Identifying the Content Area for the 51-Item National Eye Institute Visual Function Questionnaire

Results From Focus Groups With Visually Impaired Persons

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**Objective:** To identify the content area for a questionnaire designed to measure vision-targeted health-related quality of life and to determine whether problems with vision-related functioning are qualitatively similar across different common eye diseases.

**Design:** Twenty-six condition-specific focus groups were conducted with 246 patients from 5 geographic regions to identify the content area for a questionnaire for use among persons with diabetic retinopathy, glaucoma, macular degeneration, cytomegalovirus retinitis, and cataract. A standard protocol was used to structure each focus group discussion. Sessions were audiotaped, transcribed, and coded in preparation for a content analysis.

**Settings:** Five university-based ophthalmology practices and 1 nonprofit eye care foundation.

**Participants:** Eligible participants had to have 1 of the following eye conditions: age-related cataracts, age-related macular degeneration, diabetic retinopathy, primary open angle glaucoma, cytomegalovirus retinitis, or low vision from any cause. All eligible persons were older than 21 years, spoke English, and had sufficient cognitive function to provide informed consent.

**Results:** Among the 246 participants, 2623 problems with vision-related functioning were mentioned. The mean number of problems per person ranged from 13.5 for those with diabetic retinopathy to 7.9 for persons with glaucoma. For the sample overall, reading problems were mentioned most frequently, followed by driving, general problems with seeing clearly, and mental health complaints caused by vision. Although the proportion of persons who reported each problem varied by condition, at least some persons with each eye disease reported each problem. The 3 most common descriptors associated with each problem were difficulty or ease of performance (13%), psychological distress associated with performance of the activity (11%), and complete inability to participate in a visual activity (11%).

**Conclusion:** An item-generation strategy for a new questionnaire using a standardized focus group method identified content areas and aspects of visual disability that are not included in currently available vision-specific instruments that assess the impact of common eye diseases on visual functioning in everyday life. Although participants mentioned problems that were unique to their disease, across conditions the problems mentioned were similar. These findings provide empirical evidence of content validity for a vision-targeted, health-related quality-of-life survey designed for use across conditions.


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Traditional clinical measures of vision, such as Snellen visual acuity, may fail to assess many aspects of visual disability that are identified by persons as being important for their daily functioning. Except for investigations that were specifically designed to capture outcome after cataract surgery and intraocular lens implantation,2,4,7,11 patients’ perceptions of visual functioning and health-related quality of life (HRQOL) have only recently been incorporated into ophthalmologic research and clinical care, despite indications that patients’ self-reports of functioning are quite accurate.16

Previously developed measures of vision-related functioning have principally emphasized difficulty with tasks and symptoms2,4,7,11 rather than emphasizing the influence of visual disability on other aspects of HRQOL, such as emotional well-being or social function. Most measures with published reliability and validity are designed for use among persons with cataract2,4,7,11 or for older persons in general.15 Questionnaires designed with 1 condition in mind are likely to have excellent content validity for persons with that specific condition. However, they may not fully describe the range of disability and functional impairment experienced by...
PARTICIPANTS AND METHODS

STUDY POPULATION

After receiving a letter describing this research project, persons older than 21 years with specific eye diseases were invited by telephone to participate in a focus group with others who had the same eye condition. Efforts were made to have approximately equal representation from men and women, to have rural and urban representation, and to include participants from a range of racial groups and occupations. Persons from both low- and high-income groups were included, and a broad range of ages were represented in the groups. Separate groups were held with younger and lower-income participants to assess any special concerns that they may have had. Focus groups were held at 5 geographically dispersed academic medical centers or at an urban nonprofit vision research foundation office. The ophthalmologic conditions included in the focus groups were binocular or monocular age-related cataract, primary open-angle glaucoma, diabetic retinopathy, age-related macular degeneration (AMD), cytomegalovirus (CMV) retinitis, and low vision from any cause. The groups included persons with currently corrected visual acuity in the better eye of 20/40 or better, 20/50 to 5/200, or worse than 5/200 by Snellen fraction. The study protocol was approved by the institutional review board at each of the participating institutions, and informed consent was obtained before each of the focus groups was conducted.

