Self-Report in Functional Assessment of Low Vision

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Abstract: Previous research on the relationship between performance of complex tasks and low vision has offered few clear predictors of visual function. In some clinical, screening, and rehabilitation settings, access to measures of vision whose validity extends to the conditions of daily life is limited. The low vision individual may be uniquely qualified to report on such inaccessible performance situations. We have constructed a 57-item questionnaire, administered by interview, designed to predict performance in low vision patients with visual field defects, on four broad categories of visual function: *finding, detecting, scanning,* and *tracking*. The *finding* and *detecting* categories were further subdivided into subcategories of functional visual field (e.g., *finding close, detecting close and above*). Subjects rated their experienced degree of difficulty on a wide variety of common tasks which specifically demand these functions. Validity was assessed with 41 subjects. The present study suggests that self-report can be an effective predictor of function, especially in conjunction with clinical psychophysical techniques.

Visual performance of the complex tasks required in daily life is rarely studied in the psychophysical laboratory or assessed in clinical settings, generally because such tasks may depend heavily on nonvisual as well as visual factors. Nonvisual factors, such as personality variables, add an enormous amount of error to visual performance measurements, and we currently have few tools with which to combat such error.

With low vision, however, where the independence and safety of the individual are at stake, the benefits of such complex task assessments potentially outweigh the costs in measurement error and inconvenience. Although everyday activities are psychologically complex and depend on many nonvisual factors, some measure of vision in performance of these tasks would be highly desirable. Indeed, performance of such tasks generally takes place under conditions that are difficult to control, much less replicate. Because controlling the performance conditions may by itself change important features of the task situation, such a measure would do well to leave the task setting undisturbed.

We have begun to investigate self-report methods as a means of assessing the visual component of task performance in tasks that are not amenable to laboratory testing in a group of low vision subjects. Some data suggest that this approach might be promising. Coren and Hakstian (1987), using a college student population with "normal" vision, validated a self-report inventory against the results of simple laboratory tests of visual acuity, color discrimination, and binocular function, and found a 300-item scale to be highly predictive of results of these tests. While both subject population and visual function categories are different from those used in our study, Coren and Hakstian's report did demonstrate that, even in a population with presumably less variance in visual function than in the low vision population, observers' self-reports did agree with objective findings.

Kosnik, Winslow, Kline, Rasinski, and Sekuler (1988) distributed a self-report survey asking healthy adults aged from 18 to 100 years of age to rate themselves on their ability to perform some everyday tasks. Using a principal components analysis, they identified five factors that accounted for the increased difficulty with everyday tasks as one ages. These included difficulty visually searching for objects; difficulty tracking moving text; difficulty with near and night vision; difficulty in conditions of poor lighting; and slowed visual processing. Their goal, however, was to characterize the types of visual problems reported by the older population as a set of functional categories, rather than to test the feasibility of self-report as a screening or clinical tool.

Genensky, Berry, Bikson, and Bikson (1979) studied agreement of self-reports and direct observations for 10 items as part of a larger study. These 10 self-report items were selected on the basis of their testability on an orientation course, from a list of 150 potential visual environmental adaptation problems. The judgment for each item on both the self-report and the direct observation was binary in that the subject was judged either able or unable to complete the task in question. The agreement between self-reported and directly observed capabilities ranged from 51 percent for finding an elevator button to 94 percent for seeing parked cars.

Our questionnaire attempts to tap visual function categories that are likely to be somewhat measurable by objective means, significantly involved in everyday functioning, and that are thought to be assessable by an objective evaluation specialist such as an O&M instructor. We have included the following categories: ***detecting***, defined as determining the presence and location of a stimulus; ***finding***, defined as determining the location of a stimulus, given knowledge of its presence; ***scanning***, defined as using eye and/or head motion to sweep across visually and explore a stationary target (scanning may also be used in finding); and ***tracking***, defined as using eye and/or head motion to retinally stabilize a moving target. Note that these definitions do not conform to those that might be used in visual psychophysics, rather they involve skills that might plausibly be reported as problematic by individuals with low vision (cf. Kosnik et al.'s categories), and in addition, might by used/taught in visual rehabilitation.

We used direct observation of performance by O&M specialists (two of the authors) to validate the questionnaire. Our results show that a patient's self-reported functioning level is significantly corre-

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lated with the assessment of a specialist across all four of the functional categories defined above. Our questionnaire is only an experimental one, however, designed merely to test the feasibility of this type of functional visual assessment.

