Goals with limited vision: A qualitative study of coping with vision-related goal interference in midlife

Kathrin Boerner, PhD and **Shu-wen Wang, MA**
Jewish Home Lifecare/Mount Sinai School of Medicine, New York, NY

University of California, Los Angeles, CA

Abstract

Objective—To investigate how middle-aged adults manage their goal pursuits in the face of visual disability.

Design—Cross-sectional qualitative study

Setting—Vision rehabilitation agency

Subjects—216 middle-aged adults with visual impairment

Methods—Telephone interviews composed of structured and open-ended assessments of life goals and the strategies used to cope with vision-related goal interference.

Results—Individuals reported strategies that reflected the broader domains found in prior research with older adults: Internal Resource Use, New Approach Use, Technology Use, Help Use, and Psychological Self-regulation. The most frequently reported strategy was Help Use ($N = 192$), followed by New Approach Use ($N = 166$), Internal Resource Use ($N = 162$), Technology Use ($N = 159$) and Psychological Self-regulation ($N = 130$). Across domains, the most frequently reported strategies were Instrumental Informal Help, Instrumental Formal Help, Optical Aids, and Invest Effort. Specific strategy domains emerged as more typical in response to interference with particular types of goals; for example, Help Use was reported by a majority for interference with functional and psychological goals, but only by half for interference with social goals.

Conclusions—Study findings revealed a rich array of strategies used by middle-aged adults with vision impairment in their daily lives to deal with vision-related goal interference. Results suggest that rehabilitation services should consider multiple methods of coping and their goal-related function when working with middle-aged adults with disabilities.

Introduction

Midlife is a distinct period of the lifespan characterized by many unique elements that distinguish it from other life stages, and yet it is the least studied period of human development[1]. In particular, disability research has largely focused on older adulthood and ignored midlife, given that the prevalence of functional loss increases with advanced age. However, midlife is also a critical period of the lifespan in which to study the effects of disability; in particular, visual disability affects as many as 15% of adults aged 45-64, representing 9.3 million middle-aged Americans, who report having some type of vision problem even when using corrective lenses.[2] Moreover, the prevalence of vision loss and other disabilities is expected to drastically increase over the next few decades due to the

Correspondence should be sent to: **Kathrin Boerner, PhD**, Senior Research Scientist, Jewish Home Lifecare, Research Institute on Aging, Associate Professor, Brookdale Department of Geriatrics & Adult Development, Mount Sinai School of Medicine, 120 West 106th Street, New York, NY 10025, Tel: 212-870-7522, Fax: 212-870-7530, kboerner@jha.org.

aging of the population[3] making the study of vision loss across both midlife and old age particularly important. Unfortunately, little is known about the impact of vision loss during midlife.

Midlife has several distinguishing characteristics that set it apart from other periods of human development. A primary identifying feature of midlife is that middle-aged individuals typically balance multiple responsibilities and life goals.[4] Top goals often include maintaining or progressing one's career while also being dedicated to family and relationship goals. It is normative for middle-aged adults to feel stressed and burdened by work and the concurrent care of children and aging parents. Significant life transitions also characterize midlife, during which raising children, having children leave home, and/or preparing for retirement are common events. Thus, midlife is a multifaceted and unique period of the lifespan that warrants further research. Strikingly, recent studies have indicated that visual disability occurring during midlife may have more severe consequences for mental health and well-being,[5,6,7] which might be related to the untimely and non-normative nature of experiencing functional loss in middle adulthood.[8] Furthermore, in a separate investigation using the current dataset, we found evidence that visual disability notably interfered with the pursuit of goals common during midlife. [9]

Previous work has clearly demonstrated that personal coping resources constitute a critical factor in adaptation to visual disability.[5,6,10] Broader research addressing the process of adaptation in later life has shown that, in the case of loss and decline, there are at least two prominent coping directions that impact well-being. One coping direction involves tenacious efforts to continue one's goal pursuits, whereas the other coping direction involves the ability or willingness to adjust goals that can no longer be reached to what is feasible.[11,12] While the theories that frame coping in such a way use somewhat different terminology to describe these processes, the strategies for each are very similar. For example, goal-maintenance or goal-engagement strategies typically include: a) investment of internal resources (e.g., investing more effort), b) use of new approaches (e.g., drinking coffee out of a white cup with the goal of enhancing contrast), c) use of technical aids (e.g., using a magnifier), and d) use of other people's help (e.g., asking others to read the mail out loud to them). The other coping direction of goal adjustment reflects some level of psychological self-regulation or self-protection, and often involves strategies such as reevaluating the goal's importance, focusing on other positive things in life (e.g., appreciating having a loving family), changing perspective through social comparisons (e.g., others have it worse), or taking a step back or gaining some distance from the issue (e.g., seeking distraction). These types of strategies serve to make the reality of the blocked goal more acceptable, or to ameliorate its negative emotional impact on the person.