Condition-specific eligibility included the following: (1) persons with cataract in at least 1 eye were included; (2) those with glaucoma included persons with no field loss, loss in 1 hemisphere or enlarged blind spot, and loss within the central 10° or involving both hemispheres; (3) persons with diabetic retinopathy included those with nonproliferative retinopathy, diabetic macular edema, preproliferative disease, and/or proliferative retinopathy with and without previous laser treatment; (4) subjects with AMD included those with geographic atrophy and/or exudative changes noted on indirect ophthalmoscopy, and those with and without previous laser treatment; (5) participants with CMV retinitis included those with retinal involvement inside and/or outside the arcades; and (6) participants with low vision had visual acuity of 20/200 or poorer in their better eye or a central visual field of 10° or less.

During 1994, we conducted 26 condition-specific focus groups: 4 groups of patients with cataract, 8 groups of patients with glaucoma, 6 groups of patients with diabetic retinopathy, 4 groups of patients with AMD, 2 groups of patients with CMV retinitis, and 2 groups of patients with low vision. The 6 data collection sites included Ann Arbor, Mich; Birmingham, Ala; Boston, Mass; Los Angeles, Calif; Madison, Wis; and San Francisco, Calif. With the exception of the low-vision groups, each focus group consisted of 4 to 15 persons with the same eye condition. Persons from a variety of ethnic, racial, economic, and demographic backgrounds participated in the groups.

TOPICS COVERED IN THE FOCUS GROUPS

The study used a structured protocol and an experienced facilitator at each site to conduct the condition-specific focus groups. Each group was scheduled to last a maximum of 2 hours. Some of the smaller groups finished in less time. All group leaders received training by 1 of us (S.B.) and were instructed to follow a script. The prompts and content areas suggested were uniform across the groups. The main goal of the facilitator was to encourage all members to participate, and to qualitatively balance the amount of content that came from any 1 participant. Protocol content moved from general, open-ended questions to an assessment of particular dimensions of health that have previously been shown to be influenced by visual disability. Participants were asked first to describe their current vision in their own words. They then were asked open-ended questions about what aspects of their daily life were most affected by their vision. Additionally, participants answered open-ended questions about the influence of vision on specific areas of physical health, self-care, work, household activities, finances, social activities, and hobbies. Focus group members were also asked about their expectations for visual function in the future, and to share advice with other members of the group describing their personal coping strategies for living with their visual disability. Participants were also asked to describe their personal coping strategies for living with their visual disability. Participants were also asked to describe their personal coping strategies for living with their visual disability (Figure 1 gives an abbreviated version of the script used to conduct the focus groups). All focus group discussions were audiotaped and transcribed. Trained research staff coded the transcriptions by problem type and method.

RESULTS

STUDY POPULATION

The focus groups consisted of 246 participants. The mean number of persons per group was 9.3, with a range of 4 to 15. Overall, 82 persons with primary open-angle glaucoma, 58 with diabetic retinopathy, 42 patients with cataract, 35 with AMD, 17 with CMV retinitis, and 12 who had low vision from any cause were included in the sample (Table 1).
the problem's associated descriptor. All of the research staff who conducted coding were masked to the purpose of the focus groups, and none of them had professional knowledge or expectations about which content areas individuals with specific conditions would find most difficult. An example of a problem and its associated description would be "difficulty with reading."

ANALYSES

Coding of Transcription Data

All mentions of problems from the audio transcriptions were identified at the eye condition level, and 59% of the mentions were attributable to a specific focus group member and linkable to clinical variables such as visual acuity. (For 41% of the comments mentioned, the transcriptionist was not able to attribute a given comment to a specific person in the focus group. These unlinked comments are included only in condition-level rather than person-level analyses.) Examples of typical problems mentioned were difficulty with reading, trouble with driving at night, and concerns about vision worsening in the future. The person-attributable mentions of problems were linked to the participant's characteristics, such as Snellen visual acuity in the best and worse eye, age, and sex. The descriptor associated with each of the mentions was also coded and linked to the mention. For example, some participants associated reading with ease or difficulty, while others discussed the need to use visual aids while reading, or expressed frustration with their inability to read faster or for longer periods.

