Journal of Vocational Rehabilitation, Pre-press, Adele Crudden, Anne Steverson, Katerina Sergi, Why I'm not working: People with vision impairments explain. 1-15, 2024, with permission from IOS press, www.iospress.nl. The publication is also available at IOS Press through http://doi.org/10.3233/JVR-240018.

Why I'm not Working: People with Vision Impairments Explain

Adele Crudden, Ph.D., C.R.C.*

Anne Steverson, M.S.

Katerina Sergi, Ph.D.

National Research and Training Center on Blindness and Low Vision

Mississippi State University

Mississippi, USA

*Corresponding Author: Adele Crudden, The National Research and Training Center on Blindness and Low Vision, P. O. Box 6189, Mississippi State, MS 39762. Phone: 662-325-2001 Email: ac41@msstate.edu

Abstract

Background: Approximately half of people with vision impairments are not employed or looking for work. Many of these people have additional health or disability concerns, but little is known about those concerns or other reasons they are out of the workforce.

Objective: We investigated employment barriers impacting labor force participation among people with vision impairments, their perceptions of their skills and training needs, and the impact of not working on their economic status.

Methods: Thirty people with vision impairments who were not in the labor force participated in exploratory interviews conducted using a semi-structured protocol. We used a qualitative software program and multiple researchers to code the interviews, identify and analyze themes, and organize participants' information.

Results: Employment barriers included concerns about health and disability, employer attitudes, transportation, training needs, economics, age, and lack of support. Some participants wanted to work now or in the past but were unable to find employment that accommodated their needs and generated a salary that made it economically worthwhile.

Conclusions: Participants appear to need assistance identifying career paths leading to economic security, training for these careers, locating affordable transportation, and working with employers to gain workplace accommodations. Providing support and encouraging family support may positively influence interest in employment.

Keywords: Blind, vision impairment, employment, workforce participation, employment barriers, assistive technology, vocational rehabilitation

Why I'm Not Working: People with Vision Impairments Explain

The inclusion of people with vision impairments (i.e., persons who are blind or have low vision) in the labor force is a necessary step for their economic self-sufficiency. Additionally, employment has physical and mental health advantages for most people (Waddell & Burton, 2006). Yet people with vision impairments continue to experience low employment rates (Gupta et al., 2021; McDonnall & Sui, 2019) and when employed, earn less than their peers without disabilities (Erickson et al., 2019; McDonnall et al., 2022). Recent research has focused specifically on persons with vision impairments who have removed themselves from the labor force (Crudden et al., 2023; Crudden & McKnight, 2022; McDonnall & Sui, 2019), meaning persons who have not worked or looked for work in the last four weeks (U.S. Bureau of Labor Statistics, 2023a). However, much of this research is derived from secondary datasets and thus gives an incomplete picture of why people with vision impairments are out of the workforce. Our research seeks to expand on previous research through interviews with people with vision impairments about why they are not in the labor force and factors that may have influenced their workforce participation. Interviews expand on existing research by providing in-depth information not readily available in secondary datasets or survey research, with the focus on people who are out of the workforce, as opposed to people who are unemployed,

Using data from the American Community Survey, the employment rate for people with vision impairments was estimated to be 44%, with an additional 10% unemployed and 50.9% out of the labor force (McDonnall & Sui, 2019). Analyses of the 2019 Behavioral Risk Factor Surveillance System data found 46.7% of people with vision impairments employed, 4.1% unemployed, and 49.2% out of the workforce, including 30.2% unable to work and 19.0% out of the workforce for other reasons (Crudden et al., 2023). Using the Survey of Income and Program

Participation 2018 data, 44% of people with vision impairments were employed, and 52.5% were out of the labor force (29.5% for health reasons and 23.0% for other reasons) (Crudden & McKnight, 2022). These estimates concerning workforce participation are from different years and data sources and have different definitions of vision impairment. However, the rates of people with vision impairments out of the labor force are remarkably similar. While causality could not be established, people with vision impairments out of the workforce had more chronic health problems and functional disabilities than employed people with vision impairments (Crudden et al., 2023; Crudden & McKnight, 2022).

People with disabilities tend to stop seeking employment because of medical issues, functional limitations, disability, workplace problems (including transportation or employer attitudes), retirement, socioeconomic issues, and household responsibilities (including caregiving, education, and age) (Fyffe et al., 2022). However, early exit from the workforce can have multiple negative consequences, and many people are working longer to maximize Social Security benefits and increase retirement savings (Toossi & Torpey, 2017). Premature withdrawal from the workforce increases the likelihood of living in poverty (Schur, 2002; Wu & Hyde, 2019), and poorer health and higher mortality are associated with unemployment (Waddell & Burton, 2006).

Given the potential problems associated with not working, why are so many people with vision impairments out of the labor force? Many people with vision impairments who leave the workforce want to work (Crudden & Steverson, 2021). However, we know that people with vision impairments face a multitude of employment barriers, including negative employer attitudes (Coffey et al., 2014; Crudden & McBroom, 1999; Kirchner et al., 1997; McDonnall et al., 2013, 2014; O'Day, 1999), mobility or transportation obstacles (Coffey et al., 2014; Crudden

et al., 2015; Crudden & McBroom, 1999; Silverman et al., 2019), and other health or disability concerns (Coffey et al., 2014; McKnight et al., 2021). Apprehension about finances, eligibility for Social Security Disability Insurance (SSDI), or health insurance interferes with employment for some with vision impairments (O'Day, 1999; Silverman et al., 2019; Wolffe et al., 1992).

Additional barriers may include skill or training deficits (Crudden & McBroom, 1999; O'Day, 1999). Most jobs, including entry-level positions, require employees to have technology skills (Bergson-Shilcock et al., 2023). Consequently, the ability to use assistive technology effectively and efficiently appears to be one of the significant skills people with vision impairments need to be employed. However, access to the technology and training to use it is sometimes unavailable (Butler et al., 2002; Crudden & Steverson, 2021; McDonnall et al., 2023). Workers with vision impairments have also reported concerns about workplace efficiency associated with assistive technology (Crudden & Steverson, 2022). People with vision impairments are sometimes discouraged from employment because of the lack of workplace accommodations (Coffey et al., 2014; O'Day, 1999). Unfortunately, workers with disabilities frequently do not have access to workplace accommodations, such as flexible schedules, temporary leave, and the option to work from home (Shinall, 2022).

Purpose and Research Questions

Given the large number of people with vision impairments who are not participating in the labor force, we sought information directly from persons with vision impairments about the issues associated with their employment situations. Based on the literature, we believe that multiple factors are likely to influence non-participation in the labor force. Consequently, we used an exploratory approach to investigate the following research questions (RQ): (1) What do people with vision impairments and who are out of the labor force perceive as employment

barriers? (2) How do people with vision impairments who are out of the labor force perceive their (a) technology skills, (b) need for additional training, (c) access to technology, (d) health, and (e) economic status?