Goal engagement and adjustment strategies have been found to play an important role in the context of adaptation to vision loss,[5,10] as well as other health problems, such as arthritis, heart disease, and stroke.[13,14]. Few studies have attempted to identify these types of strategies in an open-ended narrative format. However, those that have appear to have focused more on goal engagement as opposed to goal adjustment type strategies. For example, a study of older adults with osteoarthritis identified strategies that could be categorized as use of technical aids, internal resources, and new approaches.[15] Our own previous work on vision loss among older adults using narrative data showed that nearly all of the participants relied on new approaches and technical aids, followed by psychological self-regulation strategies, help from others, and internal resources. The narrative data further suggested that it is important to learn more about *how* help from other people is used. Additionally, there were differences in strategy use depending on the type of challenge. The most pervasive pattern was that new approaches, technology and help from others were most

common in response to functional challenges, whereas psychological self-regulation strategies were most prominent in response to psychological challenges. [16]

The current study

Since so little is known about coping with disability in midlife, we felt that an exploratory approach to assessing coping was indicated. Specifically, we wanted to extend previous work by creating an evidence base that allows for a comparison of the self-reported strategies of middle-aged adults with vision impairment with those reported by their older counterparts. Thus, the qualitative assessment of coping strategies constituted a major focus of the present study. However, because of the demonstrated important role of life goals in midlife, we decided to generate strategies in response to specific self-reported goals and interference with these goals, rather than to focus on general disability-related challenges as in previous research.

First, we expected to find self-reported strategies that reflect the five broader domains (i.e., internal resource use, new approach use, technology use, help use, psychological self-regulation) described above. Based on previous research with visually impaired older adults, we also expected that new approach use and technology use would emerge as the most common domains, followed by help use and psychological self-regulation, and last, internal resource use. We further explored and sought to exhaustively represent and illustrate the specific strategies emerging within these broader domains. Second, with regard to the domain of *help use*, we paid particular attention to how instances of help use were described, in order to depict common help use scenarios. Last, when linking strategy use to goals, we expected based on prior work, that new approach use, help use, and technology use would be most common in response to functional goals, and psychological self-regulation would be most common in response to psychological goals.

Method

The sample of 216 participants was randomly selected from a pool of middle-aged adults who were applicants at a vision rehabilitation agency in the northeast of the US. To be considered eligible for the study, participants needed to be: age 40 to 64, community-dwelling, English-speaking, sufficiently free from hearing and cognitive deficits to participate in a telephone interview, first time applicants for vision rehabilitation services, and onset of vision impairment age 18 or older. We obtained a response rate of 70% (for a more detailed description of initial participant pool and calculation of response rate, see ref 9). Participants were interviewed over the telephone for approximately 30 minutes, and all items and response categories were read to the participant during the interview. Participant responses were recorded on paper. The agency's Institutional Review Board approved all study procedures and materials, and participants were asked for oral consent after being read information about the study.

The interview included questions on basic sample characteristics (e.g., age, race, education, employment status), and vision specific characteristics (i.e., self-reported onset of vision-related functional problems). Furthermore, the Functional Vision Loss Scale, a 15-item index, was used to assess whether or not difficulty is experienced in specific functional areas (e.g., reading newspaper print, recognizing faces across a room). Potential scores range from 0 to 15, with higher scores indicating more difficulty. This is a widely used scale with well-established validity and reliability.[17]

Participants were first asked to identify three current goals that they would consider to be most important to them. For each of these goals, they were then asked to rate on a scale from 0 to 10 (higher ratings reflecting more interference) the degree to which their vision

impairment interferes with each goal. A total goal interference score was computed by summing the individual interference ratings. The interference rating for each life goal was followed by the question "How do you deal with this?" Interviewers noted the content of the responses verbatim, and typed up these handwritten notes immediately after completion of the interview, to reduce potential loss of information. The narratives were later coded with an open coding approach (grounded theory [18]) for descriptive purposes to explore what kind of strategies middle-aged adults with visual impairment report.

