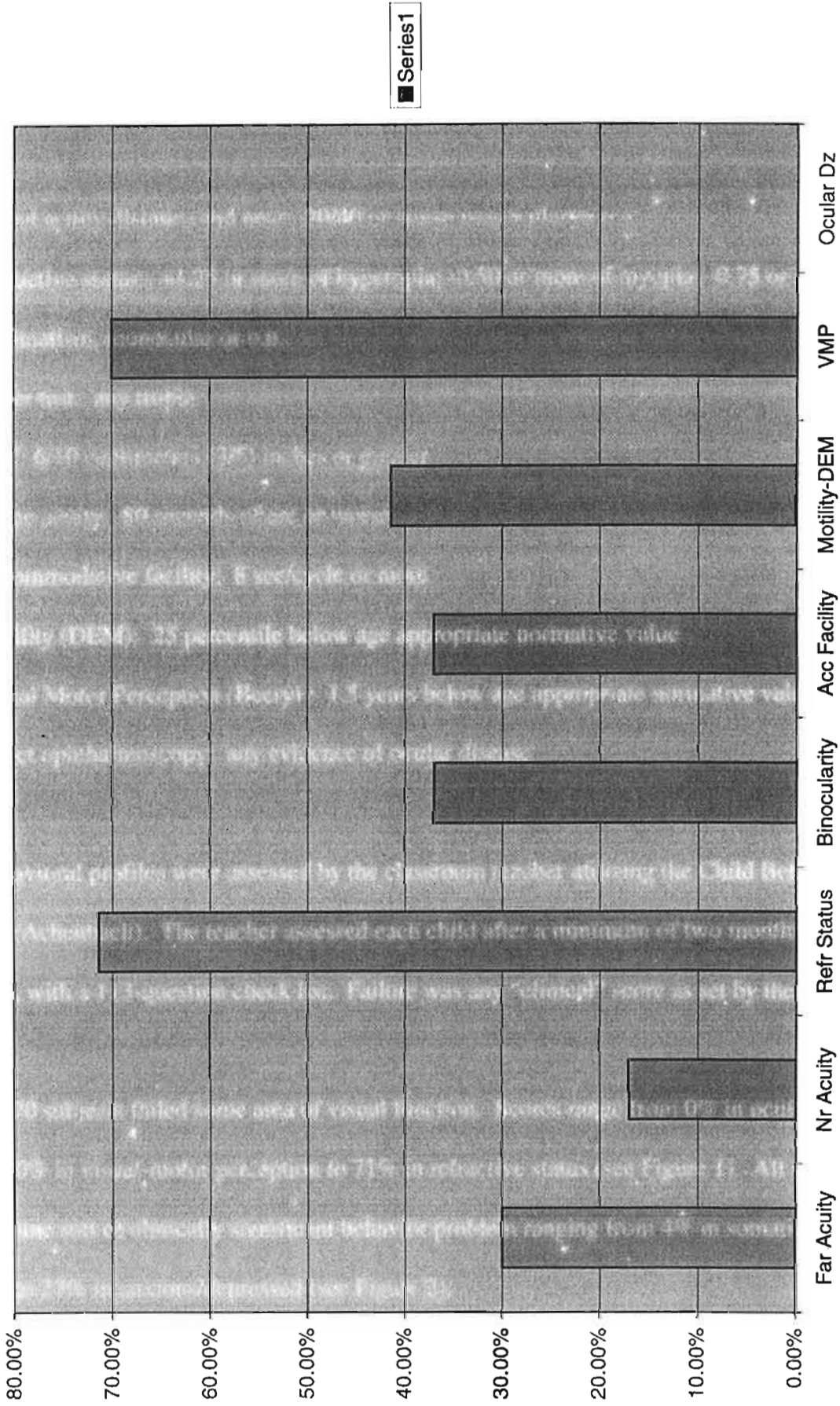