Method

Subjects

Forty-one individuals ranging in age from 15 to 80 years participated in the study. All had bilateral visual field defects that were confirmed with Humphrey visual field testing. Subjects, who were paid for participation and reimbursed for travel, were recruited by advertisements placed in the Lighthouse Low Vision Service waiting room, or by word of mouth.

We excluded subjects with unstable eye conditions, those who regularly used psychotropic drugs, or those who reported alcohol use in excess of two drinks a day. In addition, because we were interested in how retinal location of the field defects interfere with visibility of specific locations in space, we also excluded subjects who reported specific difficulties with glare, or whose visual acuity in either eye was decreased by .2 log minimum angle of resolution (logMAR) units of visual acuity or greater when a hand-held penlight was directed into the eye at a 45° angle at a distance of 1 cm. We additionally required that all subjects could walk without a supportive cane, crutches, or a walker.

Acuity was tested using the charts and the scoring procedure developed by Ferris, Kassoff, Bresnick, and Bailey (1982) for the Early Treatment Diabetic Retinopathy Study. Table 1 shows additional information about our subjects, including ophthalmological diagnoses. All subjects had 1.6 logMAR visual acuity (greater than 20/800) in their better eye. The average time since the most recent eye exam was 1.5 years.

Questionnaire

We began with a questionnaire of 97 items divided into four broad categories of visual function: ***finding, detecting, scanning,*** and ***tracking***. We further subdivided finding and detecting into spatial categories to code location in visual space. The finding category was divided into the following subcategories: ***finding close above eye level*** (FCA), ***finding close below eye level*** (FCB), ***finding close*** (FC), and ***finding far*** (FF). Detecting items fell into subcategories: ***detecting close above eye level*** (DCA), ***detecting close below eye level*** (DCB), ***detecting close*** (DC) and ***detecting sides*** (DS). The DC and FC categories are neutral with respect to eye level, and *close* and *far* represent visual space closer than and farther than 10 feet, respectively. Including ***tracking and scanning***, the questionnaire included 11 functional categories.

The categories detecting far and above (DFA), detecting far and below (DFB), finding far and above (FFA), and finding far and below (FFB) were not included because objects above eye level or on the ground and more than 10 feet away from the viewer, according to the laws of

Table 1. Subject information.

ID	*Diagnosis*	*Age*	*Onset*	*Acuity (LogMAR)* *Left*	*Right*
1	right hemisphere/arterial venous malformation removed	42	40	−0.30	−3.0
2	macular degeneration	80	75	1.30	1.30
3	macular degeneration	64	44	0.70	1.00
4	chorioretinitis	66	birth	1.60	1.30
5	retinitis pigmentosa	54	24	0.22	0.50
6	retinitis pigmentosa	48	birth	0.50	0.36
7	occipital lobe trauma	29	26	1.50	1.60
8	glaucoma	75	45	0.38	0.42
9	retinitis pigmentosa	20	birth	0.02	0.00
10	glaucoma	26	birth	0.72	no light per.
11	retinitis pigmentosa	15	birth	0.04	0.14
12	retinitis pigmentosa	64	birth	0.40	0.40
13	macular degeneration, retinitis pigmentosa	53	43	1.30	1.30
14	macular degeneration	50	40	1.00	0.96
15	right occipital tumor removed	27	7	hand movement	1.00
16	macular degeneration	25	5	1.60	1.50
17	retinitis pigmentosa	27	birth	hand movement	1.60
18	retinitis pigmentosa	19	birth	0.02	0.06
19	glaucoma	27	birth	prosthesis	1.00
20	glaucoma	23	birth	no light per.	1.60
21	optic neuritis	47	37	hand movement	1.00
22	macular degeneration	40	10	1.40	1.60
23	tumor/right occipital lobe removed	45	43	0.20	0.32
24	retinal tumor	46	36	no light per	0.08
25	retinopathy of prematurity	33	birth	1.00	no light per
26	retinopathy of prematurity	33	birth	1.00	0.96
27	retinal detachment	40	34	1.60	1.40
28	macular degeneration	66	53	counting fing.	1.00
29	macular degeneration	77	68	1.40	no light per.
30	retinal vein occlusion	82	72	hand movement	0.64
31	macular degeneration	77	72	0.80	1.00
32	macular degeneration	79	69	0.72	1.50
33	macular degeneration	79	75	1.00	no light per.
34	retinitis pigmentosa	60	birth	no light per	1.60
35	macular degeneration	86	79	1.60	0.54
36	macular degeneration	59	58	0.76	0.40
37	macular degeneration	80	74	1.00	1.00
38	macular degeneration	69	46	0.20	0.18
39	macular degeneration	77	74	0.02	0.18
40	bilateral aphakia	40	3	0.46	no light per.
41	diabetic retinopathy/stable	48	47	1.40	1.50