Coding narrative data

Narrative data were coded using Atlas/ti, a software package designed to facilitate qualitative analysis. [19] We developed a coding system using a qualitative analytical approach for the various reported life goals and coping strategies used in response to vision-related goal interference. For a detailed description of the process of coding life goals, the reader is referred to Popivker, et al. (ref 9). Coping strategies were then coded for content reflecting specific behaviors or thoughts. The PI and two research assistants independently reviewed the responses of the first 20 participants to develop an initial set of descriptive codes based on common themes reflected in the responses. We then met to discuss, clarify and refine the suggested codes. After establishing this initial set of codes and clarifying code definitions, we used the responses of the next 10 participants to establish inter-rater agreement between two independent coders. During this initial phase of code development, percentage agreement (computed by dividing the number of codes in agreement by the total number of codes for each response) was used to assess inter-rater agreement. This first set of inter-rater agreements was at 80% and above, which is generally considered an acceptable agreement rate.[20] We then gradually incorporated the whole sample in a thorough process of coding a set of 20 participants at a time, meeting to discuss the coding and calculate inter-rater agreement, and then coding another set of 20 responses. We then used the more conservative Cohen's kappa (that takes into account agreement occurring by chance) to assess inter-rater agreements. Kappa coefficients for coping codes ranged from .79 to .96 (average kappa .89), demonstrating adequate interrater agreement.

Results

The mean age of the 216 participants was 55 ($SD = 6.8$), and the majority of the participants were female ($N = 122$). Out of the 211 participants who reported their race, 117 were white, 66 were African-American, nine were Asian or Pacific Islander, two were Native American or Alaskan Native, and 17 were other races. In terms of ethnicity, 23 participants considered themselves Hispanic. The majority reported a relatively high level of education, with 149 participants having completed at least some college. However, only 63 of the participants were married. Of the 214 participants who reported their employment status, only 60 were employed, 121 were unemployed (with 75 participants attributing unemployment to vision loss), and 33 were retired (with 18 attributing retirement to vision loss). Participants reported a variety of eye diseases; the most major ones were cataracts ($N = 64$), macular degeneration ($N = 52$), glaucoma ($N = 52$), and diabetic retinopathy ($N = 65$). Most experienced the onset of their vision problems during midlife (at or over the age of 40; $N = 178$). Among those who experienced an onset of vision loss before 40, only 2 were in their 20s (22 and 26); others ranged between 32 and 38 in age. Length of functional impairment due to vision loss in this sample was on average 7.7 years ($SD = 8.7$). Participants reported significant levels of vision impairment, with an average of functional vision loss in 12 out of 15 domains (mean 12.02; $SD = 2.39$; range 0-15).

Coping strategies

As expected, the individually reported strategies reflected the five broader domains that emerged in prior research both with older adults with vision impairment and in the general literature on adaptation to major life changes across the lifespan: Internal Resource Use (8 strategies), New Approach Use (18 strategies), Technology Use (10 strategies), Help Use (6 strategies), and Psychological Self-regulation (15 strategies). For detailed descriptive information of specific strategies used to deal with vision-related goal interference and sample quotes from the narrative data illustrating each content code, **the reader is referred to** Table 1 **on the web…**

The number of strategies in each of the domains reflects the complex and multifaceted nature of these coping responses, and the specificity of participants' descriptions. For example, although large print materials are technically adaptive aids, we created a separate code specifically for them because participants talked about large print materials as a distinct entity. The domains New Approach Use and Psychological Self-regulation had the most variety in terms of the different kinds of strategies reported. Help Use had the highest percentage of participants who reported at least one of their strategies from this domain ($N = 192$), followed by New Approach Use ($N = 166$), Internal Resource Use ($N = 162$), Technology Use ($N = 159$) and Psychological Self-regulation ($N = 130$). The variety of strategies within each domain reported by each person was very similar for all five domains; on average, participants reported about two different strategies from each domain, with a maximum of five for Internal Resource Use, New Approach Use, Technology Use, and Help Use, and a maximum of six strategies for Psychological Self-regulation.

The most frequently reported strategies reflecting Internal Resource Use were Invest Effort ($N = 76$) and Invest Time ($N = 57$). For New Approach Use, the most frequently reported strategies were Rely on Sound ($N = 40$) and Get Close ($N = 36$). For Technology Use, use of Optical Aids ($N = 103$) and Adaptive Visual Aids ($N = 80$) were the most common, and for Help Use, Instrumental Informal Help ($N = 151$) and Instrumental Formal Help ($N = 95$) were most frequently reported. Finally, the most frequently reported strategies reflecting Psychological Self-regulation were Concentrate on the Positive ($N = 37$) and Accept What Cannot Be Changed ($N = 33$). Overall for all domains, the most frequently reported strategies were Instrumental Informal Help, Instrumental Formal Help, Optical Aids, and Invest Effort.

