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A photograph of a dirt path winding through a dense, green forest. The path is covered in fallen leaves and leads into the woods. The trees are tall and have vibrant green foliage. A semi-transparent dark grey box is overlaid on the upper part of the image, containing the title and subtitle in white text.

Labour participation of persons with visual impairments in the Netherlands

An assessment instrument based on
work-related success factors

Yvonne Goertz

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The studies presented in this thesis were conducted within the Department of Health Organisation, Policy and Economics, and the Department of Social Medicine, Maastricht University and the Research Institute CAPHRI, Maastricht, the Netherlands, and within the Department of Ethics, Law and Humanities, Amsterdam UMC, location VUmc and the Amsterdam Public Health Research Institute, Amsterdam, the Netherlands.

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VRIJE UNIVERSITEIT

**LABOUR PARTICIPATION OF PERSONS WITH VISUAL IMPAIRMENTS
IN THE NETHERLANDS**

An assessment instrument based on work-related success factors

ACADEMISCH PROEFSCHRIFT

ter verkrijging van de graad Doctor
aan de Vrije Universiteit Amsterdam,
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van de Faculteit der Geneeskunde
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prof.dr. F.G. Schaafsma

**The best and most beautiful things in the world
cannot be seen or even touched.
They must be felt with the heart.**

– Helen Keller –

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Chapter 1

Introduction

Background

In general, participation is considered to be important for all people. In the Netherlands about 2 million persons have an impairment, such as a visual, auditory or physical impairment, intellectual disability or psychological problems. Participating in society is less obvious for them. Studying or receiving a letter from the municipality can for example give problems for persons with a visual impairment (Rijksoverheid, 2016).

An important document regarding the participation of persons with an impairment in society is the United Nations Convention on the Rights of Persons with Disabilities (CRPD). The purpose of the CRPD is to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity. Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others. One of the principles of the convention is a full and effective participation and inclusion in society (United Nations, 2006). The CRPD has been ratified by the Netherlands in 2016 and the concept of participation is laid down in the Law on equal treatment in case of disability or chronic illness (Wet gelijke behandeling op grond van handicap of chronische ziekte (Wgbh/cz)) (Rijksoverheid, 2016).

Regarding the area of labour participation, people in paid jobs can, next to earning their own income, experience fulfilment in their work tasks and personal development. Furthermore, social interaction and less risk of isolation are benefits of having a paid job (Sociaal en Cultureel Planbureau, 2019). In the Netherlands, the government aims at having as many people as possible participating in paid labour, which would also reduce the burden on the social security system. The Participation Law was introduced in the Netherlands in 2015. This law aims at enhancing participation on the competitive labour market and discourages working in sheltered work (Rijksoverheid, 2015; Sociaal en Cultureel Planbureau, 2019).

Visual impairments

The World Health Organization developed the International Statistical Classification of Diseases and Related Health Problems, which is often used to classify visual impairment in several categories. The categories of visual impairment were defined based on visual acuity and visual field impairments of the better eye.

Low vision is defined as a visual acuity of less than 6/18, and/or a visual field of less than 30 degrees around the point of fixation, while blindness is defined as a visual acuity of less than 3/60 and/or a visual field of less than 10 degrees around the point of fixation (ICD-10, 2016). Visual acuity and visual field are important factors of visual impairment, but other visual functions may also be affected, such as contrast sensitivity, dark/light perception or color vision. Questions such as ‘Are you able to see the difference between light and dark?’ and ‘Are you able to read headlines in a newspaper without special equipment?’ can also give more insights into how people experience their visual impairment (Rietveld et al., 2010).

Globally, the most common causes of reversible vision loss are cataract and uncorrected refractive errors. For irreversible vision loss, age-related macular degeneration (AMD), glaucoma, or at relatively younger (working) age, retinal disorders, such as diabetic retinopathy, high myopia causing damage to the retina, and hereditary eye conditions such as retinitis pigmentosa or Stargardt’s disease are more common (Buch et al., 2004; Flaxman et al., 2017). In advanced stages, all eye conditions have a vast impact on visual functioning, such as visual acuity and visual field, but also contrast sensitivity and color vision among others. However, the severity of the impact on visual functioning varies across eye conditions, where AMD and Stargardt’s disease mainly affect central vision and acuity which can seriously hinder the ability to read or to perform nearby tasks, whereas glaucoma and retinitis pigmentosa mainly affect the peripheral visual field, impacting the mobility of patients.

Labour participation of persons with visual impairments

In Dutch vocational rehabilitation job coaches support persons with visual impairments regarding finding and keeping paid work. It has been assumed that persons with visual impairments participate less in paid work in comparison to the general working-age population. Data regarding the actual employment situation of this group in the Netherlands were not available, however. There is a need for information regarding the employment rate of this target group and also regarding differences between working and not-working persons with visual impairments.

Studies worldwide indeed show that the employment rate of persons with visual impairments is lower than the employment rate of the general working-age population. Approximately 44% of the U.S. population with a visual impairment is employed in 2017 (McDonnall & Sui, 2019). Also, the employment rate of persons with visual impairments varies between countries. Two studies from 2008 for example showed an employment rate of 33% for adults who were visually impaired in South Korea

(Lee & Park, 2008) and 41% in the United Kingdom (Pavey et al., 2008).

The International Classification of Functioning, Disability, and Health (ICF)

Regarding the participation of persons with an impairment, the International Classification of Functioning, Disability, and Health (ICF) is an important framework, which is also used in Dutch vocational rehabilitation. The overall aim of the ICF classification is to provide a unified and standard language and framework for the description of health and health-related states. It defines components of health and some health-related components of well-being such as education and labour (World Health Organisation, 2001). The model consists of various components: Body Functions and Structures, Activities and Participation, Environmental Factors, and Personal Factors (see Figure 1). Employment is part of the major life areas, which belong to the Activities and Participation component (World Health Organisation, 2001). The components of the model can influence each other.

In this study, we will investigate whether a person with a visual impairment participates in paid labour or not, and examine several personal factors possibly associated with labour participation.

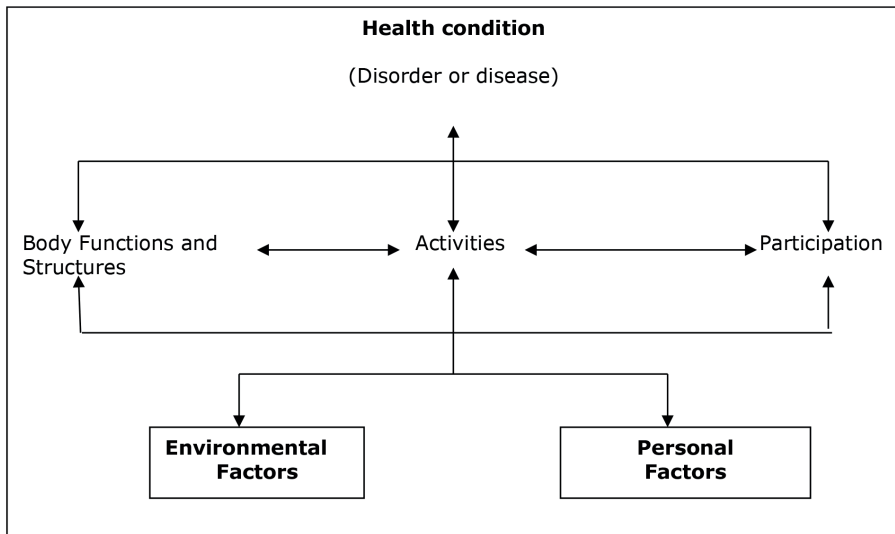


Figure 1. Interactions between the components of ICF

Resilience

Participation in paid labour by persons with a disability appears to be difficult. Why do some people succeed in having a paid job, whereas others do not? In order to investigate this, the concept of resilience is relevant.

Joling et al. (2017, page 509) mention that resilience describes how some individuals have a better outcome than others who have experienced an equivalent level of adversity (Rutter, 2012) or a better outcome than could be expected given the circumstances (Windle, 2011). They also mention three key features for resilience: (1) a significant adversity or risk, (2) assets or resources to offset the effects of the adversity (protective factors), and (3) a good outcome (Windle, 2011). According to Joling et al. (2017, page 509, 510) this indicates that resilience refers to good outcomes that are achieved through a range of assets and resources, and one of the main areas of resilience research is investigating the role of assets and resources. These are described as individual characteristics (e.g., psychological resources and coping styles), lifestyles, plus the social and environmental contexts, such as family and friends, formal service provision and the places in which we live (Donnellan et al., 2015; Luthar et al., 2000; Wiles et al., 2012; Windle, 2011).

In this study, factors are examined that contribute to improving the labour situation of persons with visual impairments. In line with resilience theory, we do so by comparing characteristics of persons with a visual impairment who have paid work with those who do not. We will specifically focus on individual characteristics which can play a role in being successful in paid work as a person with a visual impairment.

Capability Approach and Person-Centered Care

Next to the ICF model and the concept of Resilience two other theoretical frameworks are relevant for the study of labour participation of persons with visual impairments, namely the Capability Approach and the notion of Person-Centered Care.

The Capability Approach puts forward that capabilities are essential for the well-being – i.e. human flourishing, or ‘the good life’ – of both individuals and societies, and that by protecting and restoring capabilities, well-being will increase. Capabilities express what people are able to do and who they are able to be; they are defined as ‘the alternative combinations of functionings the person can achieve, and from which he or she can choose one collection’ (Sen & Nussbaum, 1993, page 21). Living is seen as a combination of these ‘doings and beings’ and quality of life is to be assessed in terms of

the ‘capability to achieve valuable functionings’ (Sen & Nussbaum, 1993, page 21). The focus is on enabling people to do the things they want to do. Since people are different and have diverse needs, the freedom to be able to live the life one wants and to do what one values is central in the Capability Approach (Sen, 2009). The Capability Approach is relevant for the labour participation of persons with visual impairments in two ways. On the one hand, the Capability Approach emphasizes the importance of participation as a capability. Labour participation is one example of that. On the other hand, the Capability Approach highlights that people should be free to choose their own level of functioning, including participation. This means that participation is not equally relevant for everyone, and personal goals should be taken into account.

Person-Centered Care implies that individuals’ values and preferences are elicited and once expressed, guide all aspects of their health care, supporting their realistic health and life goals. Person-Centered Care is achieved through a dynamic relationship among individuals, others who are important to them, and all relevant providers. This collaboration informs decision-making to the extent that the individual desires (The American Geriatrics Society Expert Panel on Person-Centered Care, 2016). Like the Capability Approach, the concept of Person-Centered Care implies a focus on personal values. Related to the labour situation of persons with a visual impairment, Person-Centered Care specifically focuses on eliciting values regarding the goals of care (which kind of labour participation is preferred) and the means (which instruments for support are in line with the personal values).

Aim of the study

In this study we aim to establish personal success factors regarding paid work of persons with visual impairments in the Netherlands in order to contribute to enhancing this participation.

The goals of the study are:

- 1) investigating factors related to paid work of persons with visual impairments described in international research;
- 2) providing insight into the labour situation of persons with visual impairments in the Netherlands, with the main focus on the employment and unemployment rates;
- 3) establishing personal success factors regarding paid work of this target group in the Netherlands;
- 4) developing an assessment instrument based on the personal success factors regarding paid work;
- 5) investigating the conditions for implementation of this assessment instrument.

Methods

Given the aims, this study made use of quantitative and qualitative research methods. In quantitative studies, the problem is best addressed by understanding what factors or variables influence an outcome. Qualitative studies typically address research problems that can best be understood by exploring a concept or phenomenon (Creswell, 2003).

The quantitative study was conducted to answer the first three aims. For this part we developed a questionnaire to measure the labour participation and work-related success factors of persons with visual impairments in the Netherlands. The questionnaire consisted of validated questionnaires supplemented by questions we formulated ourselves. We also tested this questionnaire with persons with visual impairments.

The content of the questionnaire was based on the results of a systematic literature review we conducted regarding factors associated with paid work in countries all over the world. These results, supplemented by input from our advisory board (consisting of persons with visual impairments and professionals working with this target group) led to the topics in the questionnaire. The quantitative study had a cross-sectional design and descriptive and logistic regression analyses were performed.

The last aim was answered by a qualitative descriptive design. A focus group was held to study how job coaches perceived the importance of the work-related success factors in practice and discuss facilitators and barriers regarding the implementation of the instrument.

Outline of the thesis

Chapter 2 presents the results from a literature review regarding work-related success factors of persons with visual impairments in international studies.

Chapter 3 shows the descriptive results regarding labour participation of persons with visual impairments in the Netherlands. The employment and unemployment rates, together with information regarding for example job satisfaction, underemployment, and contract hours are shown.

In **Chapter 4** the results regarding the success factors for paid work of persons with visual impairments in the Netherlands are presented. The success factors are personal

factors, divided into skills and psychological factors.

Chapter 5 shows the assessment instrument, consisting of the questions measuring the work-related success factors.

Chapter 6 shows the focus group results regarding the conditions for implementation of the work-related assessment instrument we compiled. The chapter gives insights into the perceptions of job coaches regarding the relevance of the work-related success factors, and the facilitators and barriers of implementing the assessment instrument. These insights can contribute to the implementation of this assessment instrument and may as a result positively affect the labour participation of persons with a visual impairment.

In **Chapter 7** the important results of the quantitative and qualitative research are summarized. Furthermore, both a theoretical, and an ethical and methodological reflection are presented, and implications for practice, policy, and future research are formulated. This chapter ends with a general conclusion of the project.

In the **Addendum** the Dutch version of the assessment instrument is presented.

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Chapter 2

Factors related to the employment of visually impaired persons: a systematic literature review

Published as:

Goertz, Y.H.H., Lierop, B.A.G. van, Houkes, I., & Nijhuis, F.J.N. (2010). Factors related to the employment of visually impaired persons: A systematic literature review. *Journal of Visual Impairment and Blindness*, 104 (7), 404-418.

Abstract

The aim of this systematic review of the literature is to increase understanding of the factors that influence the labor force participation of persons who are visually impaired. Labor force participation was associated with many factors, such as communication training and education. Future research should focus on high-quality studies of labor force participation and underemployment in more countries.

Introduction

“The economy is booming. The unemployment rate is at its lowest ebb in 30 years. Still, 70% of America’s blind can’t get jobs” (Dobbs, 1999, p. 96). In these times, when the economy is certainly not “booming,” the situation will probably deteriorate even further. These words by Dobbs characterize the main problem discussed in this review article, that is, throughout the world the employment rate of persons who are visually impaired is low, which means that these persons have difficulties finding and keeping jobs. The employment rate is calculated by the number of persons working in paid employment divided by the total sample. In the United States, for example, the employment rate of persons with visual impairments was 42% in 1995 (Ryles, 1996), and in New Zealand, 39.3% of persons who were visually impaired were currently in paid employment in 2003 (La Grow, 2003). Two more recent studies showed an employment rate of 33% for adults who were visually impaired in South Korea (Lee & Park, 2008) and 41% in the United Kingdom (Pavey, Douglas, & Corcoran, 2008).

Furthermore, the unemployment rate of persons with visual impairments is higher than the unemployment rate of the general working-age population. For example, the official unemployment rate of visually impaired working-age persons in New Zealand was estimated at 14% (that is, the number of persons actively seeking work divided by the total sample) to 24% (that is, the number of persons actively seeking work plus those not actively seeking work but interested if available, divided by the total sample), about three to five times as high as the official unemployment rate for the country as a whole, that is, 5.3% (La Grow, 2003).

Research has also found that persons who are visually impaired are not only employed at a lower rate, but more often feel underemployed, which means that they are less likely to be employed at levels that are commensurate with their education and skills (La Grow, 2003). In the study by Hagemoser (1996), 35% of the persons with visual impairments who were employed full time felt underemployed.

The study

To improve the underrepresentation of persons who are visually impaired in the labor market, it is important to study which factors influence their participation in the labor market. Therefore, we performed a systematic literature review using the following research question: “Which factors influence the labor force participation of persons who are visually impaired?”

Theoretical Underpinnings

We used the World Health Organization (WHO, 2001) International Classification of

Functioning, Disability and Health (ICF) model as a framework to classify the factors that we found in the studies in our systematic review of the literature (see Figure 1). The overall aim of the ICF classification is to provide a unified and standard language framework or conceptual overview for the description of health and health-related states. The two parts of the model are Functioning and Disability, consisting of “Body Functions and Structures” and “Activities and Participation,” and Contextual Factors, consisting of “Environmental Factors” and “Personal Factors.”

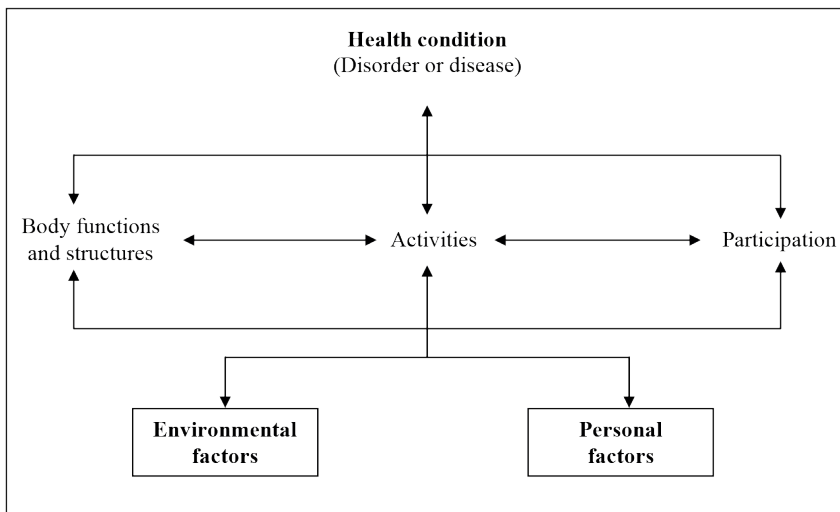


Figure 1. The ICF model: Interactions between the components of ICF

In this review we used the definition of labor force participation formulated by Statistics Netherlands (Centraal Bureau voor de Statistiek, CBS, 2008). Labor force participation includes the percentage of the potential general working-age population (aged 15– 64) that is in or is aspiring to attain paid employment of at least 12 hours a week. Having a paid job often implies wanting to keep the job, and aspiring to have a job often implies wanting to find a job. On the basis of this definition, we chose the key words to find literature for this review.

Method

We performed a systematic literature review to search for and select articles. That is, we captured, evaluated, and summarized the literature in a systematic way (see, for example, Creswell, 2003).

Search strategy

The bibliographies PsycINFO and Eric were used to find literature about factors that influence the labor force participation of persons who are visually impaired. The key words find work, maintain work, find job, maintain job, find employment, maintain employment, labor, labour, labor participation, and labour participation were all combined with visual impairment, visual loss, low vision, and blindness. We screened all the titles and abstracts that we found. Articles that seemed related to our research question at first sight were ordered and then screened for relevant information for the study. When the articles fitted all the inclusion criteria, they were included in the review.

Articles that were published between January 1990 and May 2008 that presented empirical studies were included, whereas books and reports were not. The content criteria for including articles were having a visual impairment (not a disability in general) and providing information about factors that influence labor force participation. Qualitative studies were not included but were screened for additional information. In total, 332 abstracts were screened. Together with some important references from the studies that we found in the literature search, we included 13 quantitative studies in the review and screened 9 qualitative studies for additional information.

Assessing the methodological quality of the articles

All articles that met the inclusion criteria were assessed for methodological quality. This assessment was based on four criteria: design, research population, outcome measures, measurement instruments (consisting of multiple aspects), and methods of data analyses (Higgins & Green, 2008; Hoefsmit, 2008). By assigning a plus or minus sign to each of the four criteria, we assessed all the articles. When a criterion was assessed as “neutral,” both a plus sign and a minus sign were added, which resulted in a score of zero. Some criteria consisted of multiple aspects. In these cases, mean scores were calculated for each criterion separately. We calculated the final score for each study by adding up all the plus signs (or mean scores for single criteria) and then subtracting all the minus signs.

Results

Quantitative studies

Methodological quality

In assessing the methodological quality of the studies, we focused exclusively on the variables that were relevant for the review. Table 1 presents an overview of the

methodological quality of the reviewed studies. As the table shows, the methodological quality of the studies was highly variable, mainly because of differences in population sizes (more or fewer than 100 participants) and in the method of data analyses (multivariate or bivariate analyses). All the studies were cross-sectional, and the measurement instruments were similar in quality, so these criteria did not contribute to the differences in the quality of the articles. Practically all the studies used self-reported data, and the research population in all the studies consisted of persons who were visually impaired.