Method

Study Design

The first author, who has extensive experience in qualitative interviewing conducted all the in-depth exploratory interviews with study participants; the research team has training and experience in qualitative data coding and analysis. Exploratory interviews are consistent with efforts to expand the disability paradigm to view how functional disabilities influence how a person interacts with the social and physical environment (O'Day & Killeen, 2002). We created a 9-item semi-structured protocol based on the RQs. We incorporated feedback regarding questions from our national advisory board, most of whom have vision impairments. We also performed three pilot interviews with people with vision impairments to check flow, duration, and content.

After conducting and coding three interviews, the research team added protocol items concerning current activities and contact with major organizations for people with vision impairments. These items were added to address topics that emerged in the interviews. Details about the abbreviated interview protocol are shown in Table 1 with the corresponding RQ.

Recruitment

We applied purposeful recruitment from a previous research project to target people who stated willingness to participate in additional research. We recruited other participants using a national registry and enlisting assistance from national organizations and social media groups for people with vision impairments; see Table 2 for response rates by recruitment source.

We distributed a screening survey to ensure eligibility criteria were met. Eligibility criteria included people with vision impairments between 25 and 65 years who were not currently working or actively looking for work. Recruitment efforts yielded 98 volunteers. Using a series of follow-up emails and telephone contacts, we determined that 30 did not qualify because they were employed, actively looking for a job, did not have a vision impairment, or a parent of a child with a vision impairment, three refused to participate, and 35 did not respond to follow-up contacts or had incorrect contact information. Of the 98 volunteers, 30 met all criteria, showed availability, and agreed to participate after receiving an emailed informed consent document.

Our university's Institutional Review Board reviewed this study and declared it exempt from oversight (Protocol ID: IRB-22-105) per the Protection of Human Subjects (2009). We adhered to ethical guidelines and ensured voluntary participation and confidentiality when collecting and analyzing data. Personal information was masked in reporting results to promote the anonymity of the participants.

Participants

Our sample consisted of people 28 to 64 years (M = 50.5, SD = 11.4). Half of our participants stated that they were legally blind with some or minimal functional vision (n = 15, 50.1%), 43.3% were totally blind (n = 13), and 6.7% had low vision (n = 2). The majority of the participants were female (83.3%), white (83.3%), and had higher education degrees (Bachelor's 40.0% and Master's 20.0%). Participants' average age when their vision impairment impacted their employment was 23.1 years (SD = 20.2, range 0-56 years). The most frequently reported occupations were education (26.6%) and computer technology (10.0%). At the time of the study,

six of the participants reported they were physically unable to work. Tables 3 and 4 show additional participants' characteristics.

Procedures

Data collection occurred in the spring of 2022. Eligible participants were contacted by email or phone to schedule an in-depth interview. Interviews were conducted via phone or an online conference platform without the video feature. Informed consent was reviewed with each participant before beginning the interview. The average interview duration was 49 minutes (*SD* = 16 minutes, Min: 29 minutes, Max: 1 hour 40 minutes). A $35 gift card served as an incentive to increase participation and to show participants that their opinions were valued. To determine saturation, or the point where data became repetitive and no new information emerged (Buckley, 2022), we relied on the data quality and the interviewer's skill.

Data Analysis

The recorded interviews were transcribed using an automatic transcription service (i.e., Microsoft Office 365 and Canvas Studio) and then manually edited for accuracy by each author. We used Quirkos, a qualitative software program, to perform data analysis, organize the transcripts, identify participants' demographic properties, and create code classifications (quirks) for each data source (Quirkos, 2022). We matched and replaced participants' actual job titles with major groups from the Standard Occupational Codes (U.S. Bureau of Labor Statistics, 2023b) to promote confidentiality and replaced zip codes (when provided) with Census locations and regions.

We employed inductive and deductive strategies to identify existing and emerging themes that facilitated the analysis. We coded independently and then discussed and consolidated codes. We recorded original and emerging themes and definitions of codes in a codebook for a

common understanding of constructs. The authors continually returned to transcriptions to anchor themes in the participants' words to ensure understanding and accuracy of utterances. Themes were coded, and subthemes were identified using both word-based (identify keywords and search text) and scrutiny-based techniques (identify similarities and differences), which facilitated a directed content analysis approach (Hsieh & Shannon, 2005).

To ensure our analysis's trustworthiness (Elo et al., 2014), we continuously checked our coded data against participants’ statements. The Quirkos “query” function facilitated text search or comparison of content among participant properties. To eliminate traces of implicit bias, we engaged in self-reflection, self-questioning, and frequent debriefing sessions to examine information from all possible angles and discuss alternate meanings (Shenton, 2004).

Results

When analyzing results, we found an overlap between the participants' comments about employment barriers and their perceptions about the issues we identified for specific examination, i.e., technology skills and access, training needs, health, and economic status. Consequently, the results section begins with an explanation of perceived employment barriers according to the participants’ interest in employment. We then provide in-depth information about employment barriers we asked questions about, followed by barriers that emerged in the interviews. We conclude the results with analyses of participants’ comments about their current activities and vocational rehabilitation. While not necessarily employment barriers, participants raised these issues, and they contribute to our understanding of why the participants are not in the labor force.

Employment Barriers

To address how people with vision impairments perceive employment barriers and how their health and economic issues influenced their participation in employment, we analyzed responses to questions concerning work history, the decision to stop or engage in work and support for that decision, issues associated with returning to work, assessment of physical ability to work, and economic issues. In addition to existing topics, themes emerged concerning employer issues, transportation, and age.

Based on the authors' analyses of participants' comments, five wanted to work and three wanted to work part-time. Six participants wanted to work previously but not anymore, and the remaining participants (n = 16) were not interested in employment now. Two of the 16 participants mentioned the possibility of future employment, though they had no viable plans. Consequently, of 30 participants, 22 do not see themselves engaging in employment any time soon, if ever.

For those currently wishing to work full-time or part-time, the major employment barriers were other health issues, including other disabilities, lack of transportation, and lack of support (e.g., VR, family). Of the 22 participants who are not likely to be employed, the major barriers were other health/disability issues and transportation, followed by economic concerns, age, training needs, and a general lack of interest. The reasons previously employed participants left the workforce tended to be the same reasons they will not return to work, except for economic issues; when previously employed participants became unemployed, economic issues presented more concerns. Regardless of work history, many participants expressed concerns about employers' willingness to hire them or make workplace accommodations.