Style of help use

Narrative portions reflecting Help Use were further coded with regard to *how* participants used the help (see Table 2). The most frequently reported style of Help Use was when participants manage part of the task alone and then enlist help from another person to fully complete the task (Partial Help to Complete Task, $N = 110$, e.g., going through the mail oneself, and then asking someone else to check if anything important got overlooked). Almost as common were descriptions of participants sometimes relying on others to take care of a particular task, and other times taking care of the task themselves (Occasional Help, $N = 99$, e.g., having someone else go through the mail every now and then to relieve some of the burden). Less common, but still reported by a substantial minority were instances of completely handing over the task to others (Give Task to Others, $N = 70$, e.g., letting someone else do all the shopping). Very few participants described Help Use instances that reflected an all-around dependency on others to complete certain tasks (All Around Dependent, $N = 6$).

Linking strategy use with goals

Strategy and goal codes were linked through the qualitative analysis software, so that the goal or goal interference to which each strategy use was directed was clear. It should be noted that more than one strategy, from any of the five broader domains, could be reported for each goal. However, to portray the relative proportion of strategy use in response to general goal categories, we focused on counts of strategies reported at least once by a person in response to vision-related interference with a particular goal. Thus, Table 3 summarizes how many participants reported a particular strategy for each of the five broader domains in response to vision-related interference with functional, social, and psychological goals.

Specific strategy domains did emerge as more typical in response to interference with particular types of goals, some in unexpected ways. Internal Resources, New Approaches, and Technology were reported three times as often in response to interference with functional goals compared to social goals (18-22% versus 71-72%), and almost twice as often in response to interference with functional compared to psychological goals (32-43% versus 71-72%). Help Use was reported by a majority in response to interference with functional and psychological goals (82% and 71%, respectively), and by half of the participants in response to interference with social goals (51%). Psychological Self-regulation was reported by a majority in response to interference with psychological goals (57%), by almost half of participants in response to interference with functional goals (49%), and by a substantial minority in response to social goals (36%).

Discussion

Study findings revealed a rich array of strategies that middle-aged adults with vision impairment use in their daily lives to deal with vision-related goal interference. Overall, the individual strategies reported by our middle-aged participants did indeed reflect the five broader domains that were previously found in research with older adults with vision impairment,[16] as well as in the general literature on adaptation to major life changes across the lifespan. [11,12] However, when it came to the prevalence of these strategy domains, the pattern that emerged in our middle-aged sample seemed to differ from that previously found among older adults. The most striking difference was that internal resource use and help use – the only two domains not reported by a vast majority of older adults – seemed far more common among the middle-aged participants. In fact, help use was reported almost as frequently in the midlife sample as new approach use and technology use had been reported in the older sample (over 90%). In contrast, these two domains appeared to be less common in the midlife sample (78% and 75%, respectively); the same pattern seemed to be true for psychological self-regulation strategies (61% in the midlife sample, 86% in the older sample).

Why might this be the case? Of course, there could be a number of reasons related but not limited to characteristics of the two samples, different sampling approaches, or differences in the assessment approaches, and it would be difficult to tease apart which might be primarily responsible for differences in findings. However, we believe that there is also an alternative explanation that makes sense when taking a lifespan developmental perspective: There is consensus in the lifespan literature that middle adulthood tends to be a more resource-rich period of life than late adulthood,[21] and among the types of resources that tend to be more available in midlife are many of the internal resources and social resources described above. For example, strategies such as investing more effort and memorizing information are likely to be easier for a younger person from a cognitive standpoint. Similarly, it is known that social network size tends to decrease with increasing age; in particular, most individuals above the age of 80 years old, reflecting the age of most of our older sample, have decreased social networks. Thus, one important factor explaining the

differences in findings on strategy use could be a difference in resource availability. Perhaps the more frequent help use in the midlife sample could be related to the fact that using other people's help becomes a more integral and natural way of day-to-day functioning when one is confronted with a disability earlier in life. Older adults who experience the onset of vision loss, on the other hand, may be dealing with at least two complicating factors: First, they may have been accustomed to not needing help from others for most of their lives and now find it hard to activate support, and second, this new need for help may be occurring during a time when their network has already shrunk.