Table 1. Methodological quality of the quantitative studies

Study	References	Design	Research population (<i>n</i> , target group, country)	Outcome measures and measurement instruments	Methods of data analyses	Total score
1	Beach, Robinet, & Hakim-Larson (1995)	Cross-sectional	<i>n</i> = 36 adults with visual impairments, employed and unemployed, Canada	Outcome measure: employment status Measurement instrument: survey	Chi-square, bivariate analyses	1+
2	Bengisu, Izbirak, & Mackieh (2008)	Cross-sectional	<i>n</i> = 198 people who are visually impaired, employed and unemployed, Turkey	Outcome measure: employment status Measurement instrument: survey	Logistic regression, multivariate analyses	4+
3	Crudden & Hanye (1999)	Cross-sectional	<i>n</i> = 431 persons who are congenitally or adventitiously blind (legally blind) and who are employees of National Industries for the Blind– associated industries, United States	Outcome measures: number of hours worked per week, hourly wage, job tenure Measurement instrument: survey	Multiple analysis of variance, multivariate analyses	4+
4	DeLaGarza & Erin (1993)	Cross-sectional	<i>n</i> = 70 graduates of the Texas School for the Blind and Visually Impaired, employed and unemployed, United States	Outcome measure: employment rates Measurement instruments: students' records and survey	Unknown	1+

Table 1. Continued.

Study	References	Design	Research population (n, target group, country)	Outcome measures and measurement instruments	Methods of data analyses	Total score
5	Hagemoser (1996)	Cross-sectional	n = 68 legally blind adults, employed and unemployed, United States	Outcome measures: employment status Measurement instrument: survey	Discriminant analysis, multivariate analyses t-tests, bivariate analyses	2+
6	La Grow (2004)	Cross-sectional	n = 150 working-age visually impaired adults, employed and unemployed, New Zealand	Outcome measures: employment rate Measurement instrument: survey	Chi-square, bivariate analyses	2+
7	Lee & Park (2008)	Cross-sectional	n = 874 people with visual impairments, employed and unemployed, South Korea	Outcome measure: employment status Measurement instrument: survey	Logistic regression, multivariate analyses	4+
8	Roy, Dimigen, & Taylor (1998)	Cross-sectional	n = 51 visually impaired college graduates (predominance of blind participants, rather than those with low vision, and graduated at the higher diploma level or above), employed and unemployed, Great Britain	Outcome measure: employment status Measurement instrument: survey	Chi-square, bivariate analyses	1+
9	Ryles (1996)	Cross-sectional	n = 74 congenitally legally blind adults, employed and unemployed, United States	Outcome measures: employment and income Measurement instrument: survey	Chi-square, bivariate analyses	1+
10	Shaw, Gold, & Wolfe (2007)	Cross-sectional	n = 328 visually impaired youths (blind and low vision) aged 15-30, employed and unemployed, Canada	Outcome measures: employment status, not currently working and actively looking for work, perceptions of difficulty of work, feelings about performance at work, overtime work, assistance with work Measurement instrument: survey	Correlational analyses, bivariate analyses	3+

Table 1. Continued.

Study	References	Design	Research population (n, target group, country)	Outcome measures and measurement instruments	Methods of data analyses	Total score
11	Taheri-Araghi & Hendren (1994)	Cross-sectional	n = 76 people who became adventitiously blind as a result of retinitis pigmentosa, employed and unemployed, United States	Outcome measures: employment status at the end of vocational rehabilitation Measurement instrument: existing database compiled for various uses at the Mississippi State University Rehabilitation Research and Training Center on Blindness and Low Vision	Stepwise discriminant analyses, multivariate analyses	3+
12	Wolffe, Roessler, & Schriener (1992)	Cross-sectional	n = 76 consumer members of the American Council of the Blind with primary disabilities of blindness or low vision, employed and unemployed, United States	Outcome measures: employment concerns and strengths Measurement instrument: survey	Combining importance and satisfaction ratings to calculate problem scores and strength scores, descriptive statistics, univariate analyses Chi-square, bivariate analyses	1+
13	Wright, McCarthy, Burgess, & Keffe (1999)	Cross-sectional	n = 250 working-age adults with visual impairments, unknown whether employed or unemployed, Australia	Outcome measure: functioning in work or hobbies Measurement instrument: survey	Multiple logistic regression, multivariate analyses	4+

Factors related to labor force participation

Tables 2 to 4 show the results of the studies. Each table represents another category of the ICF model. For each of the statistically significant factors ($p \leq .05$), the table indicates whether it is positively (+) or negatively (-) related to labor force participation. The factors that are not statistically significant ($p > .05$) are indicated as neutral (0) in relation to labor force participation. Important results of the qualitative studies related to labor force participation, also classified according to the ICF model, are summarized after the results of the quantitative studies.

Body functions and structures

Table 2 shows the results regarding body functions and structures. The studies reported contradictory results for the relationship between the degree of visual loss and labor force participation. Several studies, using different statistical analyses, found that the employment rate was higher for persons with less severe visual impairments (La Grow, 2004; Lee & Park, 2008; Shaw, Gold, & Wolffe, 2007). Another study, with a high-quality score, showed an opposite result, that is, persons with low vision had more difficulty in work and hobbies than did people with self-reported total blindness (Wright, Mc-Carthy, Burgess, & Keeffe, 1999). Two weaker studies found no significant results regarding employment (DeLaGarza & Erin, 1993; Wolffe, Roessler, & Schriener, 1992). Two studies, using different statistical analyses, reported that the employment rate among persons with visual impairments was higher for persons with no other disability (La Grow, 2004; Lee & Park, 2008).

Table 2. Body functions and structures

Factors	Association with labor force participation ^a	Study (quality score of study) ^{b,c}
Sensory functions and pain		
Higher degree of visual loss	–	7 (4+), 6 (3+), 10 (3+)
Blind in comparison to low vision	0	4 (1+), 12 (1+), 10 ^{d,e} (3+)
Completely blind in comparison to low vision	+	13 (4+)
Presence of other disabling conditions	–	7 (4+), 6 (3+)
Presence of other disabling conditions, such as hearing loss	0	11 ^f (3+)

^a Per factor (placed between the lines), the studies are arranged from a negative (–) to a neutral (0, which means no statistically significant association) to a positive (+) association with labor participation. Within every association category (– or 0 or +), the studies are arranged from the highest to the lowest quality, with the proviso that studies that focused on employment status come first.

^b When a study used another outcome measure than employment status, the specific outcome measure is mentioned as note ^d or ^e.

^c The references to the studies are in Table 1.

^d The outcome measure is not currently working, but actively looking for work.

^e The outcome measure is perceptions of difficulty of work, feelings about performance at work, overtime work, and assistance with work.

^f This study focused on vocational rehabilitation.

Activities and participation

We found only a limited number of factors regarding activities and participation. Therefore, these factors are not listed in a table, but are mentioned briefly here. A record of previous employment and few changes in career objectives were positively associated with success in vocational rehabilitation (Taheri-Araghi & Hendren, 1994). In addition, the possibilities of acquiring and keeping a good job and receiving pay

similar to nondisabled workers were employment strengths in the study by Wolffe et al. (1992), which means that these items scored high in both importance and satisfaction.

Environmental factors

Table 3 shows the results regarding environmental factors. With regard to social support, only practical support appeared to be associated with employment, that is, unemployed people received more practical support (Lee & Park, 2008). Furthermore, employed persons with visual impairments socialized with more individuals, on average, than did those who were unemployed and were far more likely to socialize in public bars and informally with friends. In contrast, the unemployed respondents were more likely to socialize in volunteer groups. Furthermore, more unemployed than employed respondents were currently looking for jobs and tended to rely more on supportive contacts for basic job-seeking tasks than did those who were employed (Roy, Dimigen, & Taylor, 1998).

Several expectations of other people were mentioned with regard to employment. One good-quality study showed that persons with visual impairments whose parents had higher expectations regarding their participation in activities of daily living while they were growing up were more likely to be employed (Shaw et al., 2007).

Only one kind of adjustment training in rehabilitation seemed to be positively related to employment: communication training (Lee & Park, 2008). One other study of moderate quality mentioned that most of the employment-related problem areas that were identified centered on inadequate support services and unmet needs for career development, for example, not receiving adequate vocational preparation services and not having adequate access to good placement assistance (Wolffe et al., 1992). Finally, having adequate health insurance and access to information about social security were ranked as important employment strengths (Wolffe et al., 1992).

Personal factors

Table 4 shows the results related to personal factors. Age at the onset of the visual impairment (La Grow, 2004) was not found to be significantly associated with the rate of employment. This was also true for persons in vocational rehabilitation (Taheri-Araghi & Hendren, 1994). Of the persons who worked in an industry associated with the National Industries for the Blind, those who were adventitiously blind were likely to earn just as much money, work just as many hours per week, and keep their jobs as long as employees who were congenitally blind (Crudden & Hanye, 1999).

Table 3. Environmental factors

Factors	Association with labor force participation	Study (quality score of study) ^a
Support and relationships		
Higher amount of practical support	–	7 (4+)
Emotional support	0	7 (4+)
Informational support	0	7 (4+)
Perceiving social support	0	10 (3+)
Higher amount of individuals to socialize with outside the home	+	8 (1+)
Location of social contacts outside the home: volunteer groups	–	8 (1+)
Location of social contacts outside the home: public bars and informally with friends	+	8 (1+)
Currently looking for jobs	–	8 (1+)
Supportive contacts for basic job-seeking tasks, such as writing application forms	–	8 (1+)
Attitudes		
Parents with higher expectations that their visually impaired children would participate in activities of daily living while they were growing up	+	10 (3+)
Being expected to succeed in school	+	12 ^b (1+)
Being expected by employers to succeed in work	+	12 ^b (1+)
Services, systems and policies		
Labor and employment services, systems, and policies		
Rehabilitation services: daily activity training, such as walking	0	7 (4+)
Rehabilitation services: information training, such as the use of computers or assistive devices	0	7 (4+)
Rehabilitation services: orientation and mobility training	0	11 ^c (3+)
Rehabilitation services: communication training, such as braille	+	7 (4+)
\$3,000 to \$4,000 spent on a case in vocational rehabilitation	+	11 ^c (3+)
Deficit of career support services	–	12 ^b (1+)
Social security services, systems, and policies		
Receipt of public assistance at the time of referral, such as supplemental security income and disability insurance	0	11 ^c (3+)
Having adequate health insurance while working and access to information about social security	+	12 ^b (1+)

Note: – = the factor has a negative association with labor force participation; 0 = no statistically significant association between the factor and labor force participation, + = the factor has a positive association with labor force participation.

^aThe references to the studies are in Table 1.

^bThe results in this study are not based on *p*-values.

^cThis study focused on vocational rehabilitation.

Two studies mentioned that older persons with visual impairments were more likely to be employed than were younger persons (Bengisu, Izbirak, & Mackieh, 2008; Shaw et al., 2007). Although DeLaGarza and Erin (1993) mentioned that their finding of no significant differences in the employment rates of men and women with visual impairments may indicate that the employment gap between men and women is beginning to narrow, other studies, all of them of a higher quality than that by DeLaGarza and Erin, failed to confirm this trend. Men seemed to be significantly more often employed than were women, even after vocational rehabilitation (Bengisu et al., 2008; La Grow, 2004; Lee & Park, 2008; Taheri-Araghi & Hendren, 1994). Furthermore, more persons who were visually impaired who had higher levels of education were employed (Bengisu et al., 2008; Hagemoser, 1996; Lee & Park, 2008; Shaw et al., 2007; Wolffe et al., 1992), and two recent studies of a relatively high quality found a positive relationship between being married or living with a partner and employment (Bengisu et al., 2008; Lee & Park, 2008).

Significantly more people with a visual impairment who were residing in a metropolitan area were employed, at least according to the multivariate analyses in Lee and Park's (2008) study. However, the bivariate analyses in Shaw et al.'s (2007) study show that the type of community in which the persons with visual impairments lived was not significantly correlated with employment status.

Most visually impaired persons who were highly motivated to learn daily living skills were unemployed (Beach, Robinet, & Hakim-Larson, 1995). Greater involvement in activities of daily living was positively related to employment (Shaw et al., 2007). Having confidence in the future was also positively related to employment, as was having skills for jobs paying more than the minimum wage (Wolffe et al., 1992).

Persons who learned to read braille had a significantly lower unemployment rate than did persons who learned to read print (Ryles, 1996). A higher-quality study also reported that more people with visual impairments who knew braille were employed, although this result just failed to reach significance, with a p-value of .056 (Bengisu et al., 2008).

Two personality traits were negatively associated with employment status, in that blind persons who were unemployed tended to have lower self-esteem and higher cynicism than did those who were employed (Hagemoser, 1996). However, another study found no significant association between self-esteem and employment (Beach et al., 1995).

Table 4. Personal factors

Factors	Association with labor force participation ^a	Study (quality score of study) ^{b,c}
Age at the onset of vision loss	0	6 (3+), 11 ^d (3+), 3 ^c (4+)
Age during the study	0	7 (4+), 6 (3+), 12 (1+)
Higher age during the study	+	2 (4+), 10 (3+)
Aged 30–40 at the time of referral	+	11 ^d (3+)
Gender	0	4 (1+)
Male	+	2 (4+), 7 (4+), 6 (3+), 11 ^d (3+)
Level of education	0	6 (3+), 11 ^d (3+)
Higher educational level	+	2 (4+), 7 (4+), 10 (3+), 5 (2+), 12 (1+)
Marital status	0	11 ^d (3+)
Being married or living with a partner	+	2 (4+), 7 (4+)
White race	+	11 ^d (3+)
Type of community in which the visually impaired person lives: rural or urban	0	10 (3+)
Residing in a metropolitan area	+	7 (4+)
Distance from the person's home to the rehabilitation center	0	11 ^d (3+)
Number of dependents at the time of referral	0	11 ^d (3+)
Motivation to learn daily living skills (such as taking an elevator) better	–	1 (1+)
Dependence on others in performing daily living skills	0	1 (1+)
Difficulty with daily living skills	0	1 (1+)
Having skills for jobs paying more than the minimum wage	+	12 ^f (1+)
Braille literacy or learned to read braille as the original primary medium, compared to learned to read print as the original primary medium	0	2 (4+), 9 ^g (1+)
Learned to read braille as the original primary medium, compared to learned to read print as the original primary medium	+	9 (1+)
Greater involvement in activities of daily living	+	10 (3+)
Having confidence in the future	+	12 ^f (1+)
Attitude toward disability	0	7 (4+)
Lower self-esteem	–	5 (2+)
Self-esteem	0	1 (1+)
Higher cynicism	–	5 (2+)
Anxiety	0	5 (2+)
Obsessiveness	0	5 (2+)
Type A behavior	0	5 (2+)
Family problems	0	5 (2+)

^a Per factor (placed between the lines), the studies are arranged from a negative (–) to a neutral (0, which means no statistically significant association) to a positive (+) association with labor force participation. Within every association category (– or 0 or +) studies are arranged from the highest to the lowest quality, with the proviso that studies that focused on employment status come first.

[Legend continues on next page]

^bWhen a study used another outcome measure than employment status, the specific outcome measure is mentioned as note ^c or ^g.

^cThe references to the studies are in Table 1.

^dThis study focused on vocational rehabilitation.

^eThe outcome measure was number of hours worked per week, hourly wage, and job tenure.

^fThe results in this study were not based on *p*-values.

^gThe outcome measure was overall income levels.

Qualitative studies

Qualitative studies took several perspectives into account, such as the perspective of persons with visual impairments (Herse & Yapp, 1999 [study 14]; Higgins & Ballard, 1999a, 1999b [study 15]; Rumrill, Schuyler, & Longden, 1997 [study 16]; Young, 1995 [study 17]); the perspective of employers of persons who are visually impaired (Golub, 2006 [study 18]; Wolffe & Candela, 2002 [study 19]); or a combination of perspectives, such as the views of persons who are visually impaired, employers, and service providers (Golub, 2003 [study 20]) and the view of the significant others of persons who are visually impaired (Crudden, 2002 [study 21]). Malakpa (1994 [study 22]) investigated the views of fieldworkers and gatekeepers. The quantitative studies by Shaw et al. (2007) and Bengisu et al. (2008) also reported qualitative results from the viewpoints of persons with visual impairments. Table 5 presents many factors that were found in the qualitative studies on the employment of persons with visual impairments. Several of these factors were also found in the quantitative studies. However, the direction of the relationships was not always similar. The qualitative studies also yielded additional factors. For example, verbal cues from employers and coworkers and help from coworkers with written communications were positively associated with employment (Crudden, 2002; Golub, 2006; Wolffe & Candela, 2002). Furthermore, the motivation of persons with visual impairments to retain employment was associated with job success (Crudden, 2002). Successful visually impaired persons also expressed extremely positive attitudes toward life, described themselves as spiritual people whose well-formed values gave them inner strength, and chose employment that had personal relevance (Young, 1995).

Table 5. Qualitative results

Factors related to employment	Influence	Study ^a	In line with the quantitative result of the study ^b	In contrast to the quantitative result of the study ^b
Body functions and structures				
Hearing difficulties	–	16	6/7	11
Activities and participation				
Braille instruction	+	21	7 (environmental factors)/9 (personal factors)	2 (personal factors)
Personal adjustment training	+	21		
Training on the job	+	21	12 (environmental factors: career support services)	
Computer training	+	21		7 (environmental factors)
Mobility training	+	21		7/11 (environmental factors)
Visually impaired persons informing or helping coworkers and employers (mutual accommodation)	+	18, 20	12 (environmental factors: career support services)	
Problems like meeting deadlines and reading written information	–	16		
Environmental factors				
Access to equipment, facilities, and information (by employers)	+	2, 10, 16, 18, 19, 21		
Family support	+	21		7/10
Vocational guidance toward and during employment	+	19, 21	12	
Lack of encouragement by teachers and blindness professionals to move beyond limited employment prospects	–	15	12	
Help from coworkers and employers (regarding verbal cues and written communication)	+	18, 19, 21		
Discrimination in career development by employers	–	2, 10		
Supporting and facilitating attitude of employers (such as facilitating communication between visually impaired persons and coworkers, making changes in company policies, and acting as mentors for other employers)	+	18, 19, 20, 21		

Table 5. Continued.

Factors related to employment	Influence	Study ^a	In line with the quantitative result of the study ^b	In contrast to the quantitative result of the study ^b
Employers expecting the same of visually impaired persons as of other employees	+	18, 20	12	
Reluctant and negative attitude of coworkers	-	18, 20, 21		
Humor as a means of promoting positive relationships among coworkers	+	18		
Conventional viewpoints in society, considering visually impaired persons as people with limited possibilities, need to be changed	+	2	10 (expectations of parents)	
Overprotection by significant others	-	22		
Good mobility (public transportation and mobility aids)	+	2, 10, 21, 22		7 (daily activity training)/11 (mobility training)
Americans with Disabilities Act (accommodation of individuals with disabilities in the workplace)	+	20		
State providing more employment opportunities	+	2		
Job restructuring strategies (such as becoming self-employed, taking time off to pursue personal adjustment and mobility training)	+	21		
Impossible job requirements (such as a driver's license)	-	10		
Workplace evaluations performed by vision care providers	+	14	12 (career support services)	
Work culture that primarily rewards individual achievement rather than team accomplishments	+	20		
Flexibility in performing the job	+	20		
Inadequate public education	-	22		
Personal factors				
Positive and independent attitude of visually impaired persons (motivation, strong work ethic, good work etiquette and social skills, persistence, viewing challenges as new opportunities, and proactive behavior)	+	10, 18, 19, 20, 21	12 (confidence in the future)	

Table 5. Continued.

Factors related to employment	Influence	Study ^a	In line with the quantitative result of the study ^b	In contrast to the quantitative result of the study ^b
Not using blindness as an excuse, feeling comfortable with the visual impairment, and helping others to feel comfortable as well	+	18		7 (attitude toward disability)
Insisting on being held to the same expectations as coworkers in terms of work performance	+	18, 20		
Blindness competencies, for instance, braille skills	+	18	9	2
Proficiency in alternative techniques to function without sight	+	17	9	2
Extremely positive attitudes toward life, high expectations of themselves, spirituality, choosing employment with personal relevance, taking responsibility for what happens in their lives	+	17	12 (confidence in the future)	
Adaptation to the sighted world and the use of mentors and role models to improve self-worth	+	17		
Negative self-image, disorganized, fatigue, drug use	-	10		
Family problems	-	10		5
Lack of self-confidence	-	22	5 (self-esteem)	1 (self-esteem)
Taking responsibility to empower one's own success	+	18		

Note: + = beneficial for employment; - = barrier to employment.