Technology

We investigated issues surrounding technology skills, access, and the need for additional training among participants. Every participant reported using some technology – whether it was mainstream, assistive, or a combination of technologies. Most participants used a screen reader or screen magnification, and they generally used other technologies like phone apps, braille devices, magnifiers, and Amazon devices. Two participants mentioned using only phones or tablets. Half (n = 15) of our participants taught themselves how to use their technology devices. For some, that was the only method, but others learned from VR providers or centers, organizations of people with vision impairments, schools, and friends and family.

Although a little over half of the participants (n = 16) believed they had the necessary technology skills to return to or enter the workforce, nine participants did not, and five were unsure. However, most participants (n = 21) also believed they needed additional technology training to work. Several participants who used computers in their personal lives believed they would need to "brush up" on those skills to be more proficient and efficient in a work environment. Some participants were aware of additional features available in screen readers but did not want them for personal use. Several participants mentioned feeling "behind the times" or being "out of the workforce for a while" and thus unsure about current technology. Participant 6 stated:

> The more advanced JAWS skills would be helpful. ... I haven't really investigated that. … I haven't really had the need, and therefore the impetus, to continue learning something. I mean, why learn to fly a plane if you're always getting around by car, that kind of idea.

In addition to needing more training, participants shared challenges or barriers to accessing needed assistive technology. Several participants mentioned the cost of assistive

technology as a barrier to acquiring it. For example, a few participants received training from rehabilitation centers but could not afford the demonstrated assistive device or software. Additionally, a few participants were not using the best assistive technology for their level of vision because they did not have or were unaware of a more suitable device or software. For example:

> I can do things on the computer, but I don't have JAWS. So, everything that I'm doing on my computer, I'm having to do [on] the magnified screen. But then, a lot of the text is very light and faint. … Now, one trick I learned … was making my screen black and then had my lettering like white or yellow or something like that. … So, as far as the computer, working with the computer, it is some eye fatigue and challenges there because it's really getting harder and harder for me to read things. (4)

Other participants mentioned the inaccessibility of programs and platforms as a challenge. Participant 19 explained:

> Because of my accessibility work, I know some about these online platforms. And a lot of times what they do is in the front end because they know students will potentially kick up a ruckus if it doesn't work. But they don't really think about the fact that teachers could be blind too, or not as often as they should. … Even for someone who is pretty technical, as I am, the difficulties with access can be daunting, especially when one doesn't have a lot of sighted help regularly available.

Additional challenges mentioned by participants were keeping up with continual updates, lacking the desire to continue learning technology, and feeling unsupported by VR to learn new

skills or assist with purchasing technology. Some participants mentioned being "out of touch with new technology" or said they "generally don't learn about it." Other participants learned about new technology through multiple channels such as word of mouth, vendor emails, blind listservs, conferences, social media, and webinars.

Chronic health and disability

Over half (n = 18) of the participants had either one or a combination of disability, health, or mental health conditions, in addition to their vision impairment. This included six participants with diagnosed and three who expressed mental health conditions and 16 with other disability/health issues. Two additional people expressed concerns about their mental health. These participants believed those issues would negatively influence future employment, either because medical treatment and functional limitations reduced employment options or because they believed employers would be unwilling to extend accommodations.

Examples of remarks concerning health and employment included comments such as Participant 9, who stated, "When I was in school I would get a lot of migraines … trying to process everything that was happening there and reading and stuff. … It was a lot for me. … That scares me about going back to work." Participant 14 said, "There's some weeks that I am at the doctor's office five days during the week." Other comments included, from Participant 15, "I have the sensory disability, and I also have a physical disability. I am an amputee and I walk with a prosthetic. … My job actually fired me while I was in the hospital." Participant 21 reported, "I was exposed to a toxic chemical, and it burnt my respiratory system. And so, I am chemically sensitive now. And in fact, that's why I lost my last job." Finally, Participant 18 stated:

> Employment … is difficult, if not impossible. … I get overwhelmed so easily that if you give me two or three tasks, I completely shut down. … I have issues with memory. … Mental health conditions … have progressed through the years. They've definitely rendered me unable to work. … Some days getting up and getting something to eat and sitting down is like all I have the energy for.

Economic issues

Only 12 participants lived in a household where someone else was employed. The majority (n = 24) relied on SSDI. Some participants had financial concerns regarding employment; two had disability policies that would be discontinued or that made it unlikely that employment would be economically feasible, two were concerned about losing benefits or complications associated with having benefits discontinued and reinstated, one was limited in occupational choices by a disability policy, and one participant mentioned drawing Social Security soon because of age. Other participants discussed how leaving the workforce before full retirement age negatively influenced both their short and long-term financial stability. Some participants experienced financial stress associated with obtaining accommodations, such as needed technology or transportation.

Social support

Family and friends provided mixed reactions regarding participants' employment decisions. Approximately nine participants had strong support from their families or friends to *leave* the workforce, even when the participant may have wanted to continue working. Participant 22 shared: "They say, 'Mom, enjoy your retirement. You have earned this. … Isn't this everyone's goal, to not work?' But it's hard for me." Some participants' families encouraged them to leave the workforce because of their age. Participant 4 shared her family's response:

"For everything you're having to deal with and go through, trying to get back into the job market may be a bit challenging. You know, your age and having sight issues."

Some participants' families never had high expectations for them. For instance, Participant 17 explained, "My parents never really expected anything of me. So, I think, if anything, I'm proving them right in that aspect, which burns a lot." Some participants mentioned their families thought they were "an embarrassment," "didn't think much of them," or "had given up on them." However, some participants found support from friends instead. Participant 14 explained, "My friends, basically, they're like 'whatever is best for you.' They know with my health that some things aren't doable and would rather me be here years than here months because of trying to push it." Others have not yet broached the subject with family or friends, so they are unsure if their decisions were supported. For instance, Participant 16 said, "I don't know if we've ever really discussed it very much. Just gotten used to the way things are now, I guess."

Transportation

More than half (60%) of the participants reported that their orientation and mobility (O&M) skills were adequate for employment. However, fourteen participants said transportation was an employment barrier. Transportation was problematic for rural participants but also caused several participants in more urban areas to leave the workforce. Two participants in urban areas lost professional jobs because their spouses, who had been supplying transportation at no cost for years, were suddenly unable to do so. Neither had employers willing to assist in identifying transportation options or other workplace accommodations; neither received assistance from VR in assessing transportation options, with one denied VR services because she was employed. Participants' comments included:

> Part of my job was having to … have a valid driver's license to be able to go to other [job sites]. And that's what they used against me to get rid of me. My boss got in trouble because he said that he would do all of the travel to get around that. Yeah, HR didn't like that. (13)
>
> My transportation options were few. … I traveled from building to building. … They are far from each other. … I couldn't afford the cost of transportation outside of my [spouse's] providing … free transportation … for 10 years. (26)