Frequencies of Problems Mentioned by Disease Type and Visual Acuity

Unadjusted frequencies were calculated to determine which problems were mentioned most often and which descriptors were most frequently associated with specific problems. To determine whether 1 survey can cover the functional problems and impairments mentioned by persons with different conditions, we examined whether the 5 most frequently mentioned problems were similar for persons with different eye diseases. Unadjusted frequencies of problems mentioned by ophthalmic disease were also examined to determine whether persons with different conditions mentioned qualitatively similar or different types of problems with vision-targeted functioning and health-related quality of life. Unadjusted frequencies of types of problems mentioned were also examined by Snellen visual acuity, in which those with corrected visual acuity in the better eye of 20/40 or better were compared with persons with 20/50 or worse visual acuity in the better eye. The small number of participants with visual acuity worse than 20/50 in their better eye did not permit finer categorization.

Content Areas Covered in the Focus Groups

To determine which content areas were discussed most often in the focus groups, 2 coding schemes were used to classify the problems mentioned. The first scheme classified the problems into functional groupings. The creation of these categories was drawn from earlier work that described the types of functional problems experienced by persons with moderate to severe visual impairment. The function-based groupings included daily home activities, self-care activities, management of home finances, reading ability, mobility, social relations and activities, and general vision-related concerns.

The second coding scheme classified the focus group problems into categories that represented the psychophysical phenomena that can be evaluated during a comprehensive ophthalmologic examination. These categories were derived from the examination-based subscales in the Visual Activities Questionnaire. A modified version of the examination-based categories derived from this questionnaire included near vision, distance vision, color, depth perception, dark and light adaptation, glare problems, and a combined category of peripheral vision and search. Many of the complex problems mentioned by the focus group participants, such as nighttime driving, could be classified into 2 or more examination-based groups. To identify the dominant category represented by each problem, we used 2 masked reviewers (C.M.M. and P.P.L.) to classify the problems on the basis of clinical judgment. Both reviewers agreed 95% of the time. For the 5% of cases in which there was disagreement, a between-reviewer discussion with consensus was used. To determine whether persons with different eye conditions have problems that are qualitatively in the same content areas, the proportion of problems by function and examination-based categories were compared for each condition.

Some members of the condition-specific groups met eligibility for the low-vision group also. However, subjects did not participate in more than 1 group. Clinical and demographic data were available for 182 of 246 participants. Sixty-one percent of the missing clinical data came from members of 4 focus groups (39 participants) at 1 site where resources were limited for the collection of the data. As expected, differences in mean age by disease category were significant (P ≤ .05, analysis of variance procedure). Age ranged from a highest mean of 77±11 years in the AMD groups to a lowest mean of 40±9 years in the CMV retinitis groups. The majority of participants in the focus groups were female; the highest percentage of women was in the AMD group, at 69%. The CMV retinitis groups all consisted of human immunodeficiency virus–infected men (Table 1).

Habitually corrected Snellen visual acuity was abstracted from the medical record for the best eye for 74% (182 of 246 participants). Among this group, 76% had well-preserved visual acuity of 20/40 or better in their better eye, 21% had visual acuity between 20/50 and 5/200, and 3% had acuity less than 5/200.

CONTENT OF THE FOCUS GROUPS

Among the 246 participants, 2623 problems with vision-related functioning were mentioned. The mean number of problems per person by ophthalmologic condition was highest for persons with diabetic retinopathy, where on average 13.5 problems per person were mentioned, and lowest for those with glaucoma, where 7.9 problems per person were mentioned. The average numbers of problems mentioned per person for the other conditions were 10.7 for cataract, 12.9 for AMD, 9.2 for CMV retinitis, and 11.8 for the patients.
with low vision. For the sample overall, reading problems were most frequently mentioned, followed by daytime driving, seeing clearly in general, mood and mental health complaints caused by vision, driving at night, seeing in low-illumination conditions, and general trouble with seeing (Figure 2). It is likely that limitations with night driving were mentioned less often because many participants had discontinued this activity as a result of vision problems.