Our analysis of the style of help use supports this interpretation. We found that the most commonly used style appears to be what we called "partial help to complete task;" this code represents instances where the person manages a part or even most aspects of a task alone, but enlists help to "close the gap" and fully complete the task. The other two commonly found styles were to get occasional help for a particular task or to completely delegate a particular task (without being dependent in overall functioning). The general picture seemed to be that many participants used a combination of these styles, such that help from other people is integrated in a way that supports independent functioning wherever possible. These insights into how help from others is incorporated into daily life hint at the added difficulty, negotiation, and work involved in navigating social contacts for help that compound the already complicated ways in which relationships are generally reestablished after vision loss, determined in our prior investigation of relationship changes for working-age and older adults with visual disability (see ref 22, for a detailed discussion).

Interesting differences with regard to strategy use depending on goal type emerged for all strategy domains, with the exception of technology use. Internal resource use was clearly most frequent in response to interference with functional goals in the midlife sample; in contrast, there had been no apparent pattern of this strategy domain by challenge type in the older sample. New approach use was also mainly reported for functional goals in middle-aged adults, whereas this strategy domain was reported by a majority for both functional and social challenges in older adults. Help use was reported by more than half of the midlife sample to address interferences in all three goal categories, as opposed to just functional challenges in the older sample; and psychological self-regulation addressed both functional and psychological goals in the midlife sample versus just psychological challenges in the older sample. Thus, it seems that not only does the prevalence of strategy use differ between midlife and older adulthood, but so does the allocation of a particular strategy to a particular type of goal or challenge. Another interesting finding here seems to be that internal resource use is more specifically used to address functional issues, whereas reliance on help from others appears to apply across all three goal types (functional, social, psychological). This finding further supports the notion that use of help from others plays a different and possibly more important role in middle-aged compared to older adults with visual disability.

Several potential limitations of this research deserve mention. Because the participants were drawn from a pool of middle-aged applicants seeking services at a vision rehabilitation agency, this study has limited generalizability to visually impaired adults who do not seek out services, or to adults with other chronic impairments. However, it is not unlikely that similar types of coping strategies and patterns of strategy use would also be found in the context of other chronic disabilities. For example, it seems reasonable that internal resources and help from others would also be used to a greater extent in midlife compared to older adulthood in samples of individuals with hearing impairment. At the same time, we take caution in drawing clear parallels between our findings and the experiences of individuals with other chronic disabilities given the greatly varied nature of limitations and challenges posed by different conditions. For example, we would be hard-pressed to presume that our findings about how help is used would also map on to the experiences of individuals who

have suffered stroke or brain injury, where there may be more dependency across tasks rather than the outsourcing of specific tasks at specific times that we observed in our sample. Future research investigating coping efforts in response to chronic impairments other than vision loss may be helpfully guided by the findings reported here.

Furthermore, our discussion of the key findings are situated largely in comparison with previous research that has used a similar approach to assessing coping strategies in older adults with vision impairment. Although this discussion has merit, the more ideal scenario would be to design a study for such a comparison, thus involving two age groups within one sample, and using unified methods for recruitment, sampling, and data collection. In such a larger comparison study, it would also be possible to systematically control for alternative factors that might explain differences in strategy use. Overall, because one of the major purposes of this study was the rich illustration of coping in an understudied population, we used purely descriptive analyses and didn't code our narrative data in a way that would make it more suitable for predictive levels of analysis (e.g., rating the extent of coping for individual strategies). Last, it should be noted that our approach to collecting narrative data had limitations, and that improved methods would include in-person audio-taped interviews.

However, despite its limitations, the present study provides information that can benefit professionals who work with adults dealing with vision impairment. The narrative data illustrate the kinds of strategy domains and specific strategies within these domains that middle-aged adults may use to manage their goal pursuits, as well as which strategy types may be more or less likely to be employed to address particular kinds of goal pursuits. Since most of the existing knowledge about functional disability and subsequent rehabilitation needs, in general or with regard to vision impairment, focuses on the experiences of older adults, rehabilitation programs are likely to more adequately address the needs of older than of middle-aged adults. It is therefore important that much more knowledge about the situation and potential needs of midlife clients be a focus of continued research. The rich description of coping activity as provided in this study is a good starting point to gain more in-depth understanding towards this purpose. Rehabilitation professionals may also draw on the illustrating material to generate and develop ideas for potential coping strategies with their clients. Last, our exploration of the different styles in which help is enlisted by middle-aged individuals – and how this contrasts with the experiences of older adults shown in prior work – also provides much-needed information that can benefit rehabilitation professionals understanding of how social networks are accessed because of disability.