Employer issues

Of the 22 participants who worked more than three years, employer issues were the cause of half of them leaving or planning not to return to the workforce. Participants expressed concerns about employers not considering them for employment, being unwilling to provide necessary accommodations, or discriminating against them based on age in addition to their vision impairment. For example:

> I was well paid … They were looking to get … people off the payroll anyway. … This is a perfect opportunity to get rid of somebody, a highly compensated individual who was due to get vested. … When they [colleagues] found out that I had put in for an accommodation, they were like, … 'You know, you shouldn't have done that.' I said I had no choice; I couldn't see the screen anymore. … Everybody [at this workplace] says DO NOT EVER disclose you have a disability. … But externally, oh, they get awards year after year for … diversity and inclusiveness … The only people with disabilities that they hire … are in the call centers, … in the lowest-paying position in the entire company … and no room for advancement. (3)

> My coworkers were great. My boss was not. … He told me that he didn't like the way it looked when I walked through the lobby using a cane, … that I was a liability for the company because of my blindness. … He said 'I don't have any reason to fire you. You've never given me a reason. But I want you to resign.' … But they're [future employers] gonna look at me and see a blind chick that's on the cusp of being a for real…senior citizen. (5)
>
> I really enjoyed my job. I did it for about seven years. … It was already accessible when I was at work. So, as long as I had my assistive technology at home, which, you know, I did, then I could have done it … from bed, which is where I am in less pain. I got to the point where my employer wasn't willing to allow me to work from home anymore. … I was also incurring a lot of costs to have people … help me at work and it just, it wasn't equaling out. So, I resigned from my position and was looking for something I could do from home. But unfortunately, a lot of at-home positions rely on certain technology applications that just are not accessible with assistive technology. (25)

Some participants recalled that when employed, their employers would not provide the needed technology because of the cost. Participant 13 shared, "The [employer] didn't want to pay for the assistive technology because they would have to get a[n] enterprise license, which is pretty expensive because I'd have to have magnification on it, every machine." Other participants had more positive experiences with supervisors but struggled with different issues:

> I want to be able to do my job perfectly. … As my vision got worse … people started making fun of me, saying I was too slow. … I started not taking any kind of breaks all day long just so that I could get my job done … and sometimes I'd

> stay after. … [Manager] told me, 'It doesn't matter. … You're a good employee. … If you lose your license to drive, I will come to pick you up.' He would have done anything to get me to stay. But I just knew it was going to get worse and worse. (8)
>
> The job was kind of hard visually in terms of accessing the computer and stuff. It was just kind of the way it was set up. … But I made it work and they were accommodating. … I had some health issues not related to my vision. … I had to take some time off. … I just didn't want to go back. … I didn't feel very confident and I just decided to … end my employment … with the idea of maybe going back in the future. But … as time went on, I just decided that it wasn't the best fit for me. (9)
>
> I worked for and with these people for 11 years. … I would get poorer, poor reviews where before [vision loss] … getting such high reviews that I was getting awards through them. … My supervisor … did her best … to advocate for me and let them know what I needed. But they almost made it seem like I was just being difficult, … angry that I had to do things different. … It was too stressful and so I ended up quitting. (16)

Some participants anticipated problems with employers. For example, Participant 11 reported, "My condition varies quite a bit. And dealing with employers, they may not understand that. … When you're disabled a lot of people question your disability." Participant 17 relayed,

> A lot of people, especially in today's society, push diversity. But it's more tokenism than anything else. Like when they actually have to … put in the actual

> work to make things accessible, no one wants to do that. That's a lot of work. They don't realize it until they actually have to do it … And then, when they actually come to face that, they're like 'Oh, oh no. No, no, no, no, no, we're not going to do that.'

Age

Five participants, one as young as 43 years, attributed nonparticipation in the labor force to a lack of interest associated with age, saying they were "too old to start over". Although some people in their 50s and 60s remained interested in work, they believed it was unlikely due to employer bias. For example, this 55-year-old participant stated:

> For a while I was just like, well, I'm done. Like nobody's going to hire me to do anything else. I'm old, I'm blind. I mean, I'm not old, but that's the way … employers look at it. I'm old. (20)

Current activities

Although these participants were not working or looking for work, most found productive ways to occupy their time. A few participants mentioned trying to stabilize or improve health or mental conditions in anticipation of being able to work in the future, while others were trying to learn new skills. Yet, some participants, including some who found alternative activities, expressed feelings of idleness and wished for meaningful ways to spend their time. Several participants volunteered in their communities or organizations of people with vision impairments at varying levels. For example, one participant worked with Habitat for Humanity for over 20 years. Participant 16 shared:

> Well, [organization] keeps me busy. I do a lot of advocating for different things here in [State]. I'm on … a disability peer advocacy committee, and we are in the

> process of writing up legislative proposals to help with housing and transportation, … so I do a lot of Zoom meetings, peer support. I'm on several boards. I'm on the [City] test board. So, I keep myself busy that way.

Some participants were caregivers or homemakers, while others spent time on hobbies. For example:

> Well, I have actually gotten into gardening. And I spend most of my time actually out in my yard. … In the last three years, I have gone from knowing absolutely zero about flowers to now being kind of a flower expert to some people. (11)

Yet, Participant 7 experienced employer discrimination in his volunteer work. He explained:

> I still play golf. … I went up to the golf course and I volunteered up there for about 15 years. But then the head of the pro shop quit. … The new guy … saw me as a liability rather than an asset. He said, 'No, thank you. You don't need to work here anymore, … or you don't need to volunteer anymore.'

Vocational Rehabilitation

While the federal-state vocational rehabilitation (VR) program was not the focus of our study, multiple participants commented on services either spontaneously or in response to follow-up prompts about related topics. Participants were sometimes unclear about whether they received services from VR or the Older Individuals who are Blind (OIB) programs or were confused about whether VR was involved when served by a community rehabilitation program. Only one person appeared to have had no services from a state or community rehabilitation program; she contacted a community program but was denied services because it did not serve her geographic area and received no referral. Another participant was unsure what VR did for

her. Some participants expressed the need for additional training in areas that VR typically helps, such as O&M skills, techniques of daily living, assistive technology, or braille. Other participants wanted career counseling to assist them in identifying appropriate job goals.

Four participants reported ongoing work with VR, but none had clear plans for employment; another person reported being on a VR waiting list. Four participants who previously received VR services and became employed did not return to VR after stopping their most recent jobs. Several participants said that VR was no longer working with them or denied services for issues such as not having a GED or applying while still employed. Four participants said that VR was unable to help them find employment unless they agreed to relocate and some reported experiencing delays in service delivery. Participants who previously had professional jobs said that VR appeared ill-equipped to assist them in finding comparable positions. Some participants said their job choices were not supported or they were offered limited options, such as only call center work or Business Enterprise Program employment.