^aThe numbers of the studies refer to the references in the qualitative results section.

^bIf no study is mentioned, the results were not found in quantitative studies and are therefore new factors.

Discussion

On the basis of the studies reviewed in this article, it is difficult to draw firm conclusions about which factors influence the labor force participation of persons who are visually impaired. Since all the studies were cross-sectional, no causal relationship can be inferred between the independent factors and labor force participation. However, relationships between the factors and labor force participation can be determined.

Methodological quality

In this review, we focused on quantitative studies. Some factors, such as the degree of visual impairment, were measured differently in different studies. Furthermore,

qualitative studies were used for additional information. Generalizations cannot be based on qualitative results. Qualitative data are typically exploratory and generate information for potential empirical study and theorizing (Crudden, 2002). Several qualitative studies in this review included more than one perspective, in contrast to the quantitative studies, which included only one perspective. Using several perspectives can yield broader insights into relevant factors. In addition, the method of data collection in qualitative studies is more open to the ideas of the target group than are the structured questions in quantitative studies.

The methodological quality of the quantitative studies in this review was influenced mainly by the size of the sample and the method of data analyses. First, the low number of participants can influence the outcomes and representativeness of a study. For example, Beach et al. (1995) mentioned that the finding of no significant relationship between employment and self-esteem could be a reflection of the small sample, which also restricted the type of analyses that could be done to test the hypothesis. Furthermore, Wolffe et al. (1992) indicated that the small sample could not be considered entirely representative of all visually impaired persons in the United States, since the sample represented a well-educated group. Because the population of persons with visual impairments is smaller than the general working-age population and recruiting visually impaired persons is more difficult, it is not easy to get a large number of participants in studies. Second, the method of data analyses is important for the methodological quality of studies because multivariate analyses yield more reliable results than do bivariate analyses.

In addition to the low number of participants, the distribution of participants among the categories of the factors to be measured can influence the outcomes of a study. For example, Shaw et al. (2007) mentioned that the finding that the type of community (rural or urban) was not significantly correlated with employment status may reflect the fact that most participants lived in big cities.

All the studies were cross-sectional, so no causal relationship can be inferred between the factors and labor force participation. Although the research question and the aim of this review were formulated causally, only associations between the factors and labor force participation could be determined. Considering the developing research area, it seems logical that all studies in this review were cross-sectional and exploratory. Shaw et al. (2007) indicated that although correlation does not imply causality, the finding that the performance of activities of daily living was related to the likelihood of being employed is consistent with the career education model, which suggests that proficiency in activities of daily living early in life helps to develop the building blocks for later independence and the ability to find and maintain employment. Half

the articles in this review reported results from studies from the United States. Thus, it is important to study whether the factors that were found in these studies are also of importance in other countries.

Limitations

Although we conducted a search of two electronic databases with several combinations of key words, it is possible that we missed relevant articles. A search of additional databases and key words and of all references in the included articles might have yielded additional articles. By using the studies found in this review, we were able to give a broad overview of relevant factors related to labor force participation. However, there could be other relevant factors or studies that presented different results regarding the same factors as we found. Furthermore, using different criteria to assess the quality of quantitative studies could have resulted in other quality scores, which could have led to a different interpretation of the results.

Implications for practice and future research

Insights into factors that are associated with labor force participation can help professionals who work with persons who are visually impaired, such as job coaches, to assist these persons better in finding and maintaining suitable jobs. These insights can also help employers deal with employees who are visually impaired and can help policy makers make better decisions to improve the labor force participation of persons with visual impairments on the individual, organizational, and national levels.

More high-quality studies that measure more factors that are associated with labor force participation from different perspectives in different countries should be conducted. In addition, since persons who are visually impaired often feel underemployed, and our systematic search for studies regarding factors that influence underemployment yielded only two studies (Hagemoser, 1996; La Grow, 2004), more studies on underemployment should be conducted.

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Chapter 3

Labour participation of people with visual impairments in the Netherlands

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Abstract

In many countries the employment rate of people with visual impairments is lower than the employment rate of the general population. In order to get more insight in this situation in the Netherlands and provide clues for improvement, we explored the research questions: What are the demographic differences between working and not-working people with visual impairments? What is the employment rate, level of job satisfaction, and underemployment of people with visual impairments?

We performed a cross-sectional telephone survey among 500 people with visual impairments. Participants were recruited through two organisations which sell equipment. 11.0% of these participants were blind, 37.3% had very low vision, and 51.7% had low vision. Descriptive and bivariate analyses were performed. The response rate was 47%.

People with visual impairments with paid work were mainly male, 30-44 years old, highly educated, living in a city, and living together with partner and children. 36.8% of the participants had paid work (employment rate). The mean level of job satisfaction was 7.67 (scale 1-10), 36.9% of the persons having paid work felt underemployed.

Just as in the general population mainly male, relatively young and highly educated people with visual impairments are working. The employment rate of people with visual impairments is low in comparison with the general Dutch population. People with visual impairments seem quite satisfied with their job, however underemployment also seems high. As regards implications for practice, vocational rehabilitation experts could play important roles in enhancing the employment rate and decreasing underemployment.

Introduction

Worldwide the employment rate of people with visual impairments is lower than the employment rate of the general working-age population. The employment rate of people with visual impairments globally is estimated between 33% (South Korea) and 42% (United States) (Goertz et al., 2010). In the Netherlands, no data are available about the employment rate of people with visual impairments, but estimates are that it is low in comparison to the general working-age population, which has an employment rate of 67.1% (Statistics Netherlands, 2010). In a study by Klabbbers et al. (2014) 7 other chronic disease/impairments groups in the Netherlands were studied. The employment rates for these groups varied between 53.6% (Cystic Fibrosis) and 85.7% (HIV).

Persons can either have paid work or not have paid work. Persons not having paid work can be looking for a job, not looking for work but accepting a suitable job if offered or not looking for work and also not accepting suitable work if offered (cf La Grow, 2003; La Grow personal communication, 2009). So, there are four categories of persons regarding paid work:

(1) persons working, (2) persons not working, actively looking, (3) persons not working, not actively looking, accepting suitable job if offered, (4) persons not working, not actively looking, not accepting suitable job if offered (this group is unavailable for the labour market).

According to La Grow, some authors report the total percentage not employed as the unemployment rate. This would include people who in fact are not interested in working for whatever reason (for example going to university, raising a family, early retirement). Others, including La Grow, calculate the unemployment rate in different ways. They report two unemployment rates, an official and an unofficial one. The unofficial unemployment rate includes those who would like employment if it were available but are not actively seeking it. This is more indicative of unemployment among people with visual impairments than the official unemployment rate.

Therefore, we calculate the employment and unemployment rates as follows:

- * **Employment rate:** $(\text{Number working} / \text{total sample}) \times 100$
- * **Official unemployment rate:** $(\text{Number actively looking for work} / \text{total sample}) \times 100$
- * **Unofficial unemployment rate:** $((\text{Number actively looking for work} + \text{Number who would accept work if offered}) / \text{total sample}) \times 100$

According to the International classification of functioning, disability and health model of the World Health Organisation (2001), labour participation is an important part of participation in society. Therefore, the aim of this study is to collect data about the labour participation of people with visual impairments in order to ultimately improve the labour situation of this group in the Netherlands.

The research questions in this study are:

Visual impairment and demographic characteristics

1. What are the visual impairment characteristics (level of visual impairment, loss of field of vision, decline of sight, age of onset of the visual impairment, use of mobility aids) of people with visual impairments?
2. What are the demographic characteristics (age, sex, educational level, type of primary and secondary education, living situation, and residential area) of people with visual impairments?
3. What are the differences between working and not-working people with visual impairments with regard to the visual impairment and demographic characteristics?

Employment/Unemployment rate related questions

4. What are the employment rate, the official and the unofficial unemployment rates of people with visual impairments?
5.
 - a) What are the reasons for people who have no paid job but are actively looking for work, to look for a job?
 - b) What are the reasons for people who have no paid job, are not actively looking for a job, but would accept a job if offered, to not look for a job?
 - c) What are the reasons for people who have no paid job, are not actively looking for a job, and would not accept a job if offered, to not accept the job?

Job characteristics of the employed people with visual impairments

6. What are the job characteristics (number of paid jobs at the time of the interview, competitive employment/no sheltered work, contract hours, type of contract, job satisfaction, and underemployment) of the employed people with visual impairments?

Method

Design

This study had a cross-sectional design. Data were collected by means of telephone interviews (structured questionnaire) of approximately one hour. The interviews

were performed in 2010.

Procedure & participants

In the Netherlands there is no database of all people with visual impairments. Therefore, we chose to recruit participants through enterprises which sell equipment for this target group (Optelec and Ergra Low Vision). These enterprises sell equipment to persons with different types and level of visual impairment (not only workplace related equipment) throughout the Netherlands. We believe that this procedure contributed highly to the representativeness of our sample, more so than recruiting through other channels such as patient or care organisations. The latter procedure would have caused selection bias because we would have reached specific groups: people who are more actively involved in (dealing with) their impairment or people who are already looking for help regarding paid work.

Prior to contacting customers who bought equipment of Optelec and/or Ergra Low Vision in the past, the duplication of persons in their customers lists was removed. Simple random samples were taken from the customers administrations. First a sample of 1000 persons was taken, but because of several reasons (e.g., persons having dyslexia instead of having a visual impairment) more samples were necessary. The strategy was repeated with two other samples of 1500 and then 2500 persons until 500 participants were found. The selected persons first received an invitation to the study (big fonts size letter and audio CD) and then were called to ask whether they were willing to participate and met the inclusion criteria.

Inclusion criteria for the study were:

- * age 15-64 (i.e. working-age population, according to Statistics Netherlands),
- * having a visual impairment (which means not being able to correct vision with a normal pair of glasses/lenses; this criterion was left to the interpretation of the participants),
- * if working, working in the Netherlands,
- * being able to participate in a telephone interview in Dutch (no severe hearing impairment/ no intellectual disability, as communicated by relatives or caretakers).

Persons who did not meet the inclusion criteria, persons who were deceased or could not be reached after five attempts were excluded. These persons were not considered non-response. 1064 persons met the inclusion criteria; 564 persons chose not to participate because of a lack of interest or time, being ill etc. Because we included 500 participants in our study the response rate was 47% $(= (500/1064) * 100)$. Considering the target group and the method of data collection, we were satisfied with this response rate. The participants gave verbal informed consent.

Persons who met the inclusion criteria, but did not participate were asked to answer four non-response questions (age, sex, educational level, and paid work). Not all non-respondents were willing to answer these non-response questions though (varied per question between 159 and 207 persons). We compared the non-respondents and the participants regarding the four variables (see Table 1) and it appeared that both groups only differed significantly regarding educational level: participants were somewhat higher educated than non-respondents.

Table 1. Non-response analyses

	Participants (n=500)	Non-respondents (n varied between 159-207)	T-test (for age)/ Chi-2 (df)
Age			-0.04
M age (SD)	48.09 (12.49)	48.14 (12.87)	
Min-max	15-63	15-63	
Sex			3.09 (1)
men	46.2%	38.6%	
women	53.8%	61.4%	
Educational level			24.78 (4)***
no education	2.8%	4.3%	
primary education	7.4%	16.6%	
secondary education	33.4%	42.9%	
professional education for 16-18 year olds and adults	27.0%	19.0%	
higher professional education or university	29.4%	17.2%	
Paid work (employment rate)			0.43 (1)
yes	36.8%	33.7%	
no	63.2%	66.3%	

*p<.05 **p<.01 ***p<.001

Measurement instruments

Almost all questions in our telephone interview originated from a validated questionnaire from Statistics Netherlands, which is used for governmental policy making in the Netherlands (Statistics Netherlands, 2008). Some questions originated from other sources, which we mention below. Furthermore, we formulated some questions ourselves, like whether a person got the visual impairment at birth or later in life, and whether a person followed regular or special education.

The total questionnaire was tested for clarity and completeness by several job coaches and people with visual impairments. This test led to some small changes in

the questionnaire, for example the addition of several answer categories regarding reasons for not looking/accepting paid work.

All questions, except age and contract hours per week, were closed response questions (see the Results Tables for all answer categories), with sometimes an 'other' answer category for own input. All variables, except objective level of visual impairment and underemployment, were 1-item questions.

Visual impairment and demographic characteristics

Participants were asked about their visual impairment (level of visual impairment, loss of field of vision, decline of sight, age of onset of the visual impairment, and use of mobility aids (white cane and guide dog)), and about demographics (age, sex, educational level, type of primary and secondary education, living situation, and residential area).

The level of visual impairment was measured subjectively ('What is your level of visual impairment? low vision, very low vision, blind') as well as in a more factual way (consisting of 5 separate questions, for instance 'Are you able to see the difference between light and dark? yes/no', cf. Rietveld et al., 2010).

Labour participation

Employment/ Unemployment rate

Participants were asked whether they had a paid job at the time of the interview. Participants who did not have a paid job were asked whether they had been actively looking for a paid job in the past four weeks. Participants who did not have a paid job but had been actively looking for a paid job were asked why they looked for a paid job (question including 'other' answer category).

Participants who did not have a paid job and had not been actively looking for a paid job were asked whether they would accept a suitable job at the moment if offered to them. Participants who would accept a paid job at the moment if offered to them, were asked why they did not actively look for a paid job (question including 'other' answer category). Participants who would not accept a paid job at the moment if offered to them, were asked why they would not accept the job (question including 'other' answer category).

Job characteristics of the employed people with visual impairments

Participants who had paid work were asked how many paid jobs they had at the time of the interview.

Regarding job 1, they were asked whether they had sheltered work (no competitive employment), how many hours the contract was per week, what type of contract they had, and what their job satisfaction was on a scale from 1 (very dissatisfied) to 10 (very satisfied) (cf de Jonge, 1995/ Nagy, 2002).

Furthermore, for the measurement of underemployment, participants were asked for their opinion on four aspects (responses recorded on a 5-point Likert scale): the total amount of hours that they were working, the level of their job in relation to their qualifications/experience/education, their chances for advancement in comparison with others without an impairment in similar jobs, and their rate of pay in comparison with others without an impairment in similar jobs. Persons having more than one paid job were asked to answer the first question for all their jobs together and the other three questions for their highest level job. Underemployment was transformed into a dichotomous variable (underemployed/not underemployed) as follows: first, responses of 1 (“way too low”) and 2 (“a bit too low”) were recorded as negative responses, and responses of 3 (“about right”), 4 (“a bit too high”), and 5 (“way too high”) were recorded as positive responses. Second, all those who responded negatively to two or more of the questions were considered to be underemployed (La Grow, 2004).

Results

Descriptive results regarding visual impairment and demographic characteristics, and labour participation are reported.

Visual impairment and demographic characteristics (research questions 1-3)

The results regarding the visual impairment and demographic characteristics are presented in Table 2. Chi-square results for having paid work (yes/no) were also calculated for the visual impairment and demographic characteristics.

Table 2 shows that 51.7% of the respondents reported low vision, 37.3% very low vision, and 11.0% blindness. The majority of the respondents were able to see the difference between light and dark (93.8%). More than half of the respondents who were able to see the difference between light and dark were able to read headlines in a paper without special equipment (55.8%). 38.1% of the people who were able to read headlines in a paper were also able to read normal size characters in a paper without special equipment. More than half of the respondents who were able to see the difference between light and dark were able to see distinction between pictures in picture books and cartoons without special equipment (51.3%). 37.0% of the

respondents who were able to see the difference between light and dark were able to recognize the face of persons on the other side of the room (distance around 4 meters) in good light without special equipment. Most of the respondents suffered from adventitious vision loss (76.6%). More respondents used a white cane (39.8%) in comparison with a guide dog (9.2%).

Table 2. Visual impairment and demographic characteristics (descriptives and chi-2 results for paid work (yes/no)) (n=500)

Characteristics	N (% within total)	Chi-2 (df)	% paid work
Level of visual impairment		0.47 (2)	
low vision	258 (51.7%)		38.0%
very low vision	186 (37.3%)		34.9%
blind	55 (11.0%)		38.2%
Ntotal=499 (100%) (500- n don't know(1)=499)			
Loss of field of vision		0.06 (2)	
Loss of field of vision, for example by tunnel vision or by loss of central sight			
no	197 (42.6%)		37.1%
a little bit	61 (13.2%)		36.1%
yes	204 (44.2%)		37.7%
Ntotal=462 (100%) (500- n not able to see difference between light and dark(31)- n don't know(7)=462)			
Decline of sight		2.43 (1)	
Decline of sight in last 5 years			
no	182 (37.0%)		41.2%
yes	310 (63.0%)		34.2%
Ntotal= 492 (100%) (500- n don't know(8)=492)			
Age of onset of the visual impairment		1.13 (1)	
birth	117 (23.4%)		41.0%
later in life	382 (76.6%)		35.6%
Ntotal=499 (100%) (500-n refusal (1)=499)			

Later in life	M age (SD)=> 30.74 (16.75) min-max=> 2-63		

Table 2. Continued.

Characteristics	N (% within total)	Chi-2 (df)	% paid work
Age groups		35.30*** (4)	
15-24	36 (7.2%)		22.2%
25-34	43 (8.6%)		69.8%
35-44	88 (17.6%)		42.0%
45-54	124 (24.8%)		42.7%
55-64	209 (41.8%)		26.8%
M age (SD)	48.09 (12.49)		
Min-max	15-63		
Sex		4.98* (1)	
men	231 (46.2%)		42.0%
women	269 (53.8%)		32.3%
Educational level		35.62*** (4)	
no education	14 (2.8%)		7.1%
primary education	37 (7.4%)		16.2%
secondary education	167 (33.4%)		26.3%
professional education for 16-18 year olds and adults	135 (27.0%)		42.2%
higher professional education or university	147 (29.4%)		51.7%
Type of primary education#		1.87 (2)	
regular	371 (76.3%)		37.7%
special	71 (14.6%)		42.3%
both	44 (9.1%)		29.5%
Ntotal=486 (100%) (500-n of no education(14)=486)			
Type of secondary education#		0.09 (2)	
regular	352 (78.6%)		38.9%
special	54 (12.1%)		40.7%
both	42 (9.4%)		40.5%
Ntotal=448 (100%) (500-n of no education and n of primary education(14+37)- n don't know(1)=448)			
Living situation		22.36*** (4)	
living alone	118 (23.6%)		45.8%
living together with partner and children	127 (25.4%)		46.5%
living together with partner	189 (37.8%)		31.2%
living together with children	14 (2.8%)		28.6%
other living situation (e.g., living together with parents, other relatives, friends or acquaintances)	52 (10.4%)		15.4%
Residential area		5.15* (1)	
city	263 (52.6%)		41.4%
village	237 (47.4%)		31.6%

*p<.05 **p<.01 ***p<.001

#regular education= schools visited by all children (with or without impairments)/ special education= schools only visited by children with impairments

Regarding the visual impairment characteristics we found no significant differences between working and not-working people.

50% of the participants was 52 years or older. Almost one-third of the respondents completed higher professional education or university (29.4%). Most respondents followed regular primary and secondary education (76.3% and 78.6%).

We found significant demographic differences between working and not-working people with visual impairments regarding age, sex, educational level, living situation, and residential area. People with visual impairments with paid work often were: 25-34 years old, male, highly educated, living with partner and children, and living in a city.

Labour participation

Employment/Unemployment rate (research questions 4-5)

Figure 1 and Table 3 show employment/unemployment rate related results.