Acknowledgments

References

1. Lachman ME. Development in midlife. Annual Review of Psychology. 2004; 55:305–331.

2. Horowitz A, Brennan M, Reinhardt JP. Prevalence and risk factors for self-reported vision impairment among middle-age and older adults. Research on Aging. 2005; 27:307–346.

3. The Eye Disease Prevention Group. Causes and prevalence of visual impairment among adults in the United States. Archives of Ophthalmology. 2004; 122:477–485. [PubMed: 15078664]

4. Bumpus, LL.; Aquilino, WS. A social map of midlife: Family and work over the middle life course. University of Wisconsin, Center for Demography and Ecology; Madison: 1995.

5. Boerner K. Adaptation to disability among middle-aged and older adults: the role of assimilative and accommodative coping. J Gerontol. 2004; 59:35–42.

6. Brennan M, Cardinali G. The use of preexisting and novel coping strategies in adapting to age-related vision loss. The Gerontologist. 2000; 40:327–334. [PubMed: 10853527]

7. Boerner K, Wang S. How it matters when it happens: Life changes related to functional loss in younger and older adults. International Journal of Aging and Human Development. 2010; 70(2): 227–243.

8. Neugarten B. Adaptation and the life cycle. The Counseling Psychologist. 1976; 6:16–20.

9. Popivker L, Wang SW, Boerner K. Eyes on the prize: Life goals in the context of disability in midlife. Clinical Rehabilitation. 2010; 24(12):1127–35. Epub 2010 Jun 16. [PubMed: 20554639]

10. Garnefski N, Kraaij V, De Graaf M, Karels L. Psychological intervention targets for people with visual impairments: The importance of cognitive coping and goal adjustment. Disability and Rehabilitation. 2010; 32(2):142–147. [PubMed: 19951232]

11. Brandtstädter J, Rothermund K. The life-course dynamics of goal pursuit and goal adjustment: A two-process framework. Developmental Review. 2002; 22:117–150.

12. Heckhausen J. Developmental regulation across adulthood: Primary and secondary control of age-related challenges. Developmental Psychology. 1997; 33:176–187. [PubMed: 9050402]

13. Hall NC, Chipperfield JG, Heckhausen J, Perry RP. Control striving in older adults with serious health problems: A 9-year longitudinal study of survival, health, and well-being. Psychology and Aging. 2010; 25(2):432–445. [PubMed: 20545427]

14. Darlington AS, Dippel DW, Ribbers GM, Balen R, Passchier J, Busschbach JJ. Coping strategies as determinants of quality of life in stroke patients: a longitudinal study. Cerebrovascular Diseases. 2007; 23(5-6):401–7. Epub 2007 Apr 2. [PubMed: 17406109]

15. Gignac MA, Cott C, Badley EM. Adaptation to disability: applying selective optimization with compensation to the behaviors of older adults with osteoarthritis. Psychology & Aging. 2002; 17:520–524. [PubMed: 12243392]

16. Boerner K, Brennan M, Horowitz A, Reinhardt JP. Tackling vision-related disability in old age: An application of the life-span theory of control to narrative data. J Gerontol. 2010; 65:22–31. [PMC2794889].

17. Horowitz A, Teresi JE, Cassels IA. Development of a Vision Screening Questionnaire for Older People. J Gerontol Soc Work. 1991; 17:37–56.

18. Glaser, B.; Strauss, A. The discovery of grounded theory. Aldine; Chicago: 1967.

19. Muhr, T. Atlas/ti for Windows: Visual Qualitative Data Analysis, Management, & Model Building [computer software]. Scientific Software Development; Berlin: 1997.

20. Miles, MB.; Huberman, AM. Qualitative data analysis. second edition. Sage; 1994.

21. Jopp D, Smith J. Resources and life-management strategies as determinants of successful aging: On the protective effect of selection, optimization, and compensation (SOC). Psychology and Aging. 2006; 21:253–265. [PubMed: 16768573]

22. Wang S, Boerner K. Staying connected: Reestablishing relationships following vision loss. Clin Rehabil. 2008; 22:816–824. [PubMed: 18728135]

Clinical Message

- Middle-aged adults with visual disability use a variety of strategies to deal with vision-related goal interference.

- How these various strategies are used appears to differ in midlife versus old age.

- Vision rehabilitation services should aim to facilitate coping in the context of an individual's specific goals.