Discussion

Our qualitative investigation of why people with vision impairments are not in the workforce complements existing quantitative research. For example, consistent with previous research about people with various disabilities (Fyffe et al., 2022), and people with vision impairments (Coffey et al., 2014; Crudden et al., 2023; Crudden & McKnight, 2022; McKnight et al., 2021), we found poor health and disabilities to be employment barriers. Adding another disability or health condition to vision impairment may increase the number and types of workplace accommodations needed, require time from work for medical care, and result in additional functional limitations that reduce the variety and number of jobs possible.

Some participants with other health or disability issues would like to be employed if a job with needed accommodations could be procured, with several saying they could work remotely or part-time. Remote work might also address another employment barrier, transportation. Some participants' beliefs that employers would be unwilling to make necessary accommodations, such as flexible schedules or remote work, appear valid (Shinall, 2022). VR counselors may be instrumental in working with employers to encourage making workplace accommodations for people with complicated health and disability issues. Participants with additional health or disability concerns appear in need of assistance identifying viable employment options that would contribute to their economic well-being while also accommodating their health and disability needs. Supported employment or part-time work may be necessary to accommodate their needs and provide economic support. Career guidance may assist them in identifying realistic employment opportunities in the current labor market. Additional education and training may be needed to prepare them for competitive employment with incomes leading to economic self-sufficiency.

Economic issues were often complicated for participants, who sometimes had to make significant life changes to adjust to reduced incomes. Some participants were convinced and were even told by a VR counselor that they would be unable to find employment at an income comparable to their prior employment. Those projections are likely correct as people with vision impairments tend to have incomes much lower than the general population (Crudden et al., 2023; McDonnall et al., 2022). Participants with disability insurance policies (other than SSDI) were sometimes reluctant to pursue employment. For example, some participants feared they could not earn enough to compensate for the loss of a disability policy. Participants receiving SSDI had concerns about, and sometimes experienced, the complicated process of having their benefits

terminated, and then reinstated after unsuccessful work attempts or jobs with fluctuating incomes. Unease regarding one's economic situation, both in the present and long term, was evident in some participants' comments, while a few appeared to have adjusted to their financial situations. Some participants were close to retirement age and believed it was no longer economically feasible to work, though many wanted to do so when they were younger. Several participants were struggling financially and while interested in employment, were pessimistic about it becoming a reality. Struggles were particularly acute for older workers with meager SSDI benefits and insecure housing. VR providers may assist with benefits counseling to help participants assess their financial situations, evaluate the viability of employment, and make plans. Older people with vision impairments receiving services from Centers for Independent Living or OIB programs may choose to pursue employment and should be offered VR services. Additionally, assistance identifying other social programs for assistance with housing, health care, food, etc. would help participants with more limited resources.

As in other studies (Coffey et al., 2014; Crudden et al., 2015; Crudden & McBroom, 1999; Silverman et al., 2019), transportation continues to be problematic for people with vision impairment, both because of availability and expense. Asking rural participants to uproot themselves and possibly a family to relocate to a more urban area appears a formidable option, particularly when a job is not guaranteed. Some participants believed they could not earn enough to make employment feasible after paying for transportation-related expenses. Participants in urban and rural areas need information about transportation options. Efforts to assist in locating affordable transportation appear lacking, even when VR providers are aware of this need. VR providers may consider using resources available through the National Research and Training Center on Blindness and Low Vision (https://www.blind.msstate.edu/our-

products/transportation-resources) or the American Printing House for the Blind (https://aphconnectcenter.org/visionaware/living-with-blindness-or-low-vision/getting-around/transportation/) to learn more about available transportation options. Assistance in identifying jobs amenable to remote work that offers a living wage would be helpful to many as it may address unavailable or unaffordable transportation obstacles.

Most participants believed their families and friends, and sometimes even their VR counselors, were supportive of their decision to leave the workforce. Other friends or families were more negative about the situation but did not translate that into encouragement to work. A large portion of our sample was unmarried; consequently, these participants had no spouse to encourage employment or, when vision impairment was newly acquired, to provide support for adjustment. Few reported that their social or family networks did anything to encourage or contribute to their efforts to become employed, even when the participant was trying to find a job. While friends and families may believe they are being supportive of the person with a vision impairment, this lack of encouragement to work may further discourage employment.

Our sample was disproportionately women, and there is the potential that gender role stereotypes influenced expectations for workplace participation. Rehabilitation providers may work with families to help them understand that their expectations and attitudes can influence the likelihood of the person with vision impairment becoming employed. VR counselors should be mindful of the impact their comments and behavior have on people with vision impairments and make every effort to foster an attitude of accomplishment regarding employment as that encouragement can make a difference (Cimarolli & Wang, 2006; Crudden & McKnight, 2022; McKnight et al., 2021). Additionally, prompt intervention to support employment appears necessary to prevent discouragement and loss of skills.

Similar to results in other studies (Martiniello et al., 2022; McDonnall et al., 2023), over half of the participants perceived themselves to have the necessary technology skills to work, yet most also believed they could benefit from more training. These findings are reasonable since most participants have been out of the workforce and their technology skills are suited for personal use rather than work. Many employed and unemployed people with visual impairments reported a need for additional technology training in a recent study (McDonnall et al., 2023). Some participants in this study continued to use computers, but others had not used a computer since leaving the workforce, causing them to fall behind emerging technology trends. As in other studies (Branham & Kane, 2015; Wahidin et al., 2018), participants had concerns about employers' willingness to provide workplace accommodations to access technology. When people with vision impairments are interested in seeking employment, VR providers should ensure that their technology skills, both mainstream and assistive, are proficient and current and that accessible technology is available.

This study demonstrates that people with vision impairment who are not in the workforce typically experience multiple employment barriers when attempting to work. While many participants want to work or wanted to work at one time, the older they became, the less likely they were to have a reasonable expectation of becoming employed. Further research to determine the most efficacious methods of engaging people with vision impairment in personal adjustment and vocational training appears indicated so that they do not lose their expectation of working and before they become accustomed to a lifestyle that does not include employment.

VR providers have long adopted a holistic approach to service delivery, (Giesen & Hierholzer, 2016; Osborne, 2014.). This holistic approach may be even more imperative for people with vision impairment who have other health or disability issues, or for people with

recent onset of vision impairment. Rehabilitation may be more complicated for this population, as indicated by participants' comments concerning multiple medical appointments, managing pain, or managing mental health issues. Service providers in states with separate VR agencies for people with vision impairments may need to coordinate services with the general VR agency or other service providers, including Centers for Independent Living, to provide the full array of necessary rehabilitation services.