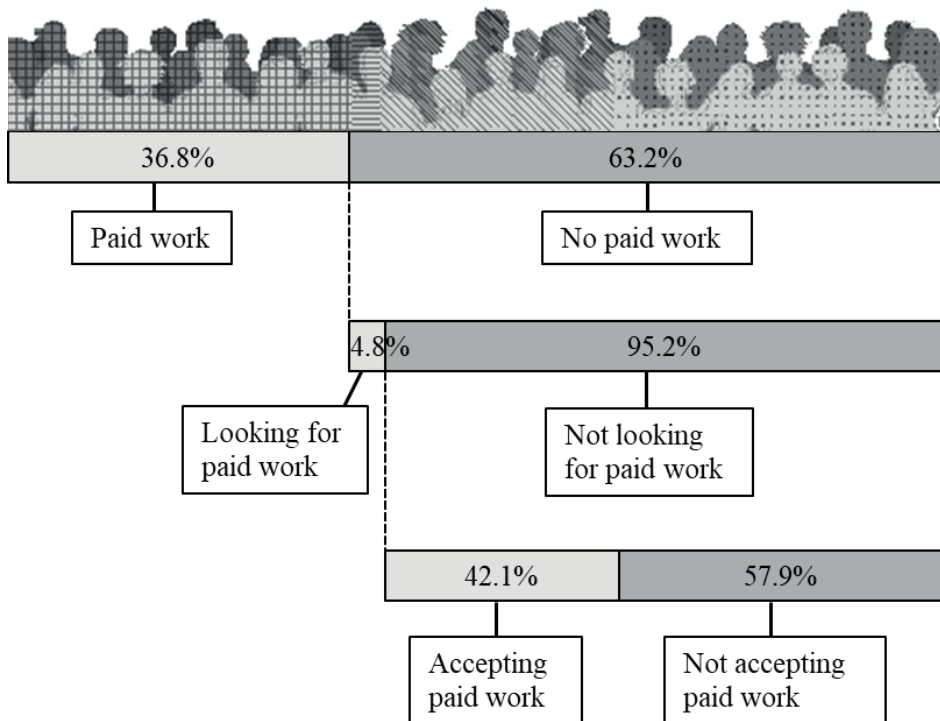


Figure 1. Paid work, looking actively for paid work, and accepting paid work if offered

Table 3. Employment/Unemployment rate related results

Characteristics	N (% within total)
Paid work	
yes	184 (36.8%)
no	316 (63.2%)
Ntotal= 500 (100%)	
No paid work: actively looking for paid work	
yes	15 (4.8%)
no	300 (95.2%)
Ntotal= 315 (100%)	
(500-n paid work(184)-n refusal (1)=315)	
No paid work, actively looking for paid work:	
reasons looking for paid work*	
* I would like to work	11 (73.3%)
* I need money	5 (33.3%)
* The municipality or the social security organisation stimulate me to look for paid work	1 (6.7%)
* Other reason: to stay in touch with other persons	2 (13.3%)
Ntotal=15 (100%)	
No paid work, not actively looking for paid work:	
accept suitable job if offered	
yes	123 (42.1%)
no	169 (57.9%)
Ntotal=292 (100%)	
(500- n paid work (184)- n actively looking (15)- n refusal (2) - n don't know (7)=292)	
No paid work, not actively looking for paid work, would accept job if offered:	
reasons not looking for paid job*	
* It is difficult for me to look for a paid job myself	16 (13.0%)
* I don't really know what kind of job would suit me	20 (16.3%)
* I do not feel a direct necessity to work	30 (24.4%)
* I don't really know	10 (8.1%)
* Other reasons:	87 (70.7%)
◦ social security income due to work disability	→ 26 (21.1%)
◦ still getting education	→ 8 (6.5%)
◦ other health problems, too ill to work	→ 8 (6.5%)
◦ too old	→ 6 (4.9%)
◦ remainder (less than 5 persons mentioned these reasons, for example still in rehabilitation; looked for work a lot in the past without success; work circumstances not suitable like dog guide not allowed; employer not willing/able to pay for expensive equipment; not possible to rest at workplace; too serious eye disease; doing voluntary work; being occupied with domestic care tasks; transportation problems; starting own business)	→ 39 (31.7%)
Ntotal=123 (100%)	

Table 3. Continued.

Characteristics	N (% within total)
No paid work, not actively looking for paid work, would not accept job if offered:	
reasons not accepting job if offered*	
* I am attending education/ courses	16 (9.5%)
* I take care of my children	9 (5.3%)
* I am occupied with domestic care tasks	27 (16.0%)
* I am partly or totally work disabled	96 (56.8%)
* Other reasons:	59 (34.9%)
° too old, early retirement	→ 24 (14.2%)
° other health problems, too ill to work	→ 6 (3.6%)
° remainder (less than 5 persons mentioned these reasons, for example being satisfied with doing voluntary work (less pressure); taking care of ill partner or child; don't want to work; still psychological problems, not yet ready to work; not working for too long; not able to work)	→ 29 (17.2%)
Ntotal= 169 (100%)	

* The total of the answer categories is not 100%, because respondents could give more than one answer.

Table 3 shows that the employment rate among Dutch people with visual impairments is 36.8%. The official unemployment rate is 3.0% $((15/500)*100)$ and the unofficial unemployment rate is 27.6% $((15+123)/500*100)$. Only few of the respondents having no paid work were actively looking for paid work (4.8%), although almost half of the persons who had no paid job and were not actively looking for paid work would accept a suitable job if offered to them (42.1%).

People who had no paid job, were not actively looking for a job, but would accept a job if offered to them mostly mentioned as reason to not look for a job themselves 'not feeling a direct necessity to work' (24.4%). Having a social security income due to work disability was the most mentioned 'other' reason and the second most mentioned reason overall in this question (21.1%).

People who had no paid job, were not actively looking for a job, and would not accept a job if offered to them mostly mentioned as reason to not accept the job was 'being partly or totally work disabled' (56.8%). Being too old or already being retired is the most mentioned 'other' reason in this question (14.2%).

Job characteristics of the employed people with visual impairments (research question 6)

Most of the employed participants had 1 paid job at the time of the interview (93.5%); 5.4% had 2 paid jobs.

Regarding job 1: Most of the employed participants had no sheltered work/ worked in competitive employment (87.5%). The mean contract hours per week were 27.64 (SD 11.11). Most of the employed participants had a permanent contract (75.0%), whereas 10.9% a temporary contract and 11.4% was self-employed or freelancer.

Most employed participants seemed (very) satisfied with their job, only 9.8% mentioned a job satisfaction lower than 6 (range 1-10), the mean satisfaction was 7.67 (SD 1.68, min-max 1-10), and 63.6% mentioned a job satisfaction of 8 or higher. Overall, 36.9% of the employed participants felt underemployed. Participants seemed more satisfied with the amount of hours working and the level of the job in relation to their qualifications, experience, and education than with the chances for advancement and the rate of pay.

Note that the employment rate, job satisfaction, and underemployment were calculated including all persons having paid work (also including sheltered work).

Discussion

The aim of this study was to collect data regarding labour participation of people with visual impairments in the Netherlands. A structured survey was conducted by telephone among 500 people with visual impairments in 2010. 11.0% of the participants reported blindness, 37.3% reported very low vision, and 51.7% reported low vision.

Just as in the general working-age population, mainly male, relatively young, and highly educated people with visual impairments are working.

Labour participation

The employment rate of people with visual impairments was 36.8%, the official unemployment rate was 3.0%, and the unofficial unemployment rate was 27.6%. The mean job satisfaction was 7.67 (scale 1-10) and the underemployment was 36.9%. Note that these results include sheltered work.

The employment rate of people with visual impairments in this study is lower than the employment rates of 7 other groups with chronic diseases/impairments in the Netherlands (Klabbers et al., 2014), but in line with international employment rates of people with visual impairments (Goertz et al., 2010). Goertz et al. also found that globally the employment rate of people with visual impairments is much lower than the employment rate of the general population. A similar picture arises for the Netherlands (Statistics Netherlands, 2010). It is promising though that quite some

people with visual impairments would accept a paid job if offered, because this gives opportunities for enhancing the employment rate.

Almost one-fourth of the participants who would accept a suitable job if offered, did not look for paid work themselves because they did not feel a direct necessity to work, possibly because their partner earned enough money or they had a social security income.

Some participants reported they would accept a suitable job if offered at this moment, but were not looking for paid work because of the 'other' reasons: 'other health problems/too ill to work', 'still getting education', and 'still in rehabilitation'. These reasons seem to suggest that working is impossible at this moment. On the other hand, it could be that persons who said that they were still following education or in rehabilitation, were almost finished or thought of a suitable job as a job that could be combined somehow with their current education or rehabilitation. Another remarkable finding is that quite some participants said they would accept a suitable job if offered, but were not looking for paid work because of the 'other' reason 'social security income due to work disability'. Hence for some persons a social security income might reduce their ambition to work. Other participants would not accept a paid job because they are partly/totally work disabled. The Dutch social security system could partly have a paralyzing effect on some persons in this group as well because when they would start working their work disability social security safety net could gradually disappear and cannot always be restored easily when the job does not work out well after a longer period. This could make them anxious and hesitant to start working.

Next to the reason of having a social security income, the 'other' reasons 'too old' and 'doing voluntary work' also were mentioned both in the group of participants who would accept a suitable job but were not looking for a job, and in the group of participants who would not accept a suitable job. This shows that the same reasons can lead to different choices.

The job satisfaction seems quite high, which could mean that people with visual impairments are not just doing their job because they feel glad to be hired, but also seem truly satisfied with their job. On the other hand, the mere fact that they have paid work could already be quite satisfactory for this group.

Given our job satisfaction results, one would expect underemployment to be lower than reported. A possible explanation for the relatively high underemployment could be that job satisfaction is influenced by other factors, like the kindness and help

from coworkers, rather than the ones measured in underemployment, because job satisfaction is a very broad concept. Furthermore, like mentioned above, it could be possible that working people with visual impairments are happy to have paid work, even when for example the level of the job is not fully in line with their education. The underemployment in our study is almost the same as the underemployment in the New Zealand study of people with visual impairments by La Grow (2004).

Methodological reflection

By using telephone interviews to collect data, we probably excluded some persons with a combination of visual and hearing impairment (Usher Syndrome). The non-respondents and the respondents are quite similar regarding age, sex, and having paid work.

The persons in our sample were relatively old, which is understandable considering the target group: the chance of a visual impairment increases with age. High age as well as early retirement partly explain why people with visual impairments are not looking for paid work or would not accept a suitable job if offered.

The level of education of our sample was in line with the level of education of the general working-age population (Statistics Netherlands, 2010). Because of a lack of information regarding the level of education of people with visual impairments in the Netherlands, we are not sure whether our sample is representative in this respect. It is possible that our sample was relatively highly educated, taking into account the stronger tendency of the highly educated to participate in research in general and the results of our non-response analyses regarding level of education.

The level of visual impairment is hard to determine without medical information from ophthalmologists. Professionals working with people with visual impairments advise not to ask people with visual impairments themselves about their medical data because of the unreliability of these data. Our two methods of measurement will not give a perfect overview of the level of visual impairment, but we think it was the optimal strategy for the purpose of this study.

Finally, since our study was cross-sectional, no causal relationship can be inferred between the independent factors and having paid work, only associations can be shown.

Implications for practice and future research

Our results show that it is important to enhance the employment rate of people with visual impairments. Professionals, such as vocational rehabilitation experts, could

play important roles in enhancing this employment rate. They can help people with visual impairments to achieve their highest possible educational level by helping them to find suitable education and facilitating them during this education by for example helping them to get access to the right equipment.

Although more participants with a higher educational level had paid work, still almost half of the participants with higher professional education or a university degree had no paid work. More research, also with longitudinal designs, regarding factors associated with paid work of people with visual impairments is needed.

Some people with visual impairments mentioned that they would accept a paid job if offered but were not looking for paid work or would not accept paid work if offered because they were doing voluntary work. Several of them mentioned that they were happy and satisfied with the freedom to work in their own way and pace and with the lower work pressure of voluntary work. Thus, a possible way to increase the employment rate of people with visual impairments might be the transition of persons who do voluntary work into paid work with similar characteristics as voluntary work. This transition might be difficult though in our contemporary society of efficiency, deadlines, and high work pace.

Furthermore, it is important for job coaches to be aware of possible fear of people with visual impairments to lose the disability social benefits when they would start working and get fired because of malfunctioning. Clear information regarding possibilities to return to social benefit in case of malfunctioning and a longer probation period in a job could maybe reduce this fear to start working.

Finally, vocational rehabilitation experts could help to decrease the underemployment of people with visual impairments. All aspects of underemployment we measured need improvement. Professionals could for example help people with visual impairments to increase their chances for advancement within companies by following extra courses to foster expertise. Regarding chances for advancement, it would also be important to find out what employers think.

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Chapter 4

Factors associated with participation on the competitive labour market of people with visual impairments in the Netherlands

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Abstract

Background

Worldwide, the employment rate of people with visual impairments (PVI) is lower than that of the general working-age population. To improve the employment rate of this group, there is a need for knowledge about differences in modifiable factors between working and non-working PVIs.

Objective

To identify modifiable factors associated with participation on the competitive labour market of PVIs. Based on the findings, we aim to develop an individual assessment instrument for determining the odds of labour market success of PVIs.

Methods

Data were collected among 299 PVIs by means of a cross-sectional telephone survey based on existing (validated) and self-developed scales and items. Logistic regression analysis was used to find the strongest predictors of the dichotomous outcome of 'having paid work on the competitive labour market' (yes/no).

Results

We found three personal non-modifiable factors (level of education, comorbidity, level of visual impairment) and three modifiable factors (mobility, acceptance and optimism) to be significantly ($p < 0.05$) associated with having paid work.

Conclusions

The factors of optimism, acceptance and mobility should be included in an individual assessment instrument which can provide PVIs and their job coaches with good starting points for improving the labour market situation of the PVIs.

Introduction

Worldwide, employment rates of people with disabilities are consistently lower than those of people without disabilities. People with disabilities are confronted with many barriers on their way to finding and keeping jobs (e.g., stigmatization, lack of information among employers) [1]. People with visual impairments in particular appear to be highly stigmatized by employers and face many difficulties on the labour market [1, 2]. In the Netherlands, the employment rate of people with visual impairments is 36.8% [Goertz, Houkes & Nijhuis, unpublished data] as compared to a rate of 67.1% among the general working-age population [3]. Improving the employment rate of people with visual impairments is of crucial importance, particularly since January 2015, when the Participation Law was introduced in the Netherlands [4]. Even though there are indications that sheltered employment provides workers with disabilities with a more stable career path [5], it is the purpose of this law to enhance participation on the competitive labour market of people with impairments and discourage working in sheltered jobs or living on social benefits. This legislation fits in with the current Dutch and European development towards a so-called “participatory society” in which citizens are expected to become less dependent on the welfare state and public services and are expected to support themselves, and to provide and receive (informal) care for or from others [4, 6, 7].

Earlier research has shown that a considerable group of people with visual impairments in the Netherlands (42.1%) are not actively looking for paid work, but would accept a job if offered. This group could be a relevant starting point for increasing the labour participation among people with visual impairments [Goertz, Houkes & Nijhuis, unpublished data]. For this to happen, there is a need for knowledge about modifiable factors that differ between people with visual impairments who are in paid work and those who are not. What are the most important differences between working and non-working people with visual impairments? Which personal factors determine the success of people with visual impairments on the labour market?

The widely known and acknowledged International Classification of Functioning, Disability and Health (ICF) was used as the conceptual starting point for this study. The ICF is a classification system that can be used to identify factors that may influence participation, including participation in work, and is used to tailor interventions and treatments based on these factors [8, 9]. The ICF shows that factors associated with labour participation include environmental and personal factors. As regards people with visual impairments, this classification system has been used to investigate the rehabilitation needs of these people and it can help professionals such as job coaches to recognize important environmental factors (including the willingness of employers

to hire persons with visual impairments), and important personal factors (such as coping skills) which may influence the functioning of employees [10].

In this study, we focused on the association between several modifiable personal (individual) factors and labour, namely three skills (mobility, computer skills, and social skills) and six psychological factors (acceptance of the visual impairment, active coping, optimism, meaning in life, mental health, and psycho-somatic problems). This selection was based on a systematic literature review of factors affecting the employment of people with visual impairments [2] and on expert advice by members of the advisory board of this research project (including practitioners, professionals, people with visual impairments, researchers and policy advisors). Wolffe and colleagues [11] found that having confidence in the future (i.e. optimism) was positively associated with paid work among people with visual impairments. Other studies reported an independent attitude, social skills, proactive behaviour, a positive attitude towards life, spirituality, choosing employment with personal relevance, and taking responsibility for what happens in your own life as success factors for employment [2, 12–17].

The aim of this study was to identify modifiable personal factors associated with participation on the competitive labour market of people with visual impairments. Based on the findings, we aim to develop an individual assessment instrument which can be used to improve the chances of labour market success for persons with visual impairments. This instrument is expected to be used by job coaches when planning strategies for job integration or reintegration pathways and during intake interviews with clients taking part in these pathways.

The research question in this study was:

Which modifiable personal factors are associated with participation on the competitive labour market of people with visual impairments in the Netherlands?

Methods

Design

This study had a cross-sectional design. Data were collected by means of telephone interviews (structured questionnaire) which lasted one hour on average. These interviews were conducted in 2010.

Procedure and participants

As there is no database of people with visual impairments in the Netherlands, we recruited participants through two companies (Optelec and Ergra Low Vision) which provide equipment for persons with various types and levels of visual impairment throughout the Netherlands [Goertz, Houkes & Nijhuis, unpublished data]. After removal of duplicates, random samples (total $n = 3500$) were taken from the customer databases. Optelec and Ergra sent this group a written/audio invitation asking them to participate in the study (using a large font size letter and audio CD). They were then phoned to find out whether they met the inclusion criteria. If so, they were asked whether they were willing to participate in the study.

There were 1064 people who met the inclusion criteria, which were:

- age 15–64 (i.e. working-age population, according to Statistics Netherlands [18];
- having a visual impairment (which means not being able to correct vision with a normal pair of glasses/lenses; this criterion was left to the interpretation of the participants);
- if working, working in the Netherlands;
- being able to participate in a telephone interview in Dutch (no severe hearing impairment/no mental retardation, as communicated by relatives or caretakers).

Of these 1064 persons, 564 chose not to participate (e.g., due to lack of interest or time, or being ill). These non-respondents were asked to answer four non-response questions (age, sex, educational level, and whether they were in paid work). Participants appeared somewhat more highly educated than non-respondents. For more information regarding the non-response analyses, please see Goertz, Houkes & Nijhuis [unpublished data] on request from the authors.

Of the 1064 eligible persons, 500 were thus willing to participate (response rate 47%). All participants gave verbal informed consent prior to entering the telephone survey [Goertz, Houkes & Nijhuis, unpublished data]. Persons working in sheltered employment, as well as those who would not accept paid work if offered it, were excluded from the analyses. The latter group (consisting of 201 persons) was considered to be unavailable for the labour market [Goertz, Houkes & Nijhuis, unpublished data]. This means that the final study sample consisted of 299 persons. In this sample, 161 persons had paid work on the competitive labour market, and 138 persons did not, but were looking for paid work or would accept a suitable job offer.

Measurement instruments

Outcome measure

The outcome measure was having paid work (yes/no).

Modifiable factors

Skills

All skills questions were self-developed based on expert advice of members of the advisory board of our study.

Mobility was measured by means of a single item: 'How do you rate your own mobility? This means being able to travel distances by yourself.' The response scale ranged from 1 (very poor) to 5 (very good). Responses were categorized into 1 (very poor/poor) and 2 (reasonable/good/very good).

Computer skills were measured by means of a single item: 'Are you able to use a computer?'. The response scale ranged from 1 (yes) to 3 (no). Responses were categorized into 1 (yes/to some extent) and 2 (no).

Social skills were measured by means of a single item: 'I have a network of people, with whom I can engage in social activities if I would want to.' The response scale ranged from 1 (no) to 4 (yes). Responses were categorized into 1 (no/hardly) and 2 (somewhat/yes).

Psychological factors

Acceptance of the visual impairment can be defined as being in agreement with yourself, and to appreciate, value, accept, and support who you are at this moment. Acceptance is considered an important factor in someone's adjustment to and daily functioning with a disability. Adjustment is a multi-dimensional construct, referring to the process of behavioural, cognitive, emotional and social adaptation to positive and negative life changes, as well as to the outcome of this process [19]. Acceptance was measured by means of a subscale of the Nottingham Adjustment Scale [20], which consists of 9 items (Cronbach's $\alpha = 0.88$). The response scale ranged from 1 (totally disagree) to 5 (totally agree) and an example item is: 'Because of my eye problem, I have little to offer other people.'

Coping strategies represent behavioural, cognitive and emotional efforts to deal with stressful encounters. We measured active coping, which involves awareness of a stressor, followed by attempts to reduce the negative outcome. Active coping is often considered to be the most suitable coping strategy [21]. Active coping was measured by means of a subscale of the Utrechtse Copinglijst (Utrecht Coping List, [22]), which

consists of 7 items (Cronbach's $\alpha = 0.78$). The response scale ranges from 1 (seldom or never) to 4 (very often) and an example item is: 'When a problem occurs, I can think of multiple ways to solve it.'