Table 1
Number/percent of participants reporting strategies and corresponding sample quotes

Content Codes for Strategies	N	%	Quote
Internal resource use	**162**	**76**	
Invest effort	76	36	When going up and down stairs, I just exert a lot more effort to see the steps
Invest time	57	27	I work longer hours to offset the fact that I might be slower because I can't see well.
Rely on memory/past experience	41	19	If I'm at a busy street and I can't see the walk sign it's not a problem because I know the traffic. I'm familiar with it on those streets, the flow of traffic, so I can compensate.
Be careful	40	19	When I walk in the street or anywhere I am very aware that I have to be careful because I'm not always seeing what's there, like a bump on the sidewalk or a hole. I'll walk very slowly. If it's really dark, sometimes I would first reach with my foot in front of me to check if anything is there.
Learn or practice skills	31	15	My eyesight did make it difficult, but now after I had practiced I got used to it. My vision makes learning to play the guitar slower, but I do learn.
Memorize	16	8	Well giving speeches is more of a challenge now. I used to write notes and now I do it from my head. I memorize certain facts.
Seek information	16	8	I do everything I can! I network – I've been involved with Duke University to know whose doing the most and what can be done.
Take a break	11	5	My endurance is affected by the eyesight. I get tired of reading. So I continue to work but focus on something that's not reading, at least for a while.
New approach use	**166**	**78**	
Rely on other senses: sound	40	19	Now I find that even though I can't see all the expressions, I listen to the quality of the tone and how the voice rise and fall and that tells you a lot.
Get close to things	36	17	If I go to a play, I sit in the very 1st row so I get most of the images except people's faces.
Use alternative transportation	34	16	I have Access-a-ride- using that is ok. When I don't use that I get car service and I'm trying to get the hospital to give me an ambulette.
Set up facilitating conditions	32	15	I try to space things on closet in order to make it easier to find them, I sort things by colors, and I find what I am looking for by color association. If I want to find a suit in the closet, I space the black suit form the blue suit, and I put the black suit close to the pink, or the brown suit close to yellow.
Seek work manageable with disability	26	12	I am trying to find work that I could do at home and to do things that don't involve reading or seeing – like stuffing envelop.
Rely on other senses: touch	20	9	After you get your eyes and face scratched, you just learn from experience to feel for branches that might be sticking out.
Simplify meal preparation	19	9	I only use things that are easy to microwave.
Prevent further damage	17	8	I started wearing safety glasses at work to protect the front of the eye. I take very good care of my eyes now.
Look for movement or shapes	14	7	I wait to watch the flow of traffic. I can see if it's going downtown or uptown. I can still differentiate

Content Codes for Strategies	N	%	Quote
			the colors of the walk sign so I know when to walk too.
Replace activity with functional equivalent	14	7	I used to play basketball and I can't do that anymore because I can't see the ball. I have to do other things; I have to run on the treadmill but that doesn't work because of my eyesight so I walk as fast as I can instead.
Adjust schedule to natural light conditions	13	6	I try to go to places during the day rather than the night.
Adjust schedule to others	10	5	What I do is I make my schedule around their schedule. So if I call my wife and find out that she's leaving work at 9, I would stay at work until 9 so that she can pick me up from the office.
Look for environmental cues	8	4	I look for the people who take the bus with me everyday. That is how I know that it's the right bus.
Write large	8	4	Also with the cooking. I have to use a magnifier on recipes, it's a hassle. On days that I'm more motivated I get cardboard and marker and rewrite the recipes larger.
Stick to non-crowded areas	5	2	I'm pretty comfortable unless I'm in crowded areas, so I try to stick to areas where it is not crowded.
Rely on peripheral vision	3	1	I lift my head and eyes to look at the signal.
Rely on other senses: smell/taste	2	1	I use my sense of smell and use my nose or taste certain seasoning before I use them to make sure I'm using the right one.
Technology use	**159**	**75**	
Optical aides	103	48	I use a magnifying glass to see all the labels and to sort everything.
(Other) adaptive aids	80	38	I try to write in a flare pen. With reading, I get the books on tape from the library.
Adjust lighting	22	10	Since architecture is a visual field, I now have to work under very bright lighting. I use incandescent mixed with fluorescent light.
Large print materials	21	10	I like reading and doing crossword puzzles but they have to be extra large. I also use large print books.
Computer to write	10	5	I utilize the computers to write treatment plans in a big font size, and to write prescriptions for my patients.
Computer voice software	8	4	I use the computer a great deal in order not to read – for example instead of reading the newspaper (NY times), which I enjoy doing, I would have it online and I would have JAWS read it for me.
Tape record information	5	2	I am taking classes at the LH to learn how to use the computer. In class, I use a tape recorder to take notes.
Phone for contact	5	2	I just try to make more phone calls to people because I can't go out since I can't drive anymore because of my vision.
Programmed numbers on phone	4	2	I have a lot of numbers saved on the phone so I don't have to worry about looking them up.
Help use	**192**	**90**	
Instrumental informal help	151	71	Writing checks is a real pain. I can't keep writing on the line or anything – my daughter when she is home, I ask her to sit with me and write them out.
(Other) formal help	95	45	I can't see clear, I can't bend. I can't tell if the floor is clean or not. That's' why I have a maid now – she