Additional research regarding how to engage people who are out of the labor force and get them actively involved in VR also appears indicated. Because many of these participants were interested in further technology training, offering such training could be an avenue to engage people out of the labor force and renew their interest in employment. Further research is also needed to determine if people with vision impairments are aware of benefits counseling, their satisfaction with the service, and the impact of the information received on their employment decisions. Some VR agencies, various employment networks, and Work Incentives Planning and Assistance projects provide benefits counseling (Social Security Administration, n.d.). Research about the availability and effectiveness of career counseling may be helpful to policymakers and service providers striving to help people enter or remain in the workforce. Ongoing exploration of remote work may yield new information about employment opportunities that could lead to participation in the workforce for people with health or transportation concerns.

Limitations

Our study is exploratory and subject to limitations associated with qualitative research. First, the sample size was small and relied on volunteers. Therefore, our findings are not representative of, and results cannot be generalized to the larger population of people with vision

impairments who are out of the workforce. For example, our sample had limited diversity. Most participants were well-educated, women, white, and unmarried. However, many of our findings are consistent with and add further information to previous quantitative research, which found women more likely to be out of the workforce (Crudden et al., 2023; Crudden & McKnight, 2022). Although the interviewer tried to establish trust, there may be limitations associated with social desirability bias. Results are based on our analyses of participants' remarks and are subject to limitations associated with our ability to compare, contrast, and communicate our findings. For these reasons, we relied on the agreement of three researchers and used a software program to support our analysis. Additionally, our interview may have failed to uncover some reasons people with vision impairments have removed themselves from the labor force. Future research should continue exploring factors influencing why some people with vision impairments are not in the labor force and strategies that might encourage their employment.

Conclusion

Barriers to employment for people with vision impairments who are out of the labor force include having health conditions or disabilities in addition to their vision disability, employer issues, transportation problems, and economic concerns. While many participants wanted to work in the past, they believed that as they grew older, their technology skills declined, and employment became less feasible. Most participants believed they had adequate technology skills to work, but also believed training to update their skills was necessary. Timely VR intervention to assist people with vision impairments in gaining and retaining their technology and other skills is necessary to avoid turning a period of unemployment into withdrawal from the labor force.

Participants seemed to regard themselves as medically stable, though many were coping with issues such as chronic pain, neurodiversity, or health or disability concerns. Supported employment services may be needed to help people with vision impairments and other disabilities or health conditions move into integrated competitive employment. Most of these participants were or had been motivated and interested in work but did not receive the necessary support to identify career options compatible with their skills, interests, and accommodation needs. Counseling and guidance to identify jobs leading to economic security and assistance in finding employers willing to make job accommodations might lead to increased workforce participation.

Most participants relied on SSDI and made economic adjustments to accommodate their incomes. A few participants were economically secure, bolstered by disability policies or other income sources. However, other participants were less financially secure and would benefit from income from employment, even if employment was part-time.

Acknowledgments

The authors acknowledge and thank the 30 participants who so generously shared their time and experiences. We also acknowledge and thank the organizations and individuals who assisted in recruiting our participants.

Conflicts of interest

The authors declare that they have no conflict of interest.

Ethics statement

This study was reviewed by our University Institutional Review Board and declared exempt from oversight (Protocol ID: IRB-22-105) per the Protection of Human Subjects (2009). The research team adhered to ethical guidelines and ensured voluntary participation and

confidentiality when collecting and analyzing data. Personal information was masked in reporting results to promote the anonymity of the participants.

Funding

The contents of this manuscript were developed under a grant from the U.S. Department of Health and Human Services, NIDILRR grant 90RTEM0007. However, these contents do not necessarily represent the policy of the Department of Health and Human Services and should not indicate endorsement by the Federal Government.

Informed Consent

All participants were emailed the statement of informed consent with the request to participate in the research interviews. Informed consent was verbally reviewed with each person before the interview began.

References

Bergson-Shilcock, A., Taylor, R., & Hodge, N. (2023). *Closing the digital skill divide: The payoff for workers, business, and the economy*. National Skills Coalition. https://nationalskillscoalition.org/wp-content/uploads/2023/02/NSC-DigitalDivide_report_Feb2023.pdf

Branham, S. M., & Kane, S. K. (2015). The invisible work of accessibility: How blind employees manage accessibility in mixed-ability workplaces. *ASSETS 2015 - Proceedings of the 17th International ACM SIGACCESS Conference on Computers and Accessibility*, 163–171. https://doi.org/10.1145/2700648.2809864

Buckley, R. (2022). Ten steps for specifying saturation in qualitative research. *Social Science & Medicine, 309*, 115217. https://doi.org/10.1016/j.socscimed.2022.115217

Butler, S. E., Crudden, A., Sansing, W. K., & Lejeune, B. J. (2002). Employment barriers: Access to assistive technology and research needs. *Journal of Visual Impairment & Blindness, 96*(9), 664–667. https://doi.org/10.1177/0145482X0209600908

Cimarolli, V. R., & Wang, S. (2006). Differences in social support among employed and unemployed adults who are visually impaired. *Journal of Visual Impairment & Blindness, 100*(9), 545–556. https://doi.org/10.1177/0145482X0610000906

Coffey, M., Coufopoulos, A., & Kinghorn, K. (2014). Barriers to employment for visually impaired women. *International Journal of Workplace Health Management*, *7*(3), 171–185. https://doi.org/10.1108/IJWHM-06-2013-0022

Crudden, A., & McBroom, L. W. (1999). Barriers to employment: A survey of employed persons who are visually impaired. *Journal of Visual Impairment & Blindness*, *93*(6), 341–350. https://doi.org/10.1177/0145482X9909300602

Crudden, A., McDonnall, M. C., & Hierholzer, A. (2015). Transportation: An electronic survey of persons who are blind or have low vision. *Journal of Visual Impairment & Blindness*, *109*(6), 445–456. https://doi.org/10.1177/0145482X1510900603

Crudden, A., McDonnall, M., & Tatch, A. (2023). Unable to work? Characteristics of people with blindness and low vision who are out of the labor force. *Disability and Health Journal*, *16*(3), 101438. https://doi.org/10.1016/J.DHJO.2022.101438

Crudden, A., & McKnight, Z. (2022). Out of the labor force due to health reasons? An analysis of the Survey of Income and Program Participation regarding persons with visual impairments. *International Journal of Rehabilitation Research*, 6. https://doi.org/10.1097/MRR.0000000000000528

Crudden, A., & Steverson, A. C. (2021). Job retention and career advancement: A survey of persons who are blind or have low vision. *Journal of Rehabilitation*, *87*(2), 28–35. https://doi.org/10.3233/JVR-221204

Crudden, A., & Steverson, A. (2022). Job retention: Perspectives of individuals with blindness and low vision. *Journal of Vocational Rehabilitation*, *57*(2), 127-140. https://doi.org/10.3233/JVR-221204

Elo, S., Kääriäinen, M., Kanste, O., Pölkki, T., Utriainen, K., & Kyngäs, H. (2014). Qualitative content analysis: A focus on trustworthiness. *SAGE Open*, *4*(1), 1–10. https://doi.org/10.1177/2158244014522633

Erickson, W., Lee, C., & von Schrader, S. (2019). *2017 Disability status report: United States*. http://www.census.gov/acs/www/

Fyffe, D. C., Lequerica, A. H., Ward-Sutton, C., Williams, N. F., Sundar, V., & O'Neill, J. (2022). Understanding persons with disabilities' reasons for not seeking employment.