Dispositional optimism is defined as the generalized expectation that good outcomes will ensue when one confronts major problems [23]. Optimism was measured by means of the Life Orientation Test Revised [24], which consists of 6 items (Cronbach's $\alpha = 0.63$). The response scale ranges from 1 (totally disagree) to 5 (totally agree) and an example item is: 'I hardly ever expect things to go my way.'

Meaning in life refers to the degree to which individuals can envision their lives within some meaningful perspective or have a set of life goals or a philosophy of life. Meaning in life was measured by means of a subscale of the Life Regard Index, namely the Framework of Meaning in Life [25, 26], which consists of 5 items (Cronbach's $\alpha = 0.83$). The response scale ranges from 1 (totally disagree) to 5 (totally agree) and an example item is: 'I have a clear idea of what I'd like to do with my life.'

Mental health can be defined as a state of well-being in which each individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community [9]. Mental health is considered to be an important predictor of labour participation in the ICF model [8] and was measured by means of the Mental Health Inventory [27], which consists of 5 items (Cronbach's $\alpha = 0.84$). The response scale ranges from 1 (never) to 6 (always) and an example item is: 'How often during the past four weeks did you feel calm and satisfied?'

Psychosomatic problems relate to physical symptoms but are thought to be caused by emotional or psychological factors [28]. Psycho-somatic problems were measured by means of the short version of the Vragenlijst Onderzoek Ervaren Gezondheid (Questionnaire for subjective health study) [28, 29], which consists of 13 items (Cronbach's $\alpha = 0.82$). The response scale ranges from 1 (yes) to 2 (no) and an example item is: 'Do you frequently experience shortness of breath?'

Non-modifiable factors (covariates)

Age was assessed by birth date.

Sex was assessed in two categories (male/female).

Level of education (= highest level completed) was measured in five categories (no education/primary education/secondary education/professional education for

16–18 year olds and adults/higher professional education or university; cf. Statistics Netherlands, 2008). These responses were categorized into low education (no education/primary education), average education (secondary education/professional education for 16–18 year olds and adults), and high education (higher professional education or university).

Living situation was assessed in eight categories (living alone/living together with partner and children/living together with partner/living together with children/living together with parents or other relatives (children not included)/living together with friends or acquaintances/sheltered housing/other). These responses were categorized into living alone and living together (all seven types of living together with others).

Comorbidity (having another chronic disease or impairment besides the visual impairment) was assessed by 13 questions, asking whether the respondent had diabetes/mental disorder (e.g., depression)/cancer/heart disease/lung disease/asthma/neurological disease/problems of the musculoskeletal system/hearing loss or deafness/autism or autism-related disorders/non-congenital brain injury caused for example by a tumour/chronic fatigue syndrome/kidney disease/other chronic disease or impairment (based on expert advice by members of the advisory board of our study). These responses were categorized into yes (at least one chronic disease or impairment) and no (no comorbidity).

Level of visual impairment was measured by two questions: 'Are you able to see the difference between light and dark? (yes/no), and 'Are you able to read headlines in a newspaper without special equipment? (yes/no) [30, Goertz, Houkes & Nijhuis, unpublished data]. Respondents who were unable to see the difference between light and dark were classified as blind, those who were able to see the difference between light and dark but were not able to read headlines in a paper were classified as very low vision, and those who were able to see the difference between light and dark and were able to read headlines in a paper were classified as low vision. This classification was based on the advice of an ophthalmologist and appeared to be in line with the way the respondents classified themselves in the answers to a more subjective question (Would you classify yourself as blind/very low vision/low vision?) [Goertz, Houkes & Nijhuis, unpublished data].

Age of onset of the visual impairment was classified into two categories (congenital/acquired later in life).

Analyses

All analyses were performed using the SPSS 22 computer program. We first performed descriptive analyses (*M*, *SD*, Pearson correlations). In order to answer the research questions, participants who were or were not in paid work were compared regarding both their non-modifiable and modifiable factors. Depending upon whether the characteristic was categorical or continuous, cross-tabulations (Chi²-test) or *t*-tests were used to check the statistical significance of the differences. In a subsequent step, logistic regression analyses were used to estimate odds ratios of having paid work (yes/no) for the different factors. The non-modifiable factors were included in all models. We examined whether the individual modifiable factors and the combined set of significant modifiable factors correlated with having paid work. A stepwise approach was considered when there were signs of multicollinearity. Both a forward and a backward procedure were used to check for consistency in the findings. Only variables with *p*-values <0.05 were considered in the final models.

Results

Table 1 shows that the working and non-working respondents differed significantly from each other regarding level of education, comorbidity, level of visual impairment, mobility, acceptance of the visual impairment, active coping, optimism, mental health, and psychosomatic problems. Table 2 shows that most of the correlations between the modifiable factors were statistically significant.

Table 1. Descriptives and *t*-/Chi²-tests (*n* = 299)

Variables	M(SD)/%	M(SD)/% working (<i>n</i> = 161)	M (SD)/% non-working (<i>n</i> = 138)	<i>t</i> -/Chi ²
Non-modifiables				
Age	45.65 (12.04)	45.84 (11.64)	45.43 (12.52)	-0.29
Sex				0.65
– men	48.2%	50.3%	45.7%	
– women	51.8%	49.7%	54.3%	
Level of education				21.67*
– low	8.0%	3.1%	13.8%	
– average	56.5%	51.6%	62.3%	
– high	35.5%	45.3%	23.9%	
Living situation				2.62
– living alone	25.4%	29.2%	21.0%	
– living together	74.6%	70.8%	79.0%	
Comorbidity				11.27*
– comorbidity	61.5%	52.8%	71.7%	

Table 1. Continued.

Variables	M(SD)/%	M(SD)/% working (n = 161)	M (SD)/% non-working (n = 138)	t-/Chi ²
– no comorbidity	38.5%	47.2%	28.3%	
Level of visual impairment				7.09*
– low vision	53.2%	60.2%	44.9%	
– very low vision	39.8%	34.2%	46.4%	
– blind	7.0%	5.6%	8.7%	
Age of onset				0.61
– from birth	25.4%	23.6%	27.5%	
– later in life	74.6%	76.4%	72.5%	
Modifiables				
<i>Skills</i>				
Mobility skills				8.40*
– (very) poor	17.7%	11.8%	24.6%	
– reasonable to very good	82.3%	88.2%	75.4%	
Computer skills				1.53
– to some extent/yes	91.3%	93.2%	89.1%	
– no	8.7%	6.8%	10.9%	
Social skills				1.49
– no/hardly	16.7%	14.3%	19.6%	
– somewhat/yes	83.3%	85.7%	80.4%	
<i>Psychological factors</i>				
Acceptance of the visual impairment	35.54 (6.76)	37.15 (5.81)	33.66 (7.31)	–4.52*
Active coping	19.50 (3.27)	20.00 (3.17)	18.91 (3.30)	–2.90*
Optimism	21.71 (3.36)	22.45 (3.17)	20.84 (3.38)	–4.24*
Meaning in life	18.57 (3.55)	18.92 (3.38)	18.16 (3.71)	–1.85
Mental health	24.19 (4.04)	24.71 (3.45)	23.59 (4.57)	–2.37*
Psychosomatic problems	3.68 (3.13)	3.07 (2.80)	4.38 (3.34)	3.63*

* $p < 0.05$.**Table 2 Pearson's correlations of the modifiable factors (n = 299)**

Modifiable factors	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Mobility skills	1								
2. Computer skills	–0.24*	1							
3. Social skills	0.11*	–0.19*	1						
4. Acceptance of the visual impairment	0.39*	–0.26*	0.31*	1					
5. Active coping	0.09	–0.17*	0.15*	0.30*	1				
6. Optimism	0.18*	–0.12*	0.21*	0.46*	0.45*	1			
7. Meaning in life	0.14*	–0.10	0.28*	0.41*	0.38*	0.45*	1		
8. Mental health	0.21*	0.02	0.25*	0.46*	0.18*	0.38*	0.38*	1	
9. Psychosomatic problems	–0.23*	0.16*	–0.14*	–0.35*	–0.08	–0.27*	–0.17*	–0.41*	1

* $p < 0.05$.

Table 3 shows that the modifiable factors of mobility (OR 2.65, 95% CI 1.34–5.23), acceptance of the visual impairment (OR 1.07, 95% CI 1.02–1.11), active coping (OR 1.08, 95% CI 1.00–1.17), optimism (OR 1.14, 95% CI 1.05–1.24), and psychosomatic problems (OR 0.89, 95% CI 0.81–0.97) were significantly associated with having paid work, when individually tested (with adjustment for the non-modifiable factors).

None of the associations between the modifiable characteristics and having paid work remained statistically significant when they were simultaneously introduced into the same model (not tabulated). Closer inspection of the Pearson correlations indicated a pattern of strong associations between optimism and all other psychological factors, the highest correlation being 0.46 for optimism and acceptance ($p < 0.01$, see Table 2). A stepwise procedure allowed the identification of the modifiable characteristics with the strongest associations.

Table 3 Odds ratios (95% confidence intervals) of having paid work, for the individual modifiable factors, adjusted for the non-modifiable factors^a

Variables	OR	95% C.I.
<i>Skills</i>		
Mobility skills	2.65*	1.34–5.23
Computer skills	1.26	.49–3.23
Social skills	.92	.46–1.83
<i>Psychological factors</i>		
Acceptance of the visual impairment	1.07*	1.02–1.11
Active coping	1.08*	1.00–1.17
Optimism	1.14*	1.05–1.24
Meaning in life	1.04	0.97–1.12
Mental health	1.07	1.00–1.14
Psychosomatic problems	0.89*	0.81–0.97

* $p < 0.05$. ^aAdjusted for all non-modifiable factors: age, sex, level of education, living situation, comorbidity, level of visual impairment, age of onset.

Table 4 shows the model that resulted from both a forward and a backward stepwise procedure. Five factors were significantly associated with having paid work: level of education (OR 4.59, 95% CI 1.51–14.01 and 8.41, 95% CI 2.63–26.91), comorbidity (OR 2.18, 95% CI 1.23–3.86), level of visual impairment (OR 0.54, 95% CI 0.31–0.92), mobility (OR 2.23, 95% CI 1.10–4.51) and optimism (OR 1.12, 95% CI 1.03–1.22). The probability of having paid work was higher for respondents with an average or higher level of education, for respondents without comorbidity, for respondents

who have low vision, for respondents who have no problems of mobility (i.e., whose mobility is fair to very good), and for more optimistic respondents.

Because of the high correlation between optimism and the other psychological factors (see Table 2), the stepwise analysis was repeated, but now excluding optimism. This resulted in a final model including mobility and acceptance (Table 5). Similar odds ratios were found as in Table 4, except that acceptance (OR 1.05, 95% CI 1.01–1.10) was now included and optimism excluded. The probability of having paid work was higher for respondents with a greater acceptance of their visual impairment.

Table 4 Odds ratios (95% confidence intervals) of having paid work for mobility and optimism, adjusted for the non-modifiable factors^a

Variables	OR	95% C.I.
<i>Non-modifiable factors</i>		
Age	1.02	1.00–1.04
Sex	0.66	0.40–1.11
Level of education		
– low (reference group)		
– average	4.59*	1.51–14.01
– high	8.41*	2.63–26.91
Living situation	0.69	0.37–1.28
Comorbidity	2.18*	1.23–3.86
Level of visual impairment		
– low vision (reference group)		
– very low vision	0.54*	0.31–0.92
– blind	0.53	0.19–1.46
Age of onset	1.37	0.74–2.54
<i>Modifiable factors</i>		
Mobility skills	2.23*	1.10–4.51
Optimism	1.12*	1.03–1.22

* $p < 0.05$. ^aModel is resultant of stepwise logistic regression including all individually significant modifiable factors with the non-modifiable factors forced into the model.

Table 5 Odds ratios (95% confidence intervals) of having paid work for mobility and acceptance, adjusted for the non-modifiable factors^a

Variables	OR	95% C.I.
Non-modifiable factors		
Age	1.02	1.00–1.05
Sex	0.64	0.38–1.08
Level of education		
– low (reference group)		
– average	4.42*	1.45–13.5
– high	8.33*	2.59–26.8
Living situation	0.77	0.42–1.42
Comorbidity	2.08*	1.18–3.69
Level of visual impairment		
– low vision (reference group)		
– very low vision	0.58*	0.34–0.99
– blind	0.54	0.20–1.50
Age of onset	1.42	0.77–2.62
Modifiable factors		
Mobility skills	2.12*	1.04–4.34
Acceptance of the visual impairment	1.05*	1.01–1.10

* $p < 0.05$. ^aModel is resultant of stepwise logistic regression including the individually significant modifiable factors without optimism with the non-modifiable factors forced into the model.

Discussion

The aim of this study was to identify modifiable factors associated with participation on the labour market of people with visual impairments in the Netherlands. The findings might be useful to improve the labour situation of this group. Informed consent was obtained for a structured telephone survey among 299 people with visual impairments, which found that 161 people had paid work and 138 people were looking for paid work or would accept a suitable job offer. These people were included in the logistic regression analyses to find the significant modifiable factors (including several skills and psychological factors) that were associated with having paid work.

Personal factors associated with labour participation of people with visual impairments

People with visual impairments with better mobility (being able to travel independently), a higher level of optimism and a higher acceptance of their visual impairment have better chances on the labour market. These factors should be included in an individual assessment instrument which can provide people with visual impairments and their

job coaches with good starting points for improving their labour market situation. Mobility is a skill which can be acquired and supported, even though it may be difficult. Earlier research has also shown that mobility is a very important factor in the lives of (young) people with visual impairments which contributes to their well-being and sense of independence [31]. Acceptance and optimism are psychological factors which may also considerably improve the labour market chances of people with visual impairments. According to Sampson [19], for instance, acceptance is a very important factor in the process of adjusting to a disability. And adjustment is linked to greater self-efficacy, higher self-esteem, lower levels of depression and a more internal locus of control, and is likely to be a necessary factor for adequate functioning in various areas of life, including work. It is paramount for job coaches and work psychologists to facilitate the acceptance of being blind or visually impaired. Like acceptance, optimism appeared to be an important factor in labour market success. Optimism might be linked to the motivation of people with visual impairments to cope adaptively with their vision loss and job rehabilitation, and may also be associated with psychological and physical well-being [32, 33]. These processes appear to be important for labour market success as well. We strongly believe that both acceptance and optimism are important factors in explaining the labour market success of people with visual impairments. In our regression models, both concepts appeared to be interchangeable; independently, they contribute to labour market success, but not when combined in a regression model. This could well be explained by the assumption that both concepts are strongly interrelated (see also the high and significant correlation between the two factors in Table 2). Optimism could be the underlying factor leading to higher levels of acceptance. In previous studies optimism was found to relate to many positive outcomes (e.g., positive mood, high self-esteem, psychological well-being, resilience, self-mastery, active coping, and recovery) [32–34].

It appeared that some of the non-modifiable factors were significantly associated with having paid work as well. Even though it is difficult for job coaches to influence or change these factors, it is relevant to know which impact they have on having paid work, because they may combine in a positive or negative way with the modifiable factors. First of all, a high educational level was, as might be expected [35, 36], associated with a higher chance of having paid work (as compared to low education), while comorbidity was associated with lower chances on the labour market. The odds ratio for the level of visual impairment was partly significant (people with low vision having a higher chance of paid work than people with very low vision but not higher than blind people). Our systematic literature review [2] also yielded ambiguous findings regarding the association between level of visual impairment and paid work. In our study, sex was not significantly associated with labour participation, although our systematic review also showed that men generally had higher chances of obtaining

paid work than women. The odds ratio we found shows a similar direction, but was not statistically significant. Like sex, the age of onset of the visual impairment was not significantly associated with labour participation. One might argue that people with congenital vision loss are much better adapted than people with acquired vision loss, and therefore may more easily participate in labour. Others argue however, that children with congenital vision loss are often sent to special schools and are raised in rather protective environments. This means that they are not empowered and not used to functioning in the world of people with normal vision. This may decrease their chances of participation on the competitive labour market. So, age of onset might work both ways. Meaning in life finally, was not significantly associated with having paid work either. A possible explanation could be that people who are more conscious about giving meaning to their life might find this more often in hobbies or voluntary work than in paid work (personal communication Kabel, 2014).

Other influences on labour participation of people with visual impairments

This study found that several modifiable and non-modifiable personal factors play an important role in the labour market success of people with visual impairments. As indicated in the ICF model however, environmental factors influence labour participation as well. These factors are not easily modified, but job coaches who aim to improve the labour market situation of people with visual impairments should be aware of these factors. Employers' willingness to hire persons with impairments, for instance, has a substantial impact on the labour market position of this vulnerable group. Klabbers and colleagues [37] have shown that a positive attitude of employers, in combination with a willingness to adjust work, are important prerequisites for the employability of people with disabilities and/or chronic diseases. Employers who have positive experiences with visually impaired employees could help to stimulate other employers to recruit such employees. Conversely, Goertz and colleagues [2] and Gewurtz and colleagues [1] reported that discrimination by employers and lower expectations on the part of employers regarding the productivity of people with visual impairments is detrimental to their labour participation. The latter is confirmed by Van Wijk and colleagues [38] who claim that the attitude of employers towards people with chronic diseases and disabilities determines their willingness to hire this group. Unfortunately, these attitudes are often based on very few experiences with this group and/or may be dictated by stigmatization [1]. In line with this, the systematic review mentioned above [2] showed that with regard to environmental factors, it is particularly social support [39] and attitudes of parents, school teachers and employers [11] which play a role in labour participation.

Another factor associated with the occupational and rehabilitation process of people with visual impairments has been pointed out by Van Hal [6]. She showed that being in work and reintegration into work of people with disabilities is not all about improving

work-related or social skills, but also implies 'identity work'. After acquiring a disability, people have to relate differently to their bodies, to their ideas of self, and to the society in which they are expected to participate (including work). From the perspective of a person with a visual impairment, even though having paid work is an important way to participate in society, other forms of participation like voluntary work or raising children, can be valuable as well, both for society as a whole and for individual people with visual impairments. Professionals (e.g., job coaches) involved in the rehabilitation of people with visual impairments who ignore this identity work may cause people with visual impairments to feel more detached from the labour market than they felt to begin with [6].

Finally, two macro-level factors related to the Dutch social security system may influence the labour participation of Dutch people with visual impairments. First, when introducing the new Dutch Participation Act [4], the government imposed quota on employers for hiring vulnerable (i.e., impaired or low educated) people. It is questionable whether the obligatory character of this quota is actually helping persons with impairments in the long run (they may feel unwelcome). Furthermore, the quota could also make it more difficult for persons with less serious impairments to find paid work, because they are not covered by this quota. Second, we cannot exclude the possibility that the Dutch social security system has a paralyzing effect on people with visual impairments who are dependent on disability benefits. Distrust of the social security system and public institutions may disempower people with disabilities [40]. When people on disability benefits start to work, the social security safety net disappears gradually and cannot always be restored easily (in case the job does not work out well after a longer period). This situation might make people with visual impairments very hesitant to seek employment.

Strengths and limitations of the study

This study had both strengths and limitations. The recruitment of participants through companies which provide equipment for people with visual impairments was a methodological strength. Since these two enterprises are in contact with the vast majority of people with visual impairments in the Netherlands, this contributed greatly to the representativeness of our sample, more so than recruiting through other channels such as patient or care organizations would have done. The latter procedure would probably have caused selection bias, as we would have reached specific groups: people who are more actively involved in their impairment or in dealing with it, or people who are already looking for help in acquiring paid work.

Limitations of this study were the relatively low response rate, the fact that our sample was more highly educated than the population in general, the cross-sectional study

design, and the determination of the level of visual impairment. The response rate in our study was 47%, which is not high. Considering our difficult-to-reach target group and the method of data collection however, we were nevertheless rather satisfied with this number [cf. Goertz, Houkes & Nijhuis, unpublished data]. Second, our sample appeared to be somewhat more highly educated than the general population. This may have led to a possible underestimation of the associations with education. Another weakness of our study is its cross-sectional design, implying that no causal relationships can be inferred between the variables. We thus cannot fully exclude the possibility that having paid work caused people with visual impairments to have a more favourable outlook on life. Finally, it appeared that the level of visual impairment was hard to determine without medical information from ophthalmologists. Professionals working with people with visual impairments recommended not to ask people with visual impairments themselves about their medical data because of the unreliability of these data [personal communication, Verstraten, 2010]. Our alternative strategy may not have provided objective data on the level of visual impairment among the participants, but we thought it was nevertheless the optimal strategy given the context and purpose of this study.