### Description of Focus Group Participants

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Glaucoma (n=82)</th>
<th>DR (n=58)</th>
<th>Cataract (n=42)</th>
<th>AMD (n=35)</th>
<th>CMV Retinitis (n=17)</th>
<th>Low Vision† (n=12)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, y (mean±SD)‡‡</td>
<td>68±12</td>
<td>56±15</td>
<td>71±11</td>
<td>77±11</td>
<td>40±9</td>
<td>62±19</td>
<td>&lt;.05</td>
</tr>
<tr>
<td>Sex, F</td>
<td>43 (60)</td>
<td>21 (58)</td>
<td>27 (66)</td>
<td>11 (69)</td>
<td>0 (0)</td>
<td>6 (55)</td>
<td>.005</td>
</tr>
<tr>
<td>Snellen visual acuity (with correction)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Better eye</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20/40 or better</td>
<td>69 (97)</td>
<td>23 (64)</td>
<td>32 (80)</td>
<td>6 (38)</td>
<td>7 (88)</td>
<td>2 (18)</td>
<td></td>
</tr>
<tr>
<td>20/50-5/200</td>
<td>1 (1)</td>
<td>12 (33)</td>
<td>8 (20)</td>
<td>10 (63)</td>
<td>1 (13)</td>
<td>6 (55)</td>
<td>.001</td>
</tr>
<tr>
<td>Worse than 5/200</td>
<td>1 (1)</td>
<td>1 (3)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>0 (0)</td>
<td>3 (27)</td>
<td></td>
</tr>
<tr>
<td>Worse eye</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20/40 or better</td>
<td>54 (76)</td>
<td>8 (22)</td>
<td>17 (43)</td>
<td>4 (25)</td>
<td>4 (50)</td>
<td>0 (0)</td>
<td>.001</td>
</tr>
<tr>
<td>20/50-5/200</td>
<td>10 (14)</td>
<td>17 (47)</td>
<td>17 (43)</td>
<td>7 (44)</td>
<td>4 (50)</td>
<td>7 (64)</td>
<td></td>
</tr>
<tr>
<td>Worse than 5/200</td>
<td>7 (10)</td>
<td>11 (31)</td>
<td>6 (15)</td>
<td>5 (31)</td>
<td>0 (0)</td>
<td>4 (36)</td>
<td></td>
</tr>
</tbody>
</table>

*Clinical and demographic data were available for 184 of 246 participants. Data are number (percent) unless otherwise indicated. DR indicates diabetic retinopathy; AMD, age-related macular degeneration; and CMV, cytomegalovirus.
†Persons with 20/20 or worse visual acuity in their better eye or less than 10° usable field from any cause.
‡Age was available for 174 participants.

### PROBLEMS MENTIONED BY FUNCTION-BASED GROUPINGS

Once results were categorized into the function-based groupings, for the group overall, the largest proportion of problems mentioned (37%) were the result of general vision problems, such as nonspecific blurriness, that were not linked to an activity or dimension of HRQOL. Mobility problems, such as difficulty with walking down steps in low-illumination conditions or difficulty with driving, were mentioned 23% of the time; 12% of the problems were with reading; 11% described limitations in social relations because of vision problems; and between 4% and 6% of the problems described limitations or difficulties with home activities, self-care activities such as grooming, and managing finances. Although the proportion of persons who had concerns in each of the function-based categories varied by condition, at least some participants with each eye disease reported problems that were in each of the categories. Qualitatively, these findings suggest that the influence of vision problems on HRQOL was similar across conditions and that a single vision-targeted HRQOL survey could have content validity for persons with various eye diseases (Table 2).

![Figure 2. Number of times the 10 most frequently mentioned problems were stated. Total number of mentions was 2623; these 10 problems comprised 43% of all problems mentioned.](image-url)
When frequency of function-based problem groupings were compared for persons with visual acuity of 20/40 or better in their better eye with those who had visual acuity of 20/30 or worse, we found that, except for limitations with home activities, mobility, and reading, each functional grouping was represented in both acuity categories in similar proportions (Table 3).

When the proportion of persons who reported difficulty with reading was compared by condition, as would be expected, the greatest proportion of persons with reading problems were in the AMD and low-vision groups. However, at least some of the participants from each condition reported problems with reading (Table 4). A similar pattern is seen when the proportion of persons by visual acuity category who reported the 5 most frequently mentioned problems was compared (Table 5). Mobility problems, such as difficulty with daytime driving, were mentioned by more than a third of persons with each condition except for persons in the low-vision group, where many had stopped driving. A substantial proportion of persons with both treatable and irreversible conditions reported psychological problems such as worry and concern, anxiety, or depression because of their vision problem.