Rehabilitation Counseling Bulletin, *66*(1), 3–12. https://doi.org/10.1177/00343552211006773

Giesen, J. M., & Hierholzer, A. (2016). Vocational rehabilitation services and employment for SSDI beneficiaries with visual impairments. *Journal of Vocational Rehabilitation, 44*(2), 175-189. https://doi.org/10.3233/JVR-150789

Gupta, S., Sukhai, M., & Wittich, W. (2021). Employment outcomes and experiences of people with seeing disability in Canada: An analysis of the Canadian Survey on Disability 2017. *PLOS ONE*, *16*(11), e0260160. https://doi.org/10.1371/journal.pone.0260160

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, *15*(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Kirchner, C., Johnson, G., & Harkins, D. (1997). Research to improve vocational rehabilitation: Employment barriers and strategies for clients who are blind or visually impaired. *Journal of Visual Impairment & Blindness*, *91*(4), 377–392. https://doi.org/10.1177/0145482x9709100406

Martiniello, N., Eisenbarth, W., Lehane, C., Johnson, A., & Wittich, W. (2022). Exploring the use of smartphones and tablets among people with visual impairments: Are mainstream devices replacing the use of traditional visual aids? *Assistive Technology*, *34*(1), 34–45. https://doi.org/10.1080/10400435.2019.1682084

McDonnall, M. C., Cmar, J. L., & McKnight, Z. S. (2022). Beyond employment rates: Earnings of people with visual impairments. *Journal of Visual Impairment & Blindness*, *116*(4), 526–532. https://doi.org/10.11770145482X221121830/

McDonnall, M. C., O'Mally, J., & Crudden, A. (2014). Employer knowledge of and attitudes toward employees who are blind or visually impaired. *Journal of Visual Impairment & Blindness, 108*(3), 213–225. https://doi.org/10.1177/0145482X1410800305

McDonnall, M. C., Sergi, K., & Steverson, A. (2023). Comparison of assistive technology use and beliefs among employed and unemployed people who are blind. *The New Re:View, 1*(2), 12-27. https://doi.org/10.56733/TNR.22.012

McDonnall, M. C., Steverson, A., Sessler Trinkowsky, R., & Sergi, K. (2023). Assistive technology use in the workplace by people with blindness and low vision: Perceived skill level, satisfaction, and challenges. *Assistive Technology*, 1–8. https://doi.org/10.1080/10400435.2023.2213762

McDonnall, M. C., & Sui, Z. (2019). Employment and unemployment rates of people who are blind or visually impaired: Estimates from multiple sources. *Journal of Visual Impairment & Blindness*, *113*(6), 481–492. https://doi.org/10.1177/0145482X19887620

McDonnall, M. C., Zhou, L., & Crudden, A. (2013). Employer attitudes towards persons who are blind or visually impaired: Perspectives and recommendations from vocational rehabilitation personnel. *Journal of Rehabilitation, 79*(3), 17–24.

McKnight, Z. S., Crudden, A., & McDonnall, M. C. (2021). Personal characteristics associated with working after disability onset for people with visual impairments. *Journal of Visual Impairment & Blindness*, *115*(2), 95–105. https://doi.org/10.1177/0145482x211000960

O'Day, B. (1999). Employment barriers for people with visual impairments. *Journal of Visual Impairment & Blindness*, *93*(10), 627–642. https://doi.org/10.1177/0145482x9909301002

O'Day, B., & Killeen, M. (2002). Research on the lives of persons with disabilities: The emerging importance of qualitative research methodologies. *Journal of Disability Policy Studies, 13*(1), 9–15. https://doi.org/10.1177/10442073020130010201

Osborne, L. K. (2014). Using a cognitive information processing approach to group career counseling with visually impaired veterans. *Professional Counselor, 4*(2), 150-158. https://doi.org/10.15241/lko.4.2.150

Protection of Human Subjects, Pub. L. No. 45 C.F.R. § 46 (2009). https://www.hhs.gov/ohrp/sites/default/files/ohrp/policy/ohrpregulations.pdf

Quirkos. (2022). *Quirkos Full manual (Desktop Software) v2.5*. https://www.quirkos.com/manual.pdf

Schur, L. (2002). The difference a job makes: The effects of employment among people with disabilities. *Journal of Economic Issues*, *XXXVI*(2), 339–348. https://www.jstor.org/stable/4227783

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63-75. https://doi.org/10.3233/EFI-2004-22201

Shinall, J. B. (2022). Without Accommodation. *Indiana Law Journal*, *97,* 1147–1151. http://www.nber.org/papers/w27085

Silverman, A. M., Bell, E. C., & Mendez, M. A. (2019). Understanding the employment experiences of Americans who are legally blind. *Journal of Rehabilitation*, *85*(1), 44–52.

Social Security Administration. (n.d.). *Benefits counseling and the path to employment*. https://choosework.ssa.gov/library/fact-sheet-benefits-counseling-and-the-path-to-employment

Toossi, M., & Torpey, E. (2017). *Older workers: Labor force trends and career options*. Career Outlook. https://www.bls.gov/careeroutlook/2017/article/older-workers.htm%0D

U. S. Bureau of Labor Statistics. (2023a). *Labor force statistics from the Current Population Survey: Concepts and definitions (CPS)*. https://www.bls.gov/cps/definitions.htm

U. S. Bureau of Labor Statistics. (2023b, April 25). *Occupational employment and wage statistics*. https://www.bls.gov/oes/current/oes_stru.htm

Waddell, G., & Burton, A. K. (2006). *Is work good for your health and well-being?* The Stationery Office Limited. https://cardinal-management.co.uk/wp-content/uploads/2016/04/Burton-Waddell-is-work-good-for-you.pdf

Wahidin, H., Waycott, J., & Baker, S. (2018). The challenges in adopting assistive technologies in the workplace for people with visual impairments. *ACM International Conference Proceeding Series*, 432–442. https://doi.org/10.1145/3292147.3292175

Wolffe, K. E., Roessler, R. T., & Schriner, K. F. (1992). Employment concerns of people with blindness or visual impairments. *Journal of Visual Impairment & Blindness*, *86*(4), 185–187. https://doi.org/10.1177/0145482X9208600407