Content Codes for Strategies	N	%	Quote
			comes 5 days a week.
Seek vision rehabilitation	54	25	I went to the LH and they helped me a lot. They came to my house and they helped with teaching me how to cook safely, the way to walk around with a cane and how to use a cane.
Instrumental help general	43	20	I just need people to do things for me, but I don't let it bother me.
Seek medical treatment	22	10	I've been back and forth to the eye institute I don't know how many times.
Affective informal help	13	6	Family and friends make me feel better - Talking and encouragement.
Psychological self-regulation	**130**	**61**	
Concentrate on the positive	37	17	Even though I've been through a lot of bad I've also been through a lot of good and have a wonderful caring family and friends.
Accept what cannot be changed	33	15	I have accepted it. I realized that I can do certain things and I cannot do other things. I'm not going to worry about something I cannot do anymore.
Motivational self-talk	21	10	I talk to myself and I have to keep myself calm and keep going so that I can still do what I need to. I tell myself I have to keep on going I don't have time to be depressed.
Acknowledge cannot do it	21	10	I had a sewing machine. I gave it to someone. There's no use in me having it. I couldn't see to thread the needle.
There is worse (other or self)	16	8	I was just in an elevator with a young girl, who was only 13 years old and she was in a wheel chair. Other people's problems are sometimes really worse than yours and that helps when you think about it – that your problems are not that bad.
Try not to think about it	16	8	I just try not to think about it.
Rationalize no longer doing it	15	7	I no longer do any fishing or hunting at all. Tried fishing and didn't enjoy it. I couldn't tie knots. Have totally given it up. It's not safe.
Seek distraction	13	6	I go outside and think of other things. I make my baskets and make my business cards and I think about my future business and that relaxes me.
Keep busy	13	6	I just try to do whatever I could do that keeps me busy.
Positive attitude toward using help	13	6	I believe in connections, I believe in resources because we never do anything by ourselves. We always need to have the assistance of others. There's nothing wrong with asking for help because that's where I was at that point. If I need assistance, I'm going to ask for it.
Use sense of humor	6	3	I once wore two different earrings. I laughed it off and I said I'm making a fashion statement (laughs). It happens to the best of us!
Trust in support from others	5	2	If I get sick, I know my family will take care of me.
Downplay importance of vision	5	2	You have to figure out who is best for the job and you don't have to see them to understand that, you just have to know what they do, what their colleagues say about them and your own interactions with the person.
Get encouragement from how others cope	4	2	I think about my mother and how she dealt with this. She was very strong and still very capable.

Note. Percents are based on 213 participants who reported coping strategies in the narrative part of the coping assessment.

Table 2

Number/percent of participants reporting style of help use and sample quotes

Style	N	%	Quote
Partial help to complete task	110	57	I use a walker and my aide tells me what's ahead of me and if there's anything in my way on the ground.
Occasional help	99	52	My wife read the mail sometimes. Looks at it for me. She's pretty helpful with that.
Give task to others	70	36	When I need something from store, shopping, I always send someone else. I can't do shopping. Someone else always goes.
All around dependent	6	3	Cooking, cleaning, shopping, going to the doctor - I have to rely on others for almost everything.

Note. Percents are based on 192 participants who reported help use.

NIH-PA Author Manuscript

NIH-PA Author Manuscript

NIH-PA Author Manuscript

Table 3

Strategy use by general goal category

Goals	Functional (N=214)		Social (N=72)		Psychological (N=28)	
Strategy domains	N	%	N	%	N	%
Internal resources	152	71	16	22	12	43
New approaches	154	72	15	21	10	36
Technology	151	71	13	18	9	32
Help from others	176	82	37	51	20	71
Psychological self-regulation	104	49	26	36	16	57

Note. Percents are based on number of participants who reported coping strategies for each of the five broader domains in response to functional, social, and psychological goals, respectively.