### PROBLEMS MENTIONED BY CLINICAL EXAMINATION–BASED GROUPINGS

Of the 2623 problems mentioned, 1949 could be categorized into 1 of the clinical examination–based groupings. A less than complete classification of problems was expected, since the ophthalmologic examination is not designed to capture such problems as anxiety about the current level of visual functioning or worry and concern about future vision. In this grouping, the largest proportion of mentions (35%) were classified as near-vision problems; 27% of the problems mentioned had to do with peripheral vision or limitations with visual search; 12% were categorized as problems or limitations with distance vision and/or depth perception; and a smaller proportion of problems were categorized as limitations with dark and/or light adaptation (5%), limitations caused by glare (4%), or trouble with color vision (4%).

The distribution of problems across clinical examination–based categories by condition was similar to the observed pattern when the data were categorized into the function-based groupings (Table 3). Some of the problems in each clinical examination–based category were mentioned by persons in each of the disease (Table 6) and visual acuity (Table 7) categories. Near-vision problems were most frequently mentioned for most groups, followed by peripheral-vision difficulties and limitations with visual search.

### LANGUAGE USED TO DESCRIBE VISION PROBLEMS

The adjectives used to describe each problem were also coded. We found that, for 29% of the problems mentioned, a specific adjective or descriptor could not be linked to the problem. The most frequently used adjectives during the focus groups were difficulty for 13% of the mentions, a specific adjective or descriptor could not be linked to the problem. The most frequently used adjectives during the focus groups were difficulty for 13% of the mentions, wanting or needing help for 7% of the mentions, and need-
identify a high prevalence of mood or mental health problems associated with visual disability. As would be expected, overall difficulty with common but visually demanding tasks such as reading and driving were mentioned most frequently by the participants overall. However, it was unexpected that persons with treatable eye conditions, such as cataract, would report that their vision problem had a substantial negative influence on other aspects of HRQOL that are not specific to visual task performance, such as emotional well-being. These findings indicate that a comprehensive survey designed to measure the influence of visual problems on HRQOL will need to have a broader scope than the currently available questionnaires that focus almost solely on difficulty with specific visual tasks.

The focus group audiotapes also provide empirical information with regard to the type of language that patients use when describing their vision-targeted HRQOL. The item-specific response choices for the questions in the NEI-VFQ were strongly influenced by the adjectives that participants used to describe their limitations or problems.

Persons with specific conditions did vary in the proportion of complaints that fell into each functional content area. For example, those with primary open-angle glaucoma were more likely to complain about limitations with peripheral-vision tasks than were persons with AMD. However, it is important to emphasize that within each condition at least some of the participants mentioned problems that were categorized in the most common content areas. Qualitatively, these findings support that the influence of vision problems on HRQOL is similar across conditions and that a single vision-targeted HRQOL survey that represents these content areas could have content validity for persons with vision loss from a wide range of conditions.

As would be expected, persons with habitually corrected Snellen visual acuity of 20/40 or better in their better eye were less likely to complain of difficulty with home activities, reading, and mobility. However, even among those with well-preserved central visual acuity there were persons who reported difficulty in all of the most commonly mentioned content areas. Therefore, it is likely that a generic survey designed to assess the influence of vision problems on HRQOL could have content validity for both persons with well-preserved and poor central visual acuity.

When focus group results are interpreted, it is important to consider the following limitations. First, although each session was directed by a trained facilitator, some biases across sites could have occurred by facilitators with preconceived ideas about the content area of interest or importance. Additionally, the wording in the standardized script could have influenced the type of problems described and how the participants described them. The script was specifically designed to move from open-ended general questions to the specific to minimize this problem. Our work was also limited by the small condition-specific sample size and the inclusion of English speakers only. Specifically, it is important to note that all participants with CMV retinitis were male and were from the same practice setting. It is possible that their description of limitations with visual functioning and the influence of vision on their HRQOL may not be generalizable to other demographically different groups. Finally, it is important to acknowledge that most of the participants had well-preserved visual acuity. Therefore, whether the content area identified for the NEI-VFQ will have validity for persons with severe vision loss will require further investigation. However, previous research performed among persons with severe visual impairment identified similar content areas.
In summary, the findings from these multicondition focus groups have identified the content area for the 51-item Field Test Version of the NEI-VFQ, a generic, vision-targeted measure of HRQOL. A strength of this survey is that the content area included was derived directly from persons with common eye disease rather than from clinicians, researchers, or a literature review. Further research is under way to assess the reliability and validity of the measure when used among persons with various common eye conditions or diseases.