Some Snellen Equivalents to LogMAR

LogMAR	*Snellen Equivalent*
−0.3	20/10
0.0	20/20
0.3	20/40
0.6	20/80
1.0	20/200
1.3	20/400
1.6	20/800

linear perspective, are imaged close to the horizon, which is at the viewer's eye level. Notice that while there is a *detecting to the side* (DS) category, there is no corresponding category for finding to the side. This is because most tasks of daily life involving visual finding to the side are accomplished with a prior head or body movement, which, to a significant degree, nulls the visual eccentricity. In contrast, *detecting to the side* (DS) is often required because of attentional demands on both central and peripheral vision. Scanning (SC) and tracking (TR) were not subdivided by location because these are primarily retinal rather than spatial tasks, in that their purpose is to direct central retinal vision (or in the case of impaired central vision, a preferred eccentric locus) to an attended object, rather than locating an object that may be anywhere in visual space. Furthermore, given that an object must be detected or found prior to tracking or scanning, there is little reason why one would expect differences in these skills as a function of location in visual space.

The original 97-item questionnaire was reviewed following data collection. If an item was found to meet at least two of the following rejection criteria, it was eliminated from the questionnaire. The rejection criteria were:

1) of low sensitivity, in that more than 60 percent of subjects' responses for an item were either low (1 and/or 2) or high (4 and/ or 5) to insure uniformly distributed responses;

2) of low validity, in that correlation with the direct observation assessment was less than or equal to 0.20;

3) of low specificity, in that the item was more highly correlated with a functional category other than its own;

4) of high ambiguity, as subjectively assessed by the authors based on subjects' comments about the items;

5) of high redundancy, due to much overlap in the scope of two or more items.

As a result of this review, 40 items were eliminated from the questionnaire. The resulting 57-item questionnaire (shown in Table 2) includes the following:

- 23 finding items (FCA/1 items , FC/6 items, FCB/6 items, and FF/10 items);
- 18 detecting items (DCA/2 items, DC/4 items, DCB/2 items, DF/7 items, and DS/3 items); and
- 8 scanning items; and 8 tracking items.

Direct observation

Each subject was observed performing a variety of indoor and outdoor tasks in-

Table 2. Questionnaire items.

Finding	
FCA	Finding a particular item on a shelf in a store.
FC	Finding room numbers in an unfamiliar building.
FC	Finding an assigned seat number on an airplane or in the theater.
FC	Finding up-stairways within 10 feet.
FC	Finding electrical outlets on a wall in front of me.
FC	Finding (but not necessarily reading) a label on an item of clothing.
FC	Finding the steps as I get on a bus.
FCB	Finding up-curbs in familiar areas.
FCB	Finding where the curb is when I am expecting it.
FCB	Finding down stairways within 10 feet.
FCB	Locating individual escalator steps.
FCB	Finding up-curbs.
FCB	Finding down-curbs.
FF	Finding a bus number.
FF	Finding a "walk/don't walk" light when I am expecting one.
FF	Finding entrances to unfamiliar buildings from afar.
FF	Finding up-stairways when they are far away.
FF	Finding elevators and/or stairways in unfamiliar buildings.
FF	Finding a directory in a lobby in an unfamiliar area.
FF	Finding public telephones.
FF	Finding down-stairways when they are far away.
FF	Finding an unfamiliar bus stop.
FF	Finding a street sign when I know there is one there.
Detecting	
DCA	Seeing numbers above elevator doors.
DCA	Noticing structures above eye level, such as awnings or branches.
DC	Seeing parking meters and sign poles straight ahead of me.
DC	Seeing fire hydrants within 10 feet.
DC	Seeing benches within 10 feet of me in a hall.
DC	Seeing children run into my line of travel.
DCB	Being visually aware of bumps, or raised areas on sidewalks in my line of travel.
DCB	Seeing skates, toys, or other small objects in my path of travel.
DF	Being visually aware of park benches more than 10 feet away.
DF	Being visually aware of traffic islands more than 10 feet away.
DF	Being visually aware of trees more than 10 feet away.
DF	Noticing (but not necessarily reading) street signs.
DF	Noticing whether there is an overhanging traffic light.
DF	Noticing whether there is a "walk/don't walk" light.
DF	Seeing overhangs when they are far away.
DS	As I walk down a hall, seeing stairs along the sides of the hall.
DS	Noticing things to the left or right of me while walking.
DS	Being visually aware of cars and bicycles coming toward me from the side while crossing the street.
Scanning	
SC	Scanning the table of contents of a book.
SC	Counting tiles on a piece of floor.
SC	Reading the weather report in a newspaper.
SC	Finding the end of a minute hand on a large clock.
SC	Finding the next line of text.
SC	Following a line of text while reading.
SC	Visually following a pole to find a street sign or traffic light
SC	Reading recipes from cookbooks.
Tracking	
TM	Following a bus until it stops.
TM	Following the movement of an athlete on television.
TM	Visually following children as they run.
TM	Following moving cars with my eyes.
TM	Swatting flies.
TM	Following birds in flight.
TM	Setting temperatures on an oven dial.
TM	Pouring liquids when cooking.