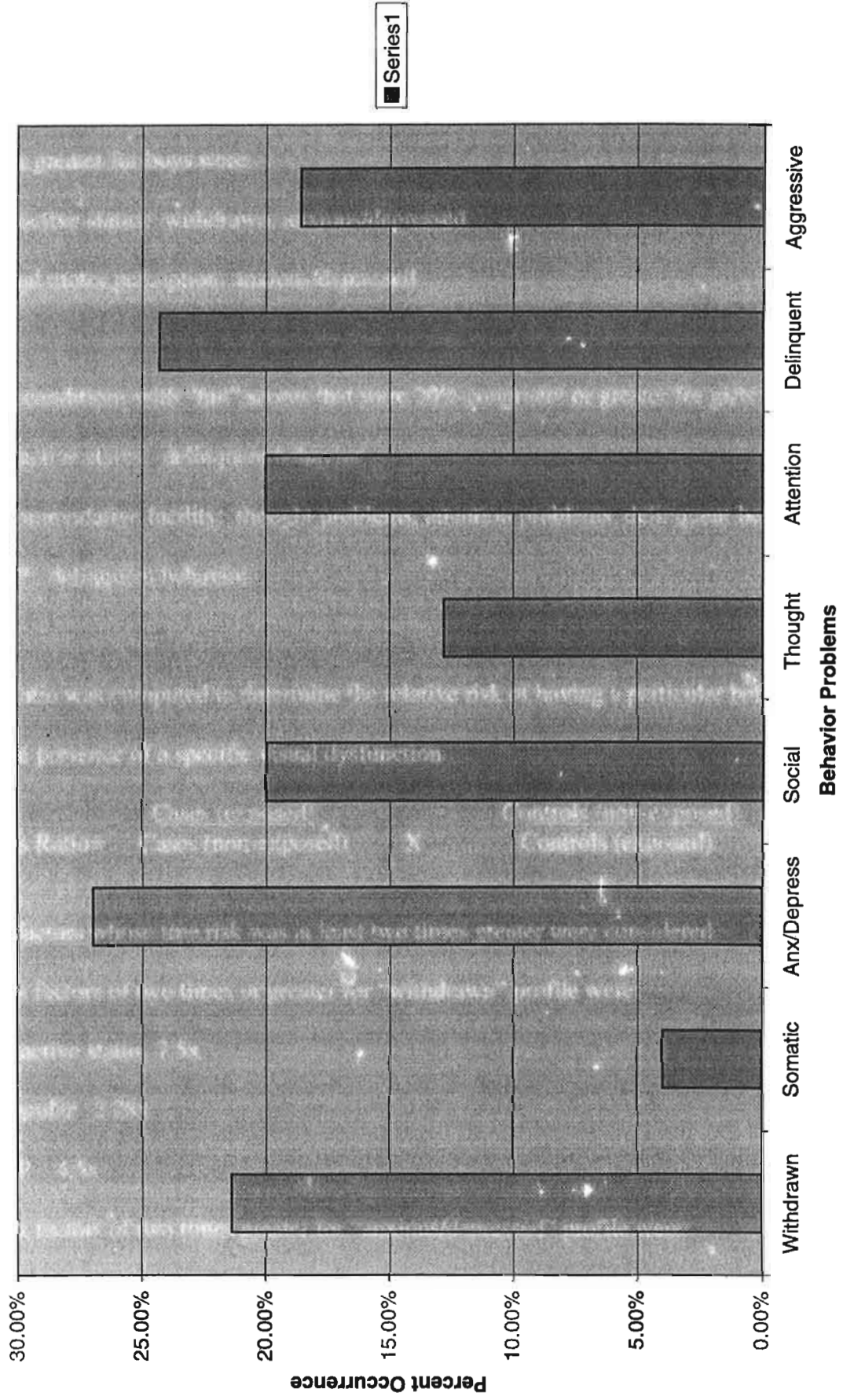