Implications for future research and practice

This study has provided further information about factors associated with the labour market success of people with visual impairments. However, finding causal relationships between success factors and paid work will require further longitudinal research. Furthermore, it is relevant to include not only personal factors in future research into labour participation of people with visual impairments, but also environmental factors. As regards practical implications, it is important for job coaches to be aware of the importance of mobility, optimism and acceptance of the visual impairment when supporting people with visual impairments in finding employment. We aim to include these factors in an individual assessment instrument (consisting of an online tool and a manual) that we will develop. People with visual impairments (supported by professionals assisting in the process of returning to work) can use this tool to determine which factors are most important for them to improve in order to increase their chances on the labour market. The tool will be based on the findings of this study, with additional information from subsequent sensitivity and specificity analyses.

Depending on the results of this individual assessment, several interventions or actions are available. The mobility of persons with visual impairments could be improved by mobility training courses organized by institutes providing specialized care for people with visual impairments. Many mobility aids, facilities, services and orientation and mobility courses (e.g., using echolocation) are available in the Netherlands for people with low vision [41]. Persons who need support in accepting their visual impairment

could be advised, for example, to have consultations with a psychologist and participate in things like cognitive behavioural therapy or acceptance and commitment therapy. Studies regarding optimism show that this is definitely a modifiable factor, even though interventions, such as the Best Possible Self, are still under development [33, 34, personal communication Peters, 2015].

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Chapter 5

**The assessment instrument:
success factors for paid work of
persons with a visual impairment**

Introduction

Our study (Chapter 4) showed that higher acceptance of the visual impairment, more optimism, and a reasonable to very good mobility were associated with having paid work. Based on these results, we constructed an individual assessment instrument, which measures the degree of acceptance, optimism and mobility of persons with a visual impairment. This instrument can be used in job coaching trajectories. Below we give the definitions of each of the success factors and we describe the questions which measure the factors.

Definitions of the success factors

Acceptance of the visual impairment can be defined as being in agreement with yourself, and to appreciate, value, and support who you are at this moment (Sampson, 2000). Acceptance is about one's assessment of self-approval (Groomes & Linkowski, 2007). Acceptance describes the process a patient must undergo in order to come to terms with altered abilities (Nicholls et al., 2012).

Optimism is defined in terms of generalized outcome expectancies (Scheier & Carver, 1985). Optimists are people who tend to hold positive expectancies for their future and pessimists are people who tend to hold more negative expectations for the future (Scheier et al., 1994). Optimists expect things to go their way, and generally believe that good rather than bad things will happen to them. Other persons have an opposite set of beliefs. These pessimists expect things not to go their way, and tend to anticipate bad outcomes (Scheier & Carver, 1985).

Mobility means being able to travel distances by yourself.

Scales for measuring the success factors

I. **Acceptance of the visual impairment** (subscales of the Nottingham Adjustment Scale, Dodds et al., 1993; Linkowski, 1971; Sampson, 2000)

1. Because of my visual impairment I feel miserable most of the time.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

2. It makes me feel very bad to notice all the things healthy people can do that I cannot.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

3. Because of my visual impairment I can offer others little.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

4. Because of my visual impairment, other people's lives have more meaning than my own.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

5. I feel satisfied with my abilities and my visual impairment doesn't bother me too much.
 - ◇ totally disagree (1)
 - ◇ disagree (2)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (4)
 - ◇ totally agree (5)

6. Almost every life area is closed for me because of my visual impairment.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

7. My visual impairment prevents me from doing just about everything I really want to do and from being the kind of person I really want to be.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

8. In just about everything, my visual impairment is so annoying that I can't enjoy anything.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

9. It happens often that I think about my visual impairment and that makes me so shaken that I am unable to think about something else or do something else.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

The scores of the answers to each of the questions are added. The higher the total score, the higher the acceptance of the visual impairment (range: 9-45).

II. Optimism (Life Orientation Test-Revised, Scheier & Carver, 1985; Scheier et al., 1994)

1. In uncertain times, I usually expect the best.
 - ◇ totally disagree (1)
 - ◇ disagree (2)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (4)
 - ◇ totally agree (5)

2. If something can go wrong for me, it will.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

3. I'm always optimistic about my future.
 - ◇ totally disagree (1)
 - ◇ disagree (2)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (4)
 - ◇ totally agree (5)

4. I hardly ever expect things to go my way.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

5. I rarely count on good things happening to me.
 - ◇ totally disagree (5)
 - ◇ disagree (4)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (2)
 - ◇ totally agree (1)

6. Overall, I expect more good things to happen to me than bad.
- ◇ totally disagree (1)
 - ◇ disagree (2)
 - ◇ neither agree, nor disagree (3)
 - ◇ agree (4)
 - ◇ totally agree (5)

The scores of the answers to each of the questions are added. The higher the total score, the more optimistic a person is (range: 6-30).

III. Mobility

How do you rate your own mobility? This means being able to travel distances by yourself.

- ◇ very poor (1)
- ◇ poor (2)
- ◇ reasonable (3)
- ◇ good (4)
- ◇ very good (5)

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Chapter 7

Summary and Discussion

This study aimed to 1) investigate factors related to paid work of persons with visual impairments described in international research, 2) provide insight into the labour situation of persons with visual impairments in the Netherlands, with the main focus on the employment and unemployment rates, 3) establish personal success factors regarding paid work of this target group in the Netherlands, 4) develop an assessment instrument based on the personal success factors regarding paid work, and 5) investigate the conditions for implementation of this assessment instrument.

In this final chapter, first, the main findings will be summarized. After that, a theoretical reflection will be presented, focusing on the interpretation of the results in terms of the ICF model, the concept of Resilience, the Capability Approach, and the notion of Person-Centered Care. Next, we will reflect on the research from an ethical and a methodological perspective, elaborating on procedures regarding research ethics and methodological choices regarding the design of the questionnaire as well as strengths and limitations of the study. Finally, implications for practice, policy, and future research are formulated, and a general conclusion of the project is drawn.

Key Findings

1) Factors belonging to all ICF categories are associated with paid work of persons with visual impairments in international studies (Chapter 2)

To get an overview of factors related to paid work of persons with visual impairments in international research, a systematic literature review was conducted (Goertz et al., 2010). The International Classification of Functioning, Disability and Health (ICF) model (World Health Organisation, 2001) was used to classify the factors that we found in the studies.

Factors belonging to all ICF categories (Body Functions and Structures, Activities and Participation, Environmental Factors, and Personal Factors) were associated with paid work. In the category Body Functions and Structures, for example, studies showed contradictory results regarding the relationship between the degree of visual loss and labour force participation. Several studies found that the employment rate was higher for persons with less severe visual impairments (La Grow, 2004; Lee & Park, 2008; Shaw et al., 2007), whereas one study showed an opposite result, that is, persons with low vision had more difficulty in work and hobbies than people with total blindness (Wright et al., 1999). Two studies found no significant results between the level of visual impairment and employment (DeLaGarza & Erin, 1993; Wolffe et al., 1992). Regarding Activities and Participation, for example, a record of previous employment and few changes in career objectives were positively associated with

success in vocational rehabilitation (Taheri-Araghi & Hendren, 1994). An example of a relevant environmental factor is that persons with visual impairments whose parents had higher expectations regarding their participation in activities of daily living while they were growing up, were more likely to be employed (Shaw et al., 2007). Regarding personal factors, studies, for example, showed different results regarding the relationship between self-esteem and labour force participation. In one study, self-esteem was associated with employment status, in that blind persons who were unemployed tended to have lower self-esteem than those who were employed (Hagemoser, 1996), whereas another study found no significant association between self-esteem and employment (Beach et al., 1995).

Qualitative studies, for example, mentioned that help from coworkers and employers (e.g., regarding written communication) was positively associated with employment (Crudden, 2002; Golub, 2006; Wolffe & Candela, 2002). Working persons with visual impairments also expressed positive attitudes toward life, and chose employment that had personal relevance (Young, 1995).

2) The employment rate of persons with visual impairments in the Netherlands is considerably lower than that of the general working-age population, and almost half of the persons who did not have a paid job and were not actively looking for paid work would accept a suitable job if offered (Chapter 3)

The quantitative study (structured questionnaire by telephone interviews) gave insight into the labour situation of persons with visual impairments in the Netherlands. In this part of the study, 500 persons with visual impairments participated.

Our study showed an employment rate among Dutch people with visual impairments of 36.8% in 2010 (Goertz et al., 2013; Klabbers et al., 2014). This employment rate is lower than the employment rate of the general working-age population in the Netherlands, which was 67.1% in 2010 (Statistics Netherlands, 2010). A more recent study, using another way of sampling, shows that the employment rate of persons with visual impairments in the Netherlands was 29.0% in the period between 2015 and 2018 (Heppel et al., 2020) as compared to the rate of the general working-age population of 65.4% in 2015 (Statistics Netherlands, 2015).

Only few of the respondents without paid work were actively looking for paid work (4.8%). Yet, almost half of the persons who did not have a paid job and were not actively looking for paid work would accept a suitable job if offered to them (42.1%). Therefore, the official unemployment rate is considerably lower than the unofficial unemployment rate. The official unemployment rate of persons with visual impairments (actively looking for work/total sample) was 3.0%; the unofficial

unemployment rate ((actively looking for work + would accept work if offered)/total sample) was 27.6% (Goertz et al., 2013; Klabbers et al., 2014).

People without a paid job, who were not actively looking for a job, but would accept a job if offered to them, mostly mentioned as the reason not to look for a job themselves that they did not feel a direct necessity to work. Having a social security income due to their work disability was also mentioned often. People who did not have a paid job, were not actively looking for a job, and would not accept a job if offered to them, most often mentioned as a reason to not accept the job that they were partly or totally work disabled. Domestic care tasks were also mentioned often (Goertz et al., 2013; Klabbers et al., 2014).

3) Three modifiable success factors regarding paid work of persons with visual impairments in the Netherlands are: acceptance of the visual impairment, optimism, and mobility (Chapter 4)

In this study, we also established personal success factors regarding paid work of persons with visual impairments in the Netherlands. In these analyses, self-report data from 299 persons with visual impairments were included. We excluded persons working in sheltered employment and persons who would not accept paid work if offered.

We found three personal non-modifiable factors (level of education, comorbidity, and level of visual impairment) and three personal modifiable factors (acceptance of the visual impairment, optimism, and mobility) to be significantly associated with having paid work (Goertz et al., 2017).

Based on these results, we focused on the modifiable personal success factors, that is acceptance of the visual impairment, optimism, and mobility, because in these areas persons with visual impairments can improve.

Acceptance of the visual impairment can be defined as being in agreement with yourself, and to appreciate, value, and support who you are at this moment (Sampson, 2000). Acceptance is about one's assessment of self-approval (Groomes & Linkowski, 2007). Acceptance describes the process a patient must undergo in order to come to terms with altered abilities (Nicholls et al., 2012). Following loss of sight, a period of psychological adjustment is usually necessary in order for individuals to prepare themselves mentally for the tasks ahead. Acceptance has a major impact on the process of adjustment (Dodds et al., 1991; Sampson, 2000).

Optimism is defined in terms of generalized outcome expectancies (Scheier & Carver, 1985). Optimists are people who tend to hold positive expectancies for their future

and pessimists are people who tend to hold more negative expectations for the future (Scheier et al., 1994). Optimists expect things to go their way, and generally believe that good rather than bad things will happen to them. Other persons have an opposite set of beliefs. These pessimists expect things not to go their way, and tend to anticipate bad outcomes (Scheier & Carver, 1985). Optimism versus pessimism can lead to different responses to adversity (Scheier et al., 1994).

Mobility was defined as being able to travel distances by yourself (Goertz et al., 2017).

Higher acceptance of the visual impairment, more optimism, and a reasonable to very good mobility were found significantly more in the group of persons having paid work compared to the group of persons without paid work.

4) The modifiable personal success factors can be integrated in a work-related assessment instrument (Chapter 5)

To develop an assessment instrument based on the personal success factors regarding paid work the questions measuring the success factors acceptance of the visual impairment, optimism, and mobility were integrated in an individual assessment instrument.

Acceptance of the visual impairment was measured by means of a subscale of the Nottingham Adjustment Scale, which consists of 9 items (Dodds et al., 1993; Sampson, 2000). Sampson (2000) mentions that this acceptance subscale was derived from the Linkowski Acceptance of Disability questionnaire (Linkowski, 1971). An example item is: 'Because of my eye problem, I have little to offer other people.' The Dutch version of the acceptance scale we used in our study was not officially translated and validated (Peter Verstraten, personal communication). However, the internal consistency reliability in our study was assessed as good (Cronbach's alpha 0.88, Goertz et al., 2017).

Optimism was measured by means of the Life Orientation Test-Revised, which consists of 6 items (Scheier & Carver, 1985; Scheier et al., 1994). An example item is: 'I hardly ever expect things to go my way.' The Dutch version of the optimism scale was based on an official translation of the LOT. The LOT-R was not fully validated, but factor analysis showed good results (Madelon Peters, personal communication). Our study showed an acceptable internal consistency reliability (Cronbach's alpha 0.63, Goertz et al., 2017).

Mobility was measured by means of a single item: 'How do you rate your own mobility? This means being able to travel distances by yourself.' (Goertz et al., 2017).

This assessment instrument can provide job coaches and persons with visual impairments with specific scores regarding the three modifiable personal success factors and can contribute to improving the work situation of persons with visual impairments.

5) All three success factors are recognized and found important by job coaches, and implementation of the assessment instrument is influenced by facilitators and barriers (Chapter 6)

To investigate the conditions for implementation of the assessment instrument we conducted a qualitative focus group study with job coaches. This study aimed to gain insight into the perceptions of the participants regarding the relevance of acceptance of the visual impairment, optimism, and mobility regarding labour participation. Furthermore, the facilitators and barriers of implementing the assessment instrument were investigated.

The factors acceptance of the visual impairment, optimism, and mobility were recognized and found important by the participants as work-related success factors, both for having and for finding work. Persons with a higher acceptance of the visual impairment have a more realistic view on possibilities and impairments, and as a result are more open to using necessary adjustments which help to save energy, communicate clearer with co-workers and employers and respect their limits better. The importance of a positive attitude towards using aids to reduce fatigue is also mentioned in a study by Luttik et al. (2018). In the vision-specific eHealth intervention E-nergEYEze, which aims to reduce fatigue, the first module addresses the emotional impact of vision loss, concerning for instance processing feelings of grief (Veldman et al., 2021). Being optimistic makes persons with a visual impairment resilient; a positive life view and thinking in possibilities help to cope with difficult situations or disappointments, keep courage, and take action, for example to keep on trying after an unsuccessful application. Regarding the interaction with employers, participants mentioned that people with a higher degree of optimism make a more positive impression because they feel more confident, self-assured, enthusiastic, and experience less worries. This can improve their chances of finding a job. A positive attitude (motivation, persistence, viewing challenges as new opportunities, and proactive behaviour) was also associated with labour participation in the study by Wolffe & Candela (2002). Mobility plays an important role both in getting to the workplace and in finding one's way at the workplace. Being mobile enhances for example the search area for a job and means that less help from co-workers is needed at the workplace. Although mobility increases job chances as it allows a wider area to look for a job, limitations remain regarding travel time because of energy loss. The importance of mobility, including at the workplace, is also mentioned by Bruijning et al. (2010, 2013). Furthermore, the study by Luttik et al. (2018) also showed that

fatigue is related to travelling and mobility.

The recognition by job coaches of the importance of the three factors supports the conclusion that the instrument can improve the labour market situation of persons with visual impairments, and thus can be expected to facilitate use of the instrument. According to the job coaches, which of the three factors should get priority is dependent on the specific situation of the person who is supported.

Regarding the implementation of the assessment instrument, several specific facilitators were found. First, the instrument makes acceptance of the visual impairment, optimism, and mobility measurable, it can function as a tool in the coaching sessions, and the scores can foster awareness in persons with a visual impairment. Second, for less experienced job coaches the instrument can serve as guidance, and for more experienced job coaches it can serve as a check. Furthermore, the measurements can also be useful on an organizational level to discover trends and develop interventions.

Also, barriers regarding the implementation of the assessment instrument were mentioned. The instrument might not be needed as such, as acceptance of the visual impairment, optimism, and mobility are already addressed in reintegration trajectories. Furthermore, it is unclear when to use the instrument (in the first appointment or later in the trajectory), and whether it could be administered by a person with a visual impairment without a job coach present.

Reflection

Theoretical reflection

In this part we will reflect on the key findings, making use of four theoretical frameworks: the ICF model, the concept of Resilience, the Capability Approach, and the notion of Person-Centered Care.

A. ICF model

The ICF model consists of various components: Body Functions and Structures, Activities and Participation, Environmental Factors, and Personal Factors. Employment is part of the major life areas, which belong to the Activities and Participation component (World Health Organisation, 2001). The components of the model can influence each other. This implies that the ICF model provides a holistic view on labour participation.

In the systematic literature review we found factors belonging to all ICF model categories being associated with paid work among persons with visual impairments

in international research. In the Netherlands, we investigated whether a person with a visual impairment participated in paid labour or not, and investigated several personal factors possibly associated with labour participation. Personal Factors are internal influences on functioning and disability; the particular background of an individual's life and living, and comprise features of the individual such as age, gender, race, lifestyle, habits, coping styles, education, behaviour pattern and character style, and individual psychological assets (World Health Organisation, 2001). Some personal factors are modifiable, such as psychological factors and skills. The focus on these personal factors was chosen because regarding these factors persons with visual impairments can make improvements, when needed with the support of professionals. Acceptance of the visual impairment, optimism, and mobility were associated with having paid work for this target group in the Netherlands.

Although we focused on personal factors, environmental factors also deserve attention in a holistic approach. Environmental Factors are external influences on functioning and disability; they make up the physical and social environment in which people live and manage their lives (World Health Organisation, 2001). The willingness of employers to hire persons with impairments and workplace accessibility are examples of environmental factors.

The ICF model supports our conclusion that labour participation is an important life area. The ICF model also supports the importance of modifiable personal factors, which we found to be relevant for labour participation. Furthermore, the model can make us aware of the limitations of only looking at modifiable personal factors, because environmental factors also deserve attention, since these may either hinder or foster the labour participation of this group as well.

B. Resilience

In the article of Joling et al. (2017, page 509) it is mentioned that resilience describes how some individuals have a better outcome than others who have experienced an equivalent level of adversity (Rutter, 2012) or a better outcome than could be expected given the circumstances (Windle, 2011). According to the resilience theory, good outcomes are achieved through a range of assets and resources, and one of the main areas of resilience research is investigating the role of assets and resources. These include individual characteristics, and social and environmental contexts (Joling et al., 2017, p. 509, 510).

Like the ICF model, the concept of resilience also looks at a situation from a holistic point of view. In addition to the ICF model, differences between groups are specifically addressed and based on these differences protecting factors are identified.

In our study we made use of the concept of resilience, as we were able to identify factors that contribute to being successful in having paid work for persons in potentially difficult circumstances, namely having a visual impairment. We investigated which factors made that some had paid work whereas others did not; a higher acceptance of the visual impairment, more optimism, and better mobility were found in the group of people having paid work. This enabled us to determine what factors job coaches should look at and try to improve. Thus, the assessment instrument we constructed focuses on what makes persons with a visual impairment successful in having paid work. The instrument assumes that persons with a visual impairment can work on improving their situation.

We can conclude that the concept of resilience is relevant for studying the labour participation of persons with a visual impairment, as it can help finding protecting factors for having paid work. Moreover, the concept of resilience is relevant, as it presupposes that people need resources to be successful. If resources are lacking, support is needed, focusing on the development of these resources. The assessment instrument can be used in providing this support.

C. Capability Approach

The Capability Approach emphasizes that capabilities are fundamental for human flourishing, and that by protecting and restoring capabilities, well-being is fostered. Capabilities express what people are able to do and who they are able to be (Sen & Nussbaum, 1993). The focus lies on enabling people to pursue their desired activities. Since people are different and have diverse needs, the freedom to be able to live the life one wants and to do what one values is central in the Capability Approach (Sen, 2009). As Van Loon et al. (2018, page 1183) note, Sen emphasizes the relevance of freedom and choice. Freedom is valuable because it gives us more opportunity to reach our goals (Van Loon et al., 2018, page 1183). Additionally, the ‘process of choice itself’ is important (Sen, 2009, page 228). People ought to have the agency to live according to their preferences, and have the ability to choose certain functionings. For instance, while both fasting and starving entail the same functioning (abstaining from food), the individual who fasts retains the capability to eat, whereas the starving individual does not (Sen, 2009).