volving vision, mostly relating to O&M, by either of two authors who are O&M specialists. One has an M.Ed. and is a certified peripatologist with 14 years of experience as an O&M instructor; the other has an M.S. in vision rehabilitation and 6 years of experience as an O&M instructor. At the time of observation, the O&M specialist had no knowledge of the subjects' ophthalmological diagnoses or their responses on the questionnaire.

Specialists' judgments were made on the same 11 categories of visual functioning as those coded in the questionnaire and on the same "1" to "5" scale. Although these judgments are by nature subjective, they reflect the specialists' numerous years of direct experience in training and rehabilitation of low vision individuals in O&M. A chi-square test revealed no significant difference between the distributions of ratings given by the two specialists [$\chi^2(21) = 18.50$, $p =$ n.s.]. Thus, although more rigorous tests of interobserver agreement would have been preferable, we felt confident that the specialists were using similar criteria for assessment.

Typical tasks required of the subjects on the assessment course included finding the phone booth in the lobby of a building, tracking a moving vehicle on a city street, and identifying the floor location of a particular business in a building directory. While subjects were run on a fixed course in midtown Manhattan, New York, the specialist was also encouraged to devise special tasks for each subject in order to gather enough information to make a judgment. During the assessment, one of the other experimenters walked near the subject to ensure his or her safety, while the specialist making the judgments viewed the subject from whatever vantage that provided the most information.

Many of the judgments were made in the absence of explicit tasks. For example, detection judgments generally incorporated how the subject reacted to various obstacles along the course, such as potholes in the street, low-hanging awnings, flower beds, fire hydrants, and rushing pedestrians. In addition, the way a subject approached curbs and other objects (e.g., looking down to find the curb, or confidently walking up to it), posture, and head movements were rich sources of information about function. Visual awareness of the near and far environment was assessed with informal questions about street signs, traffic islands, tree branches, etc. For some categories the subject was asked to perform a directly related task. For example, the finding category FCA (finding close and above) was usually assessed by asking the subject to point to the coin slot and coin return while seated in a phone booth.

Procedure

Following an initial screening interview and visual acuity testing (see Subjects section), the questionnaire was administered to each subject by interview. We asked the subjects to rate their degree of difficulty with each item on a scale that ranged from "1," indicating no difficulty, to "5," indicating great difficulty. The interviewer stressed that responses should reflect the degree of *visual* rather than general difficulty with an item. When a subject's pathology occurred recently enough for recall of normal visual experience, he or she was asked to make their judgments of difficulty relative to normal vision. Where an item probed a task rarely encountered in the subject's life, he or she was asked to estimate the degree of difficulty. Items were presented in the same pseudorandom order for all subjects.

Following the questionnaire, and usually in a subsequent session, the direct observation assessment was administered. Although subjects wore their distance correction only while walking the course, no telescopes or other visual aids were used. To control for changes in subject performance on the O&M course due to variable illumination and contrast conditions, we scheduled all subjects early in the day, but not during rush hour. Subjects were observed only in fair weather.

Results

Table 3 shows the results of a reliability analysis of the functional vision questionnaire, listing each broad category's (and subcategory's) Cronbach Alpha coefficient (Cronbach, 1951). All the coefficients are higher than 0.60, and 85 percent are higher than 0.75, which demonstrates the good internal consistency of the questionnaire's broad categories and subcategories.