Wu, A. Y., & Hyde, J. S. (2019). The postretirement well-being of workers with disabilities. *Journal of Disability Policy Studies*, *30*(1), 46–55. https://doi.org/10.1177/1044207318793161

Table 1

Abbreviated Interview Protocol and Corresponding Research Questions

RQ	Interview Protocol
1	1. *(For participants with a work history)*: Please tell me a little bit about what your job was and when you stopped working. 2. Please explain to me how you came to the decision to stop working and stop looking for a job. a. Tell me a little more about ***insert topic*** *(begin with topics mentioned by the participant)*. b. Were there any other factors that influenced your decision to stop working?
1, 2d	3. Do you consider yourself physically unable to work? *If yes:* Is that because of your vision or some other reason? a. *If another reason*: Please tell me more about that. b. *If due to visual disability*: Please tell me about how you learned or are learning to cope with your visual disability.
1	c. Do you believe you have the O&M skills necessary to be employed? d. How did you learn other skills to accommodate your visual disability? e. *If not already mentioned*: Has COVID influenced your employment?
2a, b, c	4. Please tell me what kinds of technology you use and how comfortable you are using it. a. How did you learn to use technology? b. How do you learn about new technology programs or devices (*mainstream and assistive*)? c. Do you believe you have the technology skills or training you need to be employed? *If not:* What would you need?
2e	5. How does your unemployment influence your household finances?
1	6. What do the people who are close to you, like your family or friends, say to you about your decision not to look for work? 7. What would have to happen for you to decide that you could get back to work? a. *If a person says something like, "Get vision back,":* Would more training about how to cope with your visual disability make a difference?
1	8. How do you currently spend your time?
1	9. Do you have contact with any groups like NFB or ACB?

Note: O&M = Orientation and mobility; NFB = National Federation of the Blind; ACB = American Council of the Blind.

Table 2

Response Rate by Recruitment Source

Recruitment Source	Volunteered	Interviewed
National Research Participant Registry	71	16
Social Media Groups	12	4
Past Research Project	7	5
Organizations about Vision Impairment	4	3
Referral; Word of mouth	4	2
Total	98	30

Note: Social media groups included Facebook, Twitter, Blind Bargains.

Table 3

Aggregate Participants' Demographics

Characteristic	*n*	%
Gender		
Female	25	83.3
Male	5	16.7
Age (years)		
28-39	6	20.0
40-49	6	20.0
50-59	10	33.3
60-64	8	26.7
Race		
Black	4	13.3
Latinx	1	3.3
White	25	83.3
Marital Status		
Not Married	22	73.3
Married	8	26.7
Worked for Pay		
30 years	5	16.7
20 years to 29 years	8	26.7
3.5 years to 18 years	9	30.0
4 months to 3 years	4	13.3
Less than 3 months	4	13.3
Other Income		
Yes	5	16.7
No	22	73.3
Unclear	3	10.0
O&M Skills necessary to RTW		
Yes	18	60.0
No	8	26.7
Unclear	4	13.3
Have Tech Skills to RTW		
Yes	16	53.3
No	9	30.0
Unclear	5	16.7
*Additional Health Condition or Disability Reported**		
Yes	18	60.0
Region		
Northeast	4	13.3
Midwest	7	23.3
West	7	23.3
South	12	40.0
Location		

Rural	13	43.3
Urban	13	43.3
Suburban	4	13.3

Note: O&M = Orientation and mobility. RTW = Return to work. *Additional health conditions/disabilities included physical health, mental health, and other disabilities.

Table 4

Selected Individual Participant Demographics

Participant ID	Age	Vision Impairment Impacted Employment*	Level of Education	Marital Status	Level of Vision	Standard Occupational Classification – Major Group Title	SSDI/SSI
01	51	Birth	GED	Not married	Totally blind	Educational Instruction and Library Occupations	Yes/No
02	53	24	Bachelor's	Married	Legally blind	Educational Instruction and Library Occupations	Yes/No
03	64	53	Bachelor's	Not married	Legally blind	Computer and Mathematical Occupations	Yes/No
04	63	55	Some College	Not married	Low vision	Office and Administrative Support Occupations	Yes/No
05	62	45	Bachelor's	Not married	Legally blind	Business and Financial Operations Occupations	Yes/No
06	58	9	Master's	Not married	Totally blind	Office and Administrative Support Occupations	Yes/Unclear
07	63	25	Some College	Married	Totally blind	Management Occupations	Yes/No
08	62	48	High School	Not married	Legally blind	Food Preparation and Serving Related Occupations	Yes/No
09	43	Birth	Bachelor's	Not married	Legally blind	Healthcare Support Occupations	Yes/No
10	47	Birth	High School	Not married	Legally blind	Has not worked for pay	No/Yes
11	56	48	Bachelor's	Married	Legally blind	Computer and Mathematical Occupations	Yes/No
12	38	2	Some College	Not married	Totally blind	Has not worked for pay	No/Yes
13	58	40	Bachelor's	Not married	Legally blind	Computer and Mathematical Occupations	Yes/No

14	44	21	High School	Not married	Legally blind	Protective Service Occupations	Yes/Yes
15	49	37	Bachelor's	Not married	Legally blind	Business and Financial Operations Occupations	Yes/No
16	59	42	Bachelor's	Married	Legally blind	Educational Instruction and Library Occupations	Yes/No
17	30	Birth	Some College	Not married	Totally blind	Healthcare Support Occupations	No/No
18	29	Birth	Some College	Not married	Totally blind	Office and Administrative Support Occupations	Yes/Yes
19	55	Birth	Master's	Not married	Totally blind	Computer and Mathematical Occupations	Yes/No
20	28	Birth	Associate's	Not married	Totally blind	Has not worked for pay	Yes/No
21	61	40	Master's	Not married	Legally blind	Sales and Related Occupations	Yes/No
22	62	56	Bachelor's	Married	Low vision	Computer and Mathematical Occupations	No/No
23	35	21	High School Certificate	Not married	Legally blind	Has not worked for pay	No/Yes
24	59	2	Master's	Married	Totally blind	Educational Instruction and Library Occupations	Yes/No
25	33	Birth	Bachelor's	Not married	Totally blind	Community and Social Service Occupations	Yes/No
26	62	11	Master's	Married	Totally blind	Educational Instruction and Library Occupations	No/No
27	49	20	Associate's	Married	Totally blind	Community and Social Service Occupations	Yes/No
28	50	40	Master's	Not married	Legally blind	Educational Instruction and Library Occupations	Yes/No
29	51	21	Bachelor's	Not married	Totally blind	Sales and Related Occupations	Yes/No
30	40	35	Bachelor's	Not married	Legally blind	Educational Instruction and Library Occupations	Yes/No

Note. SSDI = Social Security Disability Insurance; SSI = Supplemental Security Income. *In years.