Figure 2



## TEACHER'S REPORT FORM FQR AGES 5-18

For office use only  
ID #**Please Print**

Your answers will be used to compare the pupil with other pupils whose teachers have completed similar forms. The information from this form will also be used for comparison with other information about this pupil. Please answer as well as you can, even if you lack full information. Scores on individual items will be combined to identify general patterns of behavior. Feel free to print additional comments beside each item and in the spaces provided on page 2.

PUPIL'S FIRST MIDDLE LAST FULL NAME			PARENTS' USUAL TYPE OF WORK, even if not working now (Please be as specific as you can—for example, auto mechanic, high school teacher, homemaker, laborer, lathe operator, shoe salesman, army sergeant.)		
PUPIL'S SEX <input type="checkbox"/> Boy <input type="checkbox"/> Girl		PUPIL'S AGE	ETHNIC GROUP OR RACE		
TODAY'S DATE Mo. _____ Date _____ Yr. _____		PUPIL'S BIRTHDATE (if known) Mo. _____ Date _____ Yr. _____			FATHER'S TYPE OF WORK: _____
GRADE IN SCHOOL		NAME AND ADDRESS OF SCHOOL			MOTHER'S TYPE OF WORK: _____
					<b>THIS FORM FILLED OUT BY:</b>
					<input type="checkbox"/> Teacher (full name) _____
					<input type="checkbox"/> counselor (full name) _____
					<input type="checkbox"/> Other (specify position & give full name): _____

I. For how many months have you known this pupil? \_\_\_\_\_ months

II. How well do you know **him/her**? 1.  Not Well 2.  Moderately Well 3.  Very Well

III. How much time does **helshe** spend in your class or **service** per week?

IV. What kind of class or service is it? (Please be specific, **e.g.**, regular 5th grade, 7th grade math, learning disabled, counseling, etc.)

V. Has **helshe** ever been referred for special class placement, **services**, or tutoring?

Don't Know 0.  No 1.  Yes—what kind and when?

VI. Has **helshe** repeated any grades?

Don't Know 0.  No 1.  Yes—grades and reasons

VII. Current school **performance**—list academic subjects and check box that indicates pupil's performance for each subject:

Academic subject	1. Far below grade	2. Somewhat below grade	3. At grade level	4. Somewhat above grade	5. Far above grade
1. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. _____	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Please Print**

Below is a list of items that describe pupils. For each item that describes the pupil **now or within the past 2 months**, please circle the **2** if the item is **very true or often true** of the pupil. Circle the **1** if the item is **somewhat or sometimes true** of the pupil. If the item is **not true** of the pupil, circle the **0**. Please answer all items as well as you can, even if some do not seem to apply to this pupil.

**0 = Not True (as far as you know)**

**1 = Somewhat or Sometimes True**

**2 = Very True or Often True**

- 0 1 2 1. Acts too young for his/her age
- 0 1 2 2. Hums or makes other odd noises in class
- 0 1 2 3. Argues a lot
- 0 1 2 4. Fails to finish things he/she starts
- 0 1 2 5. Behaves like opposite sex
- 0 1 2 6. Defiant, talks back to staff
- 0 1 2 7. Bragging, boasting
- 0 1 2 8. Can't concentrate, can't pay attention for long
- 0 1 2 9. Can't get his/her mind off certain thoughts; obsessions (describe): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 10. Can't sit still, restless, or hyperactive
- 0 1 2 11. Clings to adults or too dependent
- 0 1 2 12. Complains of loneliness
- 0 1 2 13. Confused or seems to be in a fog
- 0 1 2 14. Cries a lot
- 0 1 2 15. Fidgets
- 0 1 2 16. Cruelty, bullying, or meanness to others
- 0 1 2 17. Daydreams or gets lost in his/her thoughts
- 0 1 2 18. Deliberately harms self or attempts suicide
- 0 1 2 19. Demands a lot of attention
- 0 1 2 20. Destroys his/her own things
- 0 1 2 21. Destroys property belonging to others
- 0 1 2 22. Difficulty following directions
- 0 1 2 23. Disobedient at school
- 0 1 2 24. Disturbs other pupils
- 0 1 2 25. Doesn't get along with other pupils
- 0 1 2 26. Doesn't seem to feel guilty after misbehaving
- 0 1 2 27. Easily jealous
- 0 1 2 28. Eats or drinks things that are not food—don't include sweets (describe): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 29. Fears certain animals, situations, or places other than school (describe): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 30. Fears going to school