Table 3. Cronbach's alpha coefficients for all questionnaire broad categories and subcategories.

Category	*Alpha Coefficient*
Finding	0.92
Detecting	0.82
SC	0.77
TM	0.78
FCA	0.66
FC	0.60
FCB	0.84
FF	0.82
DCA	0.76
DC	0.78
DCB	0.91
DF	0.78
DS	0.74
Total Scale	0.97

To determine how much of a linear relationship existed between the functional vision questionnaire and the direct observation assessment, Pearson product moment correlations were computed between all broad categories and subcategories of the questionnaire and their corresponding mobility assessment categories. There was a significant overall correlation between the average questionnaire rating and average direct observation rating [$r(df = 39) = 0.56$, $p < .002$]. All of the broad categories were significantly and positively correlated with the specialist's judgments [*finding*, $r(df = 39) = 0.65$, $p < .002$; *detecting*, $r(df = 39) = 0.43$, $p < .02$; *scanning*, $r(df = 39) = 0.48$, $p < .002$; *tracking*, $r(df = 39) = 0.33$, $p < .05$].

Table 4 demonstrates the relationships between the subcategories within the finding and detecting categories. All of the four finding subcategories of the questionnaire (FCA, FC, FCB, and FF), and three of the five detecting subcategories (DCA, DCB, and DF) were significantly correlated with the direct observation rating for these subcategories. The DC subcategory resulted in a positive but insignificant correlation, although with additional data, this subcategory might prove significant, too. The DS category questions, surprisingly, showed little linear association with the O&M specialist's judgments.

A multiple linear correlation coefficient was also computed for each subcategory to determine how much variance in direct observation scores could be accounted for by the linear regression of questionnaire items on the direct observation within subcategories. Table 5 shows the coefficients, which are equal to the square root of the proportion of variance accounted for by the regression for each subcategory (excluding FCA, which contained only one item). Correlations were statistically significant for the FCB, FF, DCA, DCB, and DF categories. Additionally, the SC and FC categories closely approached but did not attain significance ($p < .07$).

We also considered whether some of the noise in the data might be due to the subjects' over- or underestimation of their

Table 4. Correlation of direct observation subcategories with questionnaire subcategories for finding and detecting.

Subcategory	*Pearson Correlation*
Finding Close and Above (FCA)	$r = 0.42$, $p < .02$*
Finding Close (FC)	$r = 0.50$, $p < .002$**
Finding Close and Below (FCB)	$r = 0.42$, $p < .02$*
Finding Far (FF)	$r = 0.46$, $p < .02$*
Detecting Close and Above (DCA)	$r = 0.39$, $p < .02$*
Detecting Close (DC)	$r = 0.25$, $p < .20$
Detecting Close and Below (DCB)	$r = 0.40$, $p < .02$*
Detecting Far (DF)	$r = 0.42$, $p < .02$*
Detecting to the Side (DS)	$r = 0.15$, $p < .50$

Note. All p values reflect two-tailed tests of significance, df for all r's = 39.
* indicates statistical significance at the .05 level
** indicates statistical significance at the .01 level.

own functioning. In particular, we had expected that subjects with more recent onset of visual problems would tend to underestimate their abilities, whereas subjects with less recent onset of visual impairment would learn to adapt more readily, and probably estimate their abilities more accurately. To test this, we computed the Pearson correlation between percentage of life in which subjects had their primary visual problem and their average questionnaire score. This value was small and insignificant [$r = 39) = -0.04$, $p =$ n.s.].

Discussion

In addition to the wide individual differences in responding that must be expected in this kind of study, there are other interesting reasons, we feel, for not obtaining higher correlation values in many of our subcategories.

For example, the fact that two of the detecting subcategories—detecting close and detecting to the side—had lower, and nonsignificant, correlation values than the finding subcategories may be due not only to failure of the questionnaire to tap these functions but also to inadequacies in assessment by direct observation. For both the specialist and the subject, assessment of detecting involves determining the number of errors (when the subject failed to detect). For the specialist, such errors have to be overt and result either in collisions with obstacles or in faltering behavior, and our direct observation technique may not have provided enough opportunities for error for the specialist to make a valid assessment. In assessing detecting at far range, on the other hand, subjects in direct observation were asked about their awareness of the presence of particular objects.