Because according to the Capability Approach people should be able to choose how to use their capabilities and be able to do what they value, persons with visual impairments should be able to choose what kind of work is most suitable, given their values and life goals. From the perspective of the Capability Approach, our findings regarding the unofficial unemployment rate are relevant. From this perspective, it is relevant that people who do not actively look for paid work, but would accept a job if

offered, actually may value having paid work. This implies that a relevant proportion of people who do not actively look for work, from a Capability Approach perspective, deserve support in finding work. In this respect, the unofficial unemployment rate is more important regarding the labour participation of persons with a visual impairment than the official unemployment rate. As a society, we should not be satisfied with a low labour participation of persons with a visual impairment, referring to the fact that only a limited number of them actively look for paid work, especially given the relatively high unofficial unemployment rate. It is crucial to know the reason why people do not look for paid work. If people would accept paid work if offered to them, as many say they would, this shows that their functioning at the moment is not optimal, and support is required.

Regarding accepting a paid job if offered, persons with visual impairments responded differently in our questionnaire: a part of the persons who did not have a paid job and were not looking for paid work themselves responded that they would accept a suitable job if offered to them, but another part would not accept a suitable job if offered. Sometimes the same reason (e.g., having voluntary work) led to another preference (not looking but accepting versus not accepting the job). This shows that for some people having voluntary work withholds them from looking for a paid job, whereas other people would not give up their voluntary work.

If people prefer doing voluntary work over paid work this can mean different things. On the one hand, they may be completely happy in this situation, using their full potential, and be satisfied with the freedom to work in their own way and pace and with the lower work pressure of voluntary work. On the other hand, they may not believe a suitable paid job exists for them and may be convinced that they are not able to participate in paid labour. The Capability Approach emphasizes that these situations are not the same, since in the first case, people fulfil their capabilities, whereas in the second case they do not. In this respect, the need to be critical of adaptive preferences is relevant (Sen, 2009). Van Loon et al. (2018, page 1183) mention that this entails that people may lower their expectations, because they adapt to deteriorated circumstances, and that being in a certain situation can influence a person's experienced happiness and expectations of what is possible (Sen, 2009). If people lower their expectations too much, this could mean that their functioning at the moment is not adequate, and support is also in this case required.

We can conclude that the Capability Approach, by emphasizing that it is not only important to look at what people are able to do but also at the things they value most, supports the view that persons with visual impairments should be enabled to choose what kind of work is most suitable, given their values and life goals. Furthermore,

the Capability Approach supports our argument for the importance of the unofficial unemployment rate. Persons with visual impairments may value paid work, even if they are not actively looking for it, and in that case deserve support in finding paid work.

D. Person-Centered Care

Person-Centered Care emphasizes that individuals' values and preferences should be elicited and guide their health care, supporting their realistic health and life goals. Person-Centered Care requires a dynamic relationship between individuals, family and friends, and healthcare providers, aiming at decision-making in line with individual wishes (The American Geriatrics Society Expert Panel on Person-Centered Care, 2016).

In the context of supporting individuals with visual impairments in paid employment, Person-Centered Care is relevant. Related to for example the preferable sequence of paying attention to the identified success factors in vocational rehabilitation trajectories, job coaches participating in the focus group mentioned that the order of importance is dependent on the specific client. According to the job coaches, decisions about which success factor should be the focus of attention first in vocational rehabilitation trajectories should therefore be made taking into account this specific situation of the client. For example, for some people focus on mobility is first needed. In such cases, persons with visual impairments can start with learning practical skills, such as mobility training, and then work on acceptance with support of for example a psychologist. In this way first confidence is created as a starting point for more emotional conversations.

From the perspective of Person-Centered Care the focus should not only be on the situation of the client, but first and foremost on the values and preferences of the person regarding the care trajectory. So, job coaches should investigate which sequence of addressing the success factors is preferred by the client. In line with the Capability Approach, Person-Centered Care also addresses personal wishes, with a focus on the care trajectory.

These four theoretical frameworks are complementary and build upon one another. In summary, the ICF model and the concept of resilience show that it is important to look at a situation from a holistic point of view. The ICF model makes classification and identification of associations between the components of the model possible, and the concept of resilience specifically addresses differences between groups and the importance of improving resources, when needed with support. The Capability Approach adds that next to what people are able to do, it is important to look at what they value most. Person-Centered Care also emphasizes that the wishes of the person are crucial, specifically regarding the care trajectory.

Ethical and methodological reflection

In this section we reflect on the ethical and methodological aspects of the study.

Ethical reflection

Since one of the studies reported in this thesis was based on questionnaire data of persons with visual impairments collected by telephone interviews in 2010 (Chapter 3 and 4), several ethical issues require attention. These concern ethical approval, recruitment of participants, informed consent, and privacy. For each of these issues, we will describe the way in which they were dealt with in the study and reflect on the procedures followed from an ethical point of view. However, we have to acknowledge that fourteen years later, it was difficult to retrieve all relevant information.

Ethical approval

Before the research project started, the need for ethical approval was informally checked with the Ethical Review Board of the university hospital in Maastricht. The outcome at that time was that approval was not needed, because the study did not include a medical intervention, and thus did not fall under the scope of the Medical Research Involving Human Subjects Act (WMO, Dutch law). This is in line with current policy regarding the scope of the law. However, it is now standard to approach the Ethical Review Board formally, in order to obtain a written waiver.

Recruitment of participants

Two organisations which provide optical equipment for persons with visual impairments assisted in the recruitment of participants for the questionnaire study reported in Chapter 3 and 4. Memic, a statistics unit of Maastricht University received addresses and telephone numbers and took a random sample of their customers' administrations. To minimize the administrative burden for these companies, Memic sent invitation letters to the people in the sample on behalf of the two organisations. This letter - which showed the logos of the companies and was signed with their names - explained the study and asked whether the addressee would be interested in taking part in the study. For the sake of accessibility, the information was sent in large font size and was supplemented with an audio CD. The people who were approached were asked to indicate their willingness to participate by returning an informed consent form, responding by email or a telephone call. Because only a very limited number of people replied, the recruitment strategy was changed, and new samples of potential participants, after having received an adjusted invitation letter with audio-CD, were approached by Memic by telephone. The telephone call by Memic on behalf of the two companies was announced in the adjusted invitation letter. This procedure was performed until enough participants were recruited.

It should be noted that in the articles describing results from the quantitative study (Chapter 3 and 4), only the second strategy of recruitment – making phone calls to invite potential participants – has been described. This was done because this strategy resulted in the inclusion of the large majority of the participants and not to complicate the description of recruitment in these Method sections.

Reflecting on this procedure from an ethical perspective, it is relevant that the Protection of Personal Data Act (Wet Bescherming Persoonsgegevens, WBP) regulated the use of personal data at the time of the quantitative study (2010). The WBP says that data may only be used after informed consent. The question can be raised whether under the WBP the transfer of addresses and telephone numbers to Memic would have required prior informed consent. It seems that this was not required, as Memic received the addresses in order to approach potential participants on behalf of the two organisations. In terms of the WBP (art. 14), Memic was a data processor acting under the responsibility of the organisations. This implies that the two organisations had the final responsibility for, for instance, careful and appropriate use of their data. The WBP also states that an agreement is needed between the responsible party and the processor. According to the WBP, this agreement does not have to be a written contract. When we asked Memic about this, they answered that at the time of the quantitative study (2010) no formal data transfer agreements were made with external organisations providing addresses. Nowadays, such an agreement (a DTA) would be necessary. We conclude that, as far as we know, the transfer of the addresses and the telephone numbers was in line with the existing legal regulations.

Informed consent

Above, we have discussed the issue of informed consent in relation to the transfer of addresses and telephone numbers to Memic. Here, we focus on informed consent for the interviews and the use of interview data in the quantitative study. In the two invitation letters which were used, next to information about the study, it was mentioned that a positive response would imply that the person would agree to participate. After persons had responded positively to the invitation to participate (either by responding to the invitation letter themselves, or when asked by telephone) an appointment was made for the study interview, which took place by telephone and was performed by Memic. When the participants were called, they were asked to confirm having understood the study information and whether they wanted to give oral informed consent for registration of their answers and further anonymous analysis. There was at least one week between receiving the invitation to participate in the study and the phone call to confirm having understood the study purposes and asking their consent.

From an ethical perspective, the statement in the invitation letters that by responding positively (either by sending an answer or when asked by telephone) the person would give consent is not a correct procedure, as consent should be given by the participants after having received full written information and an oral explanation of the study. However, this was later correctly done since when people were called, the study information was provided again and the request for informed consent was repeated. So, the informed consent procedure seems to have been carried out properly. Nowadays, written informed consent and a written signature are needed. This, however, was not the case at the time of the study.

Privacy

Recently we contacted Memic about how they dealt with privacy issues regarding our quantitative data. They responded that at the time of the quantitative study (2010) several security measures were taken, such as keeping research data from the telephone interviews apart from the contact information of participants, and contact information was only accessible to those persons from Memic who were involved in the study. Also, data were sent to the researchers encrypted and the passwords were given separately. These procedures support the conclusion that privacy issues were addressed carefully.

Methodological reflection

This section contains a reflection on the choice of factors in the questionnaire and the way in which these were measured. Next, strengths and limitations of the study are described.

Reflection on the factors in the questionnaire and the way in which these were measured

The choice which possible success factors we would measure with our questionnaire was based on the results of the systematic literature review and the meetings with our advisory board, consisting of persons with visual impairments and professionals from various backgrounds working with this target group. In our questionnaire we measured age, sex, level of education, living situation, comorbidity, level of visual impairment, and age of onset. Furthermore, we measured several skills, namely mobility skills, computer skills, and social skills. Also psychological factors were measured, which were acceptance of the visual impairment, active coping, optimism, meaning in life, mental health, and psychosomatic problems.

Decisions on how to measure the factors were based on a combination of literature search and expert consultation. For example, regarding optimism we asked an expert, who had performed research projects about optimism in other populations,

for advice. She suggested to use the Life Orientation Test-Revised questionnaire, which consists of 6 items. Regarding the measurement of mobility, we followed our advisory board, which had suggested adding at least one question on this potentially relevant factor. They were positive about the formulation of the mobility question “How do you rate your own mobility? This means being able to travel distances by yourself.” which we intended to use. In retrospect, also since mobility turned out to be one of the important associated factors to being employed, other options might have been useful, such as using existing (domains of) questionnaires. For instance, the mobility subscale of the Low Vision Quality Of Life questionnaire developed for persons with a visual impairment (van Nispen et al., 2011; Wolffsohn et al., 2000), or the larger Perceived Visual Ability for Independent Mobility questionnaire developed for persons with retinitis pigmentosa (Turano et al., 1999). However, it was not our intention to get a full account of each topic. Given that the questionnaire was already quite long, adding a complete questionnaire on the topic of mobility would have increased participant burden.

Before we started the statistical analyses, the factors were divided into non-modifiable and modifiable factors. Skills and psychological factors were considered to be modifiable factors because they can be improved within a job coaching trajectory. An example of a factor that was considered to be non-modifiable was level of education (highest level completed). Although in theory, educational level is modifiable during life, we considered this factor to be non-modifiable, as it is not susceptible to direct job coaching interventions.

Strengths

A strength of the study is the combination of quantitative and qualitative research methods, which complemented each other in answering the research questions. Moreover, several perspectives were used in the data collection of the study, since in the quantitative part persons with visual impairments were interviewed and in the qualitative part job coaches took part in a focus group discussion.

Another strength is the number of participants that were included in both the quantitative and the qualitative study. In comparison to the studies in our literature review, our quantitative study had a large sample size. In our qualitative study a significant number of the job coaches of Royal Dutch Visio and Bartiméus participated. The job coaches also varied regarding age, gender, and years of work experience.

Finally, our advisory board, consisting of persons with visual impairments and professionals from various backgrounds working with this target group, enabled us to include their views and expertise during the process of the study. The members

gave advice at important decision moments in our study, for example regarding the topics that should be included in the questionnaire.

Limitations

A limitation of this study is that the quantitative data were collected in 2010. Although this is some time ago, more recent data regarding the employment rate of persons with visual impairments in the Netherlands show that the employment rate is still relatively low (29.0%, Heppe et al., 2020). We did not find more recent studies regarding our success factors for paid work in this target group. Yet, during our focus group study which took place in September 2020, the participating job coaches confirmed that the success factors acceptance of the visual impairment, optimism, and mobility are important for supporting persons with visual impairments regarding paid work. This adds to our impression that these success factors are still relevant.

Another limitation of this study is the cross-sectional design. We could not establish a causal relationship between the success factors and finding paid work in the quantitative study. This limitation was mitigated by the qualitative study, as participants in the focus group regarded the factors not only as determinants for having, but also for finding paid work.

Furthermore, we focused on personal factors associated with paid work. As discussed in the theoretical reflection, other factors can also be important, for example environmental factors (e.g., accessibility of the workplace). We excluded environmental factors as we wanted to develop an instrument to be used directly by job coaches in supporting persons with a visual impairment. Yet, it should be acknowledged that the instrument addresses only a part of the factors which are relevant for paid work, and other factors also deserve attention, specifically at the social and political level.

People participating in the quantitative study were relatively old. This represents the target group of people with visual impairments well. However, younger persons with visual impairments were less represented in this study. We expect that the success factors we found are also relevant for younger people. Yet, stratified random sampling regarding age could have made the composition of the sample more varied, thus paying attention to all age groups (Polit & Hungler, 1999).

A final limitation is that the conditions for implementation of the work-related assessment instrument were only discussed with job coaches. It would be useful to also consult persons with visual impairments, in order to gain insight into their needs and wishes regarding implementation of the assessment instrument.

Implications for practice, policy, and future research

In this section, we present different opportunities and implications based on the study.

Practice

Because the employment rate of persons with visual impairments is still relatively low, it is important that in job coaching trajectories for this target group attention is paid to acceptance of the visual impairment, optimism, and mobility. Our individual assessment instrument, consisting of these three success factors, can offer additional support in this.

Regarding the preferable sequence of paying attention to the success factors identified in the assessment instrument in vocational rehabilitation trajectories, it is important to focus on the specific situation and wishes of the client. Especially, job coaches should help persons with visual impairments to find time for acceptance of the visual impairment, taking into account legal and political limitations, such as the time allowed for reintegration in the law.

In supporting people with a visual impairment, it is also important to take into account what people value most to be able to flourish. Investigating if persons without paid work are looking for paid work themselves or would accept paid work if offered, and the reasons for their decisions, can provide more insight and lead to more suitable support.

Policy

To enhance the labour participation of persons with visual impairments, a holistic view on work and functioning, extending beyond individual patient care and incorporating the broader social and political context surrounding individuals with visual impairments, is crucial. Holistic health policy acknowledges that both personal and environmental factors influence labour participation. For instance, the accessibility of public transportation and workplaces can play an important role in the mobility of persons with visual impairments. Adequate accommodations, such as tactile paving and auditory signals, can facilitate independent navigation in public spaces, and therefore contribute to employment opportunities. Moreover, legal arrangements should take into account that acceptance takes time. Additionally, societal attitudes and the willingness of employers to hire persons with visual impairments are crucial for suitable and sustainable employment. A comprehensive approach to health policy not only addresses the personal aspects associated with labour participation but also these environmental factors. Such a holistic approach helps health policies to become more responsive to the diverse needs and challenges faced by individuals with visual

impairments and adds to inclusion and equality of their labour participation.

The importance of the willingness of employers to hire persons with visual impairments has recently also been stressed by Berkhout et al. (2023). They mention that it appears to be difficult for employers with no experience with employees with a visual impairment to be really open to hire them. Employers seem to fear that the employee would not be able to fully function on the job or that it would cost too much time and attention to support them. Furthermore, employers do not seem to have knowledge about care organisations for persons with visual impairments and possibilities regarding optical aids or other suitable equipment. Also, digital inaccessibility is a problem often seen at workplaces (Berkhout et al., 2023). Next to openness on the side of employees with visual impairments about their needs regarding operating digital systems, employers should be attentive to difficulties involved. Apart from discussing this with individual employees, they might approach a patient organization or support organizations that can give information regarding potential adjustments at the work place. Also, employers of persons with visual impairments could share information about their experiences. A central place with information about labour participation of persons with visual impairments would be helpful (Berkhout et al., 2023).

Future research

As mentioned above, because of the cross-sectional design, we could not establish a causal relationship between the success factors and finding paid work. Participants in the qualitative study regarded the factors not only as determinants for having, but also for finding paid work. However, to be able to draw firm conclusions about which factors influence finding paid work, further longitudinal research is recommended, combined with qualitative research among stakeholders in order to interpret quantitative findings.

Also, for more insights regarding the implementation of the assessment instrument, research on the views of relevant stakeholders, including the perspectives of persons with visual impairments, and those of managers and policy makers, is needed. Before actual use of the assessment instrument in practice, we recommend a pilot study in which the instrument is tried out in practice. This could provide valuable information from both the perspective of job coaches and persons with visual impairments.

The instrument, next to providing information on how to support persons with a visual impairment regarding paid work, can also be used to measure the results of such support. Do people improve in acceptance, optimism and mobility? This is in line with current attention for the relevance of Patient Reported Outcomes (PRO's) for evaluating healthcare interventions (Amtmann et al., 2011). The measurement

scales can assist in investigating the effectiveness of job coach trajectories. This is relevant for the client and the job coach, and can also be used for management purposes.

General conclusion

In the Netherlands, the labour participation of persons with a visual impairment is considerably lower than the labour participation of the general working-age population. Therefore, improving the labour situation for persons with visual impairments is needed.

Given the associations of acceptance of the visual impairment, optimism, and mobility with having paid work, attention should be paid to these factors, and persons with a visual impairment should be supported in improvement in these areas if necessary.

The ICF model and the concept of resilience together show that it is important to look at the labour participation of persons with visual impairments from a holistic point of view, and to focus on improvement of modifiable factors which are relevant for successful functioning.

The Capability Approach adds that it is important to look at what people value most, taking into account that not actively looking for paid work does not mean not valuing labour participation. Person-Centered Care emphasizes that in providing support the wishes of the persons in the care trajectory should be leading.

The assessment instrument developed in this study, consisting of the three modifiable work-related personal success factors acceptance of the visual impairment, optimism and mobility, is potentially relevant for implementation in reintegration trajectories. Further research regarding implementation could take the form of a pilot study, in which the instrument is tried out in practice, taking into account the views and experiences of professionals, persons with visual impairments and other stakeholders.

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Addendum

**Het assessment instrument:
succesfactoren ten aanzien van
betaald werk door mensen met
een visuele beperking**

Inleiding

Uit ons onderzoek (Hoofdstuk 4) is gebleken dat een hogere acceptatie van de visuele beperking, meer optimistisch zijn en een redelijke tot zeer goede mobiliteit geassocieerd zijn met het hebben van betaald werk. Gebaseerd op deze resultaten hebben we een individueel assessment instrument samengesteld, dat de mate van acceptatie, optimisme en mobiliteit van mensen met een visuele beperking meet. Dit instrument kan gebruikt worden in job coaching trajecten. Hieronder geven we de definities van iedere succesfactor en beschrijven we de vragen, waarmee de factoren gemeten worden.

Definities van de succesfactoren

Onder acceptatie van de visuele beperking wordt verstaan jezelf waarderen en ondersteunen in wie je op dit moment bent (Sampson, 2000). Acceptatie gaat over de goedkeuring van jezelf (Grooms & Linkowski, 2007). Acceptatie beschrijft het proces, dat een cliënt moet ondergaan om te leren omgaan met veranderde mogelijkheden (Nicholls et al., 2012).

Optimisme gaat over algemene toekomstverwachtingen (Scheier & Carver, 1985). Optimisten zijn mensen die de neiging hebben om positieve verwachtingen te hebben over hun toekomst; pessimisten zijn mensen die de neiging hebben om meer negatieve verwachtingen te hebben over de toekomst (Scheier et al., 1994). Optimisten verwachten dat dingen positief voor hen uitpakken en geloven over het algemeen dat meer goede dan slechte dingen zullen gebeuren. Andere mensen hebben tegenovergestelde overtuigingen. Deze pessimisten verwachten dat dingen niet positief voor hen uitpakken en neigen ertoe slechte uitkomsten te verwachten (Scheier & Carver, 1985).

Onder mobiliteit wordt verstaan zelfstandig afstanden kunnen afleggen.