- 0 1 2 31. Fears he/she might think or do something bad
- 0 1 2 32. Feels he/she has to be perfect
- 0 1 2 33. Feels or complains that no one loves him/her
- 0 1 2 34. Feels others are out to get him/her
- 0 1 2 35. Feels worthless or inferior
- 0 1 2 36. Gets hurt a lot, accident-prone
- 0 1 2 37. Gets in many fights
- 0 1 2 38. Gets teased a lot
- 0 1 2 39. Hangs around with others who get in trouble
- 0 1 2 40. Hears sounds or voices that aren't there (describe): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 41. Impulsive or acts without thinking
- 0 1 2 42. Would rather be alone than with others
- 0 1 2 43. Lying or cheating
- 0 1 2 44. Bites fingernails
- 0 1 2 45. Nervous, high-strung, or tense
- 0 1 2 46. Nervous movements or twitching (describe): \_\_\_\_\_  
\_\_\_\_\_
- 0 1 2 47. Overconforms to rules
- 0 1 2 48. Not liked by other pupils
- 0 1 2 49. Has difficulty learning
- 0 1 2 50. Too fearful or anxious
- 0 1 2 51. Feels dizzy
- 0 1 2 52. Feels too guilty
- 0 1 2 53. Talks out of turn
- 0 1 2 54. Overtired
- 0 1 2 55. Overweight
- 0 1 2 56. Physical problems without known medical cause:
  - 0 1 2 a. Aches or pains (not stomach or headaches)
  - 0 1 2 b. Headaches
  - 0 1 2 c. Nausea, feel sick
  - 0 1 2 d. Problems with eyes (not if corrected by glasses) (describe): \_\_\_\_\_  
\_\_\_\_\_
  - 0 1 2 e. Rashes or other skin problems
  - 0 1 2 f. Stomachaches or cramps
  - 0 1 2 g. Vomiting, throwing up
  - 0 1 2 h. Other (describe): \_\_\_\_\_  
\_\_\_\_\_

Screening Results

Appendix 2

Name of Child \_\_\_\_\_ Gender \_\_\_\_\_ Date of Screening \_\_\_\_\_  
 DOB \_\_\_\_\_ Name of Parent or Guardian \_\_\_\_\_  
 File Number \_\_\_\_\_ Name of Teacher \_\_\_\_\_

Far Visual Acuity R 20/ \_\_\_\_\_ Far Visual Acuity R Hab Rx 20/ \_\_\_\_\_  
 Far Visual Acuity L 20/ \_\_\_\_\_ Far Visual Acuity L Hab Rx 20/ \_\_\_\_\_  
 Far Visual Acuity B 20/ \_\_\_\_\_ Far Visual Acuity B Hab Rx 20/ \_\_\_\_\_  
 Near Visual Acuity R 20/ \_\_\_\_\_ Near Visual Acuity R Hab Rx 20/ \_\_\_\_\_  
 Near Visual Acuity L 20/ \_\_\_\_\_ Near Visual Acuity L Hab Rx 20/ \_\_\_\_\_  
 Near Visual Acuity B 20/ \_\_\_\_\_ Near Visual Acuity B Hab Rx 20/ \_\_\_\_\_

Sharpness of Far Vision

Sharpness of Near Vision

Static Ret R Sph \_\_\_\_\_ Static Ret R Cyl \_\_\_\_\_ Static Ret R Axis \_\_\_\_\_  
 Static Ret L Sph \_\_\_\_\_ Static Ret L Cyl \_\_\_\_\_ Static Ret L Axis \_\_\_\_\_

Optics of the Eye

Cover Test Far \_\_\_\_\_  
 Cover Test Near \_\_\_\_\_

Near Point of Convergence • Break \_\_\_\_\_ cm  
 Near Point of Convergence • Recovery! \_\_\_\_\_ cm

Two-eyed Coordination

Stereopsis • Stereo Fly \_\_\_\_\_ y/n Stereopsis • Circles \_\_\_\_\_ arc sec

Near Focusing Ability

Accommodative Facility • Binocular at 6 cycles \_\_\_\_\_ sec Aver per Cycle \_\_\_\_\_

Raw Sc Percentile Sc  
 Developmental Eye Movements • Horizontal \_\_\_\_\_ DEM • Horiz Percentile \_\_\_\_\_  
 Developmental Eye Movements • Vertical \_\_\_\_\_ DEM • Vert Percentile \_\_\_\_\_  
 Developmental Eye Movements • Ratio \_\_\_\_\_ DEM • Ratio Percentile \_\_\_\_\_  
 Developmental Eye Movements • Error Sc \_\_\_\_\_ DEM • Err Sc Percentile \_\_\_\_\_

Eye Movements

Age of Child \_\_\_\_\_ Days Age of Child in Years \_\_\_\_\_  
 Form Perception • Beery Test \_\_\_\_\_ VMP Age Diff \_\_\_\_\_  
 Beery Score \_\_\_\_\_ age \_\_\_\_\_

Discrimination of Form

Ocular Health • Anterior R \_\_\_\_\_  
 Ocular Health • Posterior R \_\_\_\_\_  
 Ocular Health • Anterior L \_\_\_\_\_  
 Ocular Health • Posterior L \_\_\_\_\_

Eye Health

Comments \_\_\_\_\_

Please take this form along when you are doing the follow-up examination with a professional vision care provider.