Both mobility specialists noted the difficulty in making an unobtrusive assessment of ability in the detection category. Once the specialist asks about noticing a particular landmark or object, the task becomes one of the finding category. To assess detection the specialist must rely upon the avoidance of obstacles to make judgments. Furthermore, the fact that subjects may be less conscious of performing detection-type tasks and therefore not as accurate at assessing their own capabilities may also account for some discrepancy between self-report and direct observation.

The lower correlations shown in our scanning and tracking categories may be due to the fact that the tasks probed in the questionnaire were sufficiently different to those that could be assessed in direct observation, making comparison difficult. For example, five of the nine questionnaire items within the scanning category dealt specifically with reading. The mobility specialist's scanning assessment more generally assesses scanning the environment, such as identifying address numbers after scanning arrays of crowded buildings, a task obviously different in scope (requiring the perusal of a large span of distance) than reading (within a confined region). Similarly, the direct observation task of tracking a moving car with one's eyes may be qualitatively different from following birds in flight or children running into one's path of travel, which are examples of the questionnaire items from the tracking category. Both birds and children are smaller and slower than cars.

Tracking, as with the detecting categories, may be a difficult visual function to assess by direct observation, since the subject generally demonstrates it by mimicking his or her eye movements with a pointing finger. Such pointing may not evidence true visual tracking with eye movements. In addition, it may seem that the subject is tracking the intended moving object when in fact he or she is tracking a moving finger.

Previous research on the relationship between performance of complex tasks and visual status has emerged with few clear predictors of visual function in the typical visual environment. Pelli and Serio (1984) found that above an individual's contrast threshold, contrast sensitivity had no impact on mobility performance. Pelli and Applegate (1985) found that visually normal subjects with as little as 10 degrees of artificial visual field restriction, and as little as 0.4 cycles/degree grating acuity, naviagated unhindered through a shopping mall. Both these studies, however, simulated low vision in

Table 5. Multiple coefficients of direct observation subcategories with the questionnaire subcategories.

Subcategory	*Multiple r values*
Scanning (SC)	$r = 0.61$, $p < .065$
Tracking (TR)	$r = 0.40$, $p < .625$
Finding Close and Above (FCA)	subcategory includes 1 item
Finding Close (FC)	$r = 0.53$, $p < 0.62$
Finding Close and Below (FCB)	$r = 0.60$, $p < .007$
Finding Far (FF)	$r = 0.69$, $p < .017$
Detecting Close and Above (DCA)	$r = 0.39$, $p < .040$
Detecting Close (DC)	$r = 0.41$, $p < .149$
Detecting Close and Below (DCB)	$r = 0.42$, $p < .027$
Detecting Far (DF)	$r = 0.49$, $p < .040$
Detecting to the Side (DS)	$r = 0.18$, $p < .755$

Note. All p values reflect two-tailed tests of significance, df for all r's = 39.

normal observers and are probably not subject to, nor help to explain, the wide range of individual differences in performance that low vision observers typically exhibit.

Marron and Bailey (1982), using low vision subjects, found both log contrast sensitivity and log percent intact visual field to provide moderate correlations with mobility performance on an artificial test course, each accounting for 33 percent and 30 percent, respectively, of the variance in their mobility data. This is roughly the amount of variance accounted for by the correlations in the present study. The multiple correlation of their two independent variables, however, accounted for 53 percent of the mobility variance.

The present study seeks to determine whether the reported experience of the low vision patient can predict the more objective but still imperfect judgment of trained professionals. The results concur with those of Genensky et al. (1979), and suggest that self-report methods may be of some value in predicting the functioning of persons with low vision in the typical visual environment. An obvious next step would be to see if self-report methods, in combination with clinical psychophysical methods like contrast sensitivity, visual field testing, or visual acuity, can increase our ability to predict functioning still further. The addition of personality variables such as stress, adaptability, independence, and depression, might also sharpen the test's predictive value.

Certainly, in clinical settings, it seems logical that low vision individuals themselves can make a valuable contribution to the assessment process. Ultimately our goal is to develop a concise self-report instrument that will be useful to clinicians and rehabilitation specialists in assessing a patient's self-perceived functional vision, and also be a good predictor of overt functioning as judged by a trained specialist.

While we have thus far confined our study to individuals with defects of the visual fields, with a questionnaire of somewhat wider scope, the method might also be effective for screening a more general population of older adults for visual problems.

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