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Table 6. Distribution of Examination-Based Problems by Condition (1949 Problems Among 246 Participants)*

<table>
<thead>
<tr>
<th>Problem</th>
<th>Glaucoma (n=82)</th>
<th>DR (n=58)</th>
<th>Cataract (n=42)</th>
<th>AMD (n=35)</th>
<th>CMV Retinitis (n=17)</th>
<th>Low Vision (n=12)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near vision</td>
<td>135 (28)</td>
<td>214 (36)</td>
<td>100 (22)</td>
<td>164 (46)</td>
<td>21 (21)</td>
<td>48 (42)</td>
</tr>
<tr>
<td>Peripheral/search</td>
<td>165 (34)</td>
<td>151 (23)</td>
<td>89 (28)</td>
<td>64 (19)</td>
<td>32 (32)</td>
<td>26 (23)</td>
</tr>
<tr>
<td>Distance vision</td>
<td>39 (8)</td>
<td>79 (13)</td>
<td>39 (12)</td>
<td>45 (13)</td>
<td>17 (17)</td>
<td>16 (14)</td>
</tr>
<tr>
<td>Depth perception</td>
<td>52 (11)</td>
<td>73 (12)</td>
<td>49 (16)</td>
<td>42 (12)</td>
<td>12 (12)</td>
<td>8 (7)</td>
</tr>
<tr>
<td>Dark/light adaptation</td>
<td>41 (9)</td>
<td>31 (5)</td>
<td>10 (3)</td>
<td>6 (2)</td>
<td>7 (7)</td>
<td>9 (8)</td>
</tr>
<tr>
<td>Glare</td>
<td>18 (4)</td>
<td>22 (4)</td>
<td>23 (7)</td>
<td>7 (2)</td>
<td>8 (8)</td>
<td>1 (1)</td>
</tr>
<tr>
<td>Color vision</td>
<td>31 (6)</td>
<td>29 (5)</td>
<td>5 (2)</td>
<td>13 (4)</td>
<td>3 (3)</td>
<td>5 (4)</td>
</tr>
</tbody>
</table>

*DR indicates diabetic retinopathy; AMD, age-related macular degeneration; and CMV, cytomegalovirus.†Numbers are the numbers of problems, and percentages are the percentages of all problems mentioned that were categorized in the examination-based grouping.

Table 7. Distribution of Examination-Based Problems by Snellen Visual Acuity in the Better Eye (1217 Problems Among 246 Participants From 182 Persons With Visual Acuity Recorded)

<table>
<thead>
<tr>
<th>Problem</th>
<th>20/40 or Better</th>
<th>20/50 or Worse</th>
<th>χ²</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Near vision</td>
<td>239 (34)</td>
<td>183 (44)</td>
<td>7.8</td>
<td>.005</td>
</tr>
<tr>
<td>Peripheral/search</td>
<td>235 (33)</td>
<td>86 (21)</td>
<td>20.7</td>
<td>.001</td>
</tr>
<tr>
<td>Distance vision</td>
<td>66 (9)</td>
<td>52 (13)</td>
<td>2.2</td>
<td>.14</td>
</tr>
<tr>
<td>Depth perception</td>
<td>68 (10)</td>
<td>43 (10)</td>
<td>0.05</td>
<td>.83</td>
</tr>
<tr>
<td>Dark/light adaptation</td>
<td>33 (5)</td>
<td>21 (5)</td>
<td>0.03</td>
<td>.86</td>
</tr>
<tr>
<td>Glare</td>
<td>40 (6)</td>
<td>19 (5)</td>
<td>0.80</td>
<td>.37</td>
</tr>
<tr>
<td>Color vision</td>
<td>30 (4)</td>
<td>12 (3)</td>
<td>1.5</td>
<td>.21</td>
</tr>
</tbody>
</table>

*Numbers are the numbers of problems, and percentages are the percentages of all problems mentioned that were categorized into examination-based grouping.

REFERENCES