Meetschalen van de succesfactoren

I. **Acceptatie van de visuele beperking** (subschaal van de Nottingham Adjustment Scale, Dodds et al., 1993; Linkowski, 1971; Sampson, 2000)

1. Vanwege mijn slechtziendheid of blindheid voel ik me de meeste tijd ellendig.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

2. Ik voel me erg kwaad als ik merk dat goedzienden dingen kunnen doen die ik niet kan doen.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

3. Vanwege mijn slechtziendheid of blindheid heb ik weinig te bieden aan anderen.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

4. Vanwege mijn slechtziendheid of blindheid heeft het leven van anderen meer te betekenen dan dat van mezelf.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

5. Ik ben tevreden met wat ik kan en mijn slechtziendheid of blindheid hindert me niet teveel.
 - ◇ helemaal mee oneens (1)
 - ◇ mee oneens (2)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (4)
 - ◇ helemaal mee eens (5)

6. Bijna ieder gebied van het leven is voor mij gesloten vanwege mijn slechtzienheid of blindheid.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

7. Mijn slechtzienheid of blindheid weerhoudt mij ervan om juist al die dingen te doen die ik echt zou willen doen en om de persoon te zijn die ik eigenlijk zou willen zijn.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

8. Bij bijna alles is mijn slechtzienheid of blindheid zo hinderlijk dat ik nergens van kan genieten.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

9. Het komt vaak voor dat ik aan mijn slechtzienheid of blindheid denk en dat maakt me zo overstuurd dat ik niet in staat ben aan iets anders te denken of iets anders te gaan doen.
 - ◇ helemaal mee oneens (5)
 - ◇ mee oneens (4)
 - ◇ noch mee eens/noch mee oneens (3)
 - ◇ mee eens (2)
 - ◇ helemaal mee eens (1)

De antwoordscores van de individuele vragen worden opgeteld. Hoe hoger de totaalscore, hoe meer acceptatie met betrekking tot de visuele beperking (range: 9-45).

II. Optimisme (Life Orientation Test-Revised, Scheier & Carver, 1985; Scheier et al., 1994)

1. Bij onzekerheid verwacht ik meestal het beste.
 - ◇ helemaal niet akkoord (1)
 - ◇ niet akkoord (2)
 - ◇ onbeslist (3)
 - ◇ akkoord (4)
 - ◇ helemaal akkoord (5)

2. Als er iets mis met mij kan gaan, zal dit ook gebeuren.
 - ◇ helemaal niet akkoord (5)
 - ◇ niet akkoord (4)
 - ◇ onbeslist (3)
 - ◇ akkoord (2)
 - ◇ helemaal akkoord (1)

3. Ik ben altijd optimistisch over mijn toekomst.
 - ◇ helemaal niet akkoord (1)
 - ◇ niet akkoord (2)
 - ◇ onbeslist (3)
 - ◇ akkoord (4)
 - ◇ helemaal akkoord (5)

4. Ik verwacht bijna nooit dat de dingen in mijn voordeel zullen uitdraaien.
 - ◇ helemaal niet akkoord (5)
 - ◇ niet akkoord (4)
 - ◇ onbeslist (3)
 - ◇ akkoord (2)
 - ◇ helemaal akkoord (1)

5. Ik verwacht zelden dat mij goede dingen overkomen.
 - ◇ helemaal niet akkoord (5)
 - ◇ niet akkoord (4)
 - ◇ onbeslist (3)
 - ◇ akkoord (2)
 - ◇ helemaal akkoord (1)

6. In het algemeen verwacht ik dat mij meer goede dan slechte dingen zullen overkomen.
- ◇ helemaal niet akkoord (1)
 - ◇ niet akkoord (2)
 - ◇ onbeslist (3)
 - ◇ akkoord (4)
 - ◇ helemaal akkoord (5)

De antwoordscores van de individuele vragen worden opgeteld. Hoe hoger de totaalscore, hoe optimistischer (range: 6-30).

III. Mobiliteit

Hoe beoordeelt u uw eigen mobiliteit? Dat wil zeggen zelfstandig afstanden kunnen afleggen.

- ◇ zeer slecht (1)
- ◇ slecht (2)
- ◇ redelijk (3)
- ◇ goed (4)
- ◇ zeer goed (5)

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Annexes

**Annex 1 Nederlandse samenvatting
(Dutch summary)**

Annex 2 PhD Portfolio

**Annex 3 List of publications,
List of co-authors and
Authors' contributions per chapter**

**Annex 4 Dankwoord
(Acknowledgements)**

Annex 5 Curriculum Vitae

Annex 1.

Nederlandse samenvatting
(Dutch summary)

Arbeidsparticipatie van mensen met een visuele beperking in Nederland -Een beoordelingsinstrument gebaseerd op werkgerelateerde succesfactoren-

Achtergrond

Werken is een belangrijk onderdeel van ons leven. Participatie in betaald werk draagt bij aan economische zelfstandigheid, voldoening door het uitvoeren van werkzaamheden en persoonlijke ontwikkeling. Ook sociale interactie en een verminderd risico op eenzaamheid zijn voordelen van het hebben van betaald werk.

Voor mensen met een beperking, bijvoorbeeld een visuele beperking, kan participatie op de arbeidsmarkt minder vanzelfsprekend zijn. In Nederland zijn er verschillende organisaties die mensen met een visuele beperking ondersteunen bij het vinden en behouden van betaald werk. Veelal wordt aangenomen dat mensen met een visuele beperking een lagere arbeidsparticipatie hebben dan mensen uit de algemene beroepsbevolking. Gegevens over de daadwerkelijke arbeidssituatie van deze groep ontbreken echter. Er is behoefte aan informatie over de feitelijke arbeidsparticipatie van mensen met een visuele beperking en over verschillen tussen werkende en niet-werkende mensen met een visuele beperking. Indien de arbeidsparticipatie van mensen met een visuele beperking daadwerkelijk lager is, is het van belang inzicht te krijgen in de factoren die arbeidsparticipatie van deze groep bevorderen. Het gaat dan vooral om factoren die personen zelf kunnen verbeteren, eventueel met begeleiding.

Doelstellingen

Het doel van dit proefschrift is om in kaart te brengen welke persoonlijke factoren een positieve rol spelen met betrekking tot betaald werk van mensen met een visuele beperking in Nederland. Op die manier bieden we aanknopingspunten voor het vergroten van de arbeidsparticipatie van deze groep.

De specifieke doelen van dit onderzoek zijn:

- 1) in kaart brengen van factoren, die van invloed zijn op betaald werk voor mensen met een visuele beperking op basis van een literatuurreview van internationaal onderzoek;
- 2) inzicht geven in de arbeidssituatie van mensen met een visuele beperking in Nederland, waaronder de percentages van mensen met en zonder betaald werk in deze groep;
- 3) bepalen van persoonlijke succesfactoren voor het hebben van betaald werk van deze groep in Nederland;
- 4) ontwikkelen van een beoordelingsinstrument gebaseerd op de persoonlijke succesfactoren voor het hebben van betaald werk;

- 5) onderzoeken van de bevorderende en belemmerende factoren voor implementatie van dit beoordelingsinstrument.

Gezien de doelen is in dit onderzoek gebruik gemaakt van zowel kwantitatieve als kwalitatieve onderzoeksmethoden. Naast een literatuurstudie is een vragenlijst afgenomen bij mensen met een visuele beperking door middel van telefonische interviews. In totaal is de vragenlijst afgenomen bij 500 mensen. Ook is er een focusgroep gehouden met jobcoaches, werkzaam bij organisaties die mensen met een visuele beperking ondersteunen. Aan de focusgroep namen 8 jobcoaches deel.

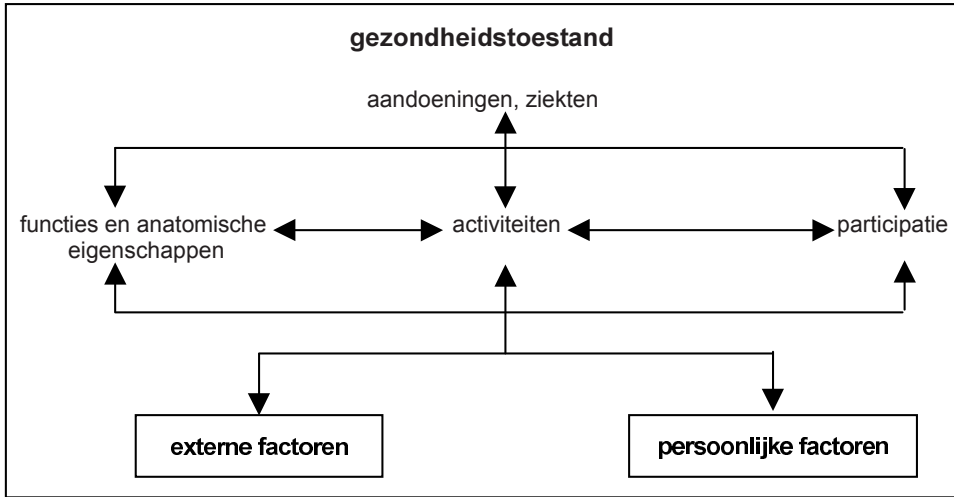
Resultaten

1. Internationaal gezien hebben factoren die bij alle ICF categorieën horen een relatie met betaald werk van mensen met visuele beperkingen

In **hoofdstuk 2** worden de resultaten uit de systematische literatuur review besproken. De review geeft een overzicht van resultaten uit verschillende internationale studies over succesfactoren voor het hebben van betaald werk van mensen met een visuele beperking. Het International Classification of Functioning, Disability and Health (ICF) model van de Wereldgezondheidsorganisatie (zie Figuur 1) is gebruikt om de succesfactoren uit de verschillende onderzoeken te classificeren. Het ICF model maakt het mogelijk om aspecten te classificeren die van invloed zijn op het functioneren van mensen met een gezondheidsprobleem.

Factoren behorend bij alle ICF categorieën (Functies en Anatomische eigenschappen, Activiteiten en Participatie, Externe factoren en Persoonlijke factoren) bleken gerelateerd aan betaald werk. Dit houdt in dat verschillende type factoren een rol spelen bij het hebben van betaald werk, zoals opleidingsniveau en een positieve houding ten aanzien van het leven.

Onderzoeken lieten ook tegenstrijdige resultaten zien, wat kan samenhangen met verschillen in kwaliteit van de onderzoeken. Met betrekking tot het verband tussen opleidingsniveau en betaald werk lieten de meeste onderzoeken bijvoorbeeld zien dat mensen die hoger opgeleid waren vaker werk hadden, maar sommige onderzoeken toonden geen belangrijk verband tussen opleidingsniveau en betaald werk. Ook lieten meerdere studies zien dat mensen met een minder ernstige visuele beperking vaker betaald werk hadden dan mensen met een ernstigere visuele beperking. Eén onderzoek liet een tegenovergesteld resultaat zien, namelijk dat mensen die slechtziend zijn meer moeilijkheden hadden met betrekking tot werk en hobby's dan mensen die blind zijn. In twee onderzoeken werden geen belangrijke verbanden gevonden tussen de ernst van de visuele beperking en betaald werk.



Figuur 1. Het ICF model

Kwalitatieve studies toonden onder andere aan dat steun van collega's en werkgevers, zoals hulp bij schriftelijke communicatie, een positieve invloed had op werk. Ook werd gevonden dat werkende mensen met een visuele beperking een positieve houding hadden ten aanzien van het leven en veelal werk kozen dat betekenis voor hen had.

2. In Nederland is het percentage mensen met een visuele beperking dat betaald werk heeft veel lager dan dat van de algemene beroepsbevolking. Bijna de helft van de niet-werkenden die ook niet actief op zoek zijn naar betaald werk, zou een geschikte baan aannemen als deze aangeboden zou worden.

In hoofdstuk 3 worden resultaten uit het vragenlijstonderzoek beschreven. Het percentage mensen met een visuele beperking met betaald werk in Nederland in 2010 was 36,8%. Dit is lager dan het percentage mensen met een betaalde baan in de algemene beroepsbevolking in Nederland, dat in 2010 67,1% was. Slechts een klein deel van de respondenten zonder betaald werk was actief op zoek naar betaald werk (4,8%). Toch zou bijna de helft van de mensen, die geen betaald werk hadden en niet actief op zoek waren naar betaald werk, een passende baan aannemen als deze hen zou worden aangeboden (42,1%). Daarom is het officiële werkloosheidspercentage aanzienlijk lager dan het daadwerkelijke werkloosheidspercentage. Het officiële werkloosheidspercentage van mensen met visuele beperkingen, dat ervan uitgaat dat mensen actief op zoek zijn naar werk, was 3,0%; het werkloosheidspercentage inclusief de mensen, die werk zouden aannemen als het hen aangeboden zou worden was 27,6%.

3. Drie beïnvloedbare succesfactoren voor het hebben van betaald werk van mensen met visuele beperkingen in Nederland zijn: acceptatie van de visuele beperking, optimisme en mobiliteit

In **hoofdstuk 4** worden resultaten uit het vragenlijstonderzoek beschreven, namelijk de persoonlijke succesfactoren voor het hebben van betaald werk van mensen met visuele beperkingen in Nederland.

We vonden dat drie niet-beïnvloedbare factoren, namelijk opleidingsniveau, comorbiditeit (het hebben van een of meer andere aandoeningen naast de oogandoening) en de ernst van de visuele beperking gerelateerd waren aan het hebben van betaald werk. Daarnaast waren er drie beïnvloedbare factoren, namelijk acceptatie van de visuele beperking, optimisme en mobiliteit die een belangrijk verband lieten zien met het hebben van betaald werk.

Op basis van deze resultaten hebben we ons in het vervolg van het onderzoek op de beïnvloedbare succesfactoren gericht, namelijk acceptatie van de visuele beperking, optimisme en mobiliteit, omdat mensen met visuele beperkingen zich op deze gebieden kunnen verbeteren.

Acceptatie van de visuele beperking gaat over jezelf waarderen en ondersteunen in wie je op dit moment bent. Acceptatie beschrijft het proces, dat een persoon met een visuele beperking moet ondergaan om te leren omgaan met veranderde mogelijkheden. Na het verlies van gezichtsvermogen is een periode van psychologische aanpassing meestal noodzakelijk.

Optimisme gaat over algemene toekomstverwachtingen. Optimisten zijn mensen die de neiging hebben om positieve verwachtingen te hebben over hun toekomst; pessimisten zijn mensen die de neiging hebben om meer negatieve verwachtingen over de toekomst te hebben. Optimisme en pessimisme kunnen leiden tot verschillende reacties op moeilijkheden.

Mobiliteit is in het onderzoek gedefinieerd als zelfstandig afstanden kunnen afleggen. Meer acceptatie van de visuele beperking, meer optimisme en een redelijke tot zeer goede mobiliteit werden vaker gevonden in de groep mensen met betaald werk dan in de groep mensen zonder betaald werk.

4. De beïnvloedbare persoonlijke succesfactoren kunnen worden gecombineerd in een werkgerelateerd beoordelingsinstrument

In **hoofdstuk 5** wordt het beoordelingsinstrument weergegeven, bestaande uit vragen over acceptatie van de visuele beperking, optimisme en mobiliteit.

Acceptatie van de visuele beperking wordt gemeten aan de hand van 9 vragen. Een voorbeeld is: ‘Vanwege mijn slechtiendheid of blindheid heb ik weinig te bieden aan anderen.’ Optimisme wordt gemeten door middel van 6 vragen. Een voorbeeld is: ‘Ik verwacht bijna nooit dat de dingen in mijn voordeel zullen uitdraaien.’ Mobiliteit wordt gemeten met een specifieke vraag: ‘Hoe beoordeelt u uw eigen mobiliteit? Dat wil zeggen zelfstandig afstanden kunnen afleggen.’

Het beoordelingsinstrument resulteert in specifieke scores met betrekking tot de drie beïnvloedbare succesfactoren. Hierdoor kunnen jobcoaches en mensen met een visuele beperking meer inzicht krijgen in onderdelen die hoog scoren en onderdelen waar nog verder aan gewerkt kan worden. Het instrument biedt daarmee een uitgangspunt voor het verbeteren van de arbeidssituatie van mensen met een visuele beperking.

5. De drie succesfactoren worden herkend en belangrijk gevonden door de jobcoaches. Het gebruik van het beoordelingsinstrument in de bestaande praktijk verdient aandacht.

In **hoofdstuk 6** worden de resultaten uit de focusgroep met jobcoaches besproken. De professionals gaven aan de drie succesfactoren te herkennen: acceptatie van de visuele beperking, optimisme en mobiliteit zijn in hun ervaring van belang voor het vinden en behouden van betaald werk. Als mensen hun visuele beperking meer kunnen accepteren, geven ze bijvoorbeeld eerder aan waar ze hulp bij nodig hebben. Verder hebben mensen die optimistischer in het leven staan vaak een uitstraling die positief kan doorwerken bij het vinden en behouden van betaald werk. Als mensen zelfstandig afstanden kunnen afleggen, is hun zoekgebied met betrekking tot een baan vaak groter, wat de kansen op betaald werk vergroot.

Positief voor het toekomstig gebruik in de praktijk van het beoordelingsinstrument is dat de succesfactoren herkend en belangrijk gevonden werden door de jobcoaches. Wel werden er naast bevorderende factoren ook belemmerende factoren genoemd.

Een bevorderende factor is dat je met het beoordelingsinstrument de drie succesfactoren kunt scoren. Dit kan een basis vormen voor verbetering en ondersteuning door jobcoaches op deze gebieden. De eigen scores op de succesfactoren kunnen ook inzicht geven aan mensen met een visuele beperking zelf. Ook kan het instrument aan beginnende jobcoaches steun en houvast bieden en voor jobcoaches die al langer werkzaam zijn een extra check vormen naast hun eigen inschattingen.

Belemmerende factoren betreffen vragen over de inpassing van het instrument in het begeleidingstraject. Wat voegt het instrument toe, gegeven dat er al aandacht besteed wordt aan de succesfactoren in de praktijk? Op welk moment binnen een

begeleidingstraject kan het instrument het beste gebruikt worden? Zou het instrument in ieder traject gebruikt moeten worden? Dergelijke vragen vereisen verder onderzoek.

Discussie

In de discussie (**hoofdstuk 7**) worden de resultaten verdiept door ze te beschouwen vanuit vier theoretische kaders, namelijk het ICF-model, het concept Veerkracht, de Capability Benadering en het concept Persoonsgerichte Zorg. Het ICF-model en het concept van Veerkracht benadrukken beide dat het belangrijk is om de arbeidsparticipatie van mensen met visuele beperkingen vanuit een breed perspectief te bekijken, waarbij naast persoonlijke factoren ook externe factoren een rol spelen. De Capability Benadering voegt toe dat naast het kijken naar wat mensen kunnen ook gekeken moet worden naar wat mensen waarderen, rekening houdend met dat niet actief op zoek zijn naar betaald werk niet per se betekent dat arbeidsparticipatie niet gewaardeerd wordt. Het concept van Persoonsgerichte Zorg vraagt ook aandacht voor de wensen van de persoon, maar dan specifiek voor het vormgeven van ondersteuning.

Er worden ook aanbevelingen gedaan voor praktijk, beleid en toekomstig onderzoek. Binnen re-integratietrajecten is het belangrijk dat aandacht besteed wordt aan acceptatie van de visuele beperking, optimisme en mobiliteit en dat mensen met een visuele beperking waar nodig hierbij ondersteund worden. Hierbij dient rekening gehouden te worden met wat mensen belangrijk vinden en ook gekeken te worden naar redenen waarom mensen bijvoorbeeld niet zelf actief op zoek zijn naar werk als ze wel een baan zouden aannemen als hen die aangeboden zou worden. Om de arbeidsparticipatie van mensen met een visuele beperking te vergroten, spelen naast het verbeteren van persoonlijke factoren, externe factoren een belangrijke rol. De toegankelijkheid van het openbaar vervoer en van werkplekken speelt bijvoorbeeld een rol bij mobiliteit. Zo ook de bereidheid en openheid van werkgevers om mensen met een visuele beperking aan te nemen is cruciaal bij de verbetering van de arbeidsparticipatie van deze groep. Verder onderzoek naar de implementatie van het beoordelingsinstrument kan de vorm aannemen van een pilotstudie, waarin het instrument in de praktijk wordt uitgetoetst en de visies en ervaringen van professionals, mensen met visuele beperkingen en andere belanghebbenden worden meegenomen.

Conclusie

In Nederland is de arbeidsparticipatie van mensen met een visuele beperking aanzienlijk lager dan de arbeidsparticipatie van de algemene beroepsbevolking. Daarom is verbetering van de arbeidssituatie voor mensen met visuele beperkingen noodzakelijk.

Gezien de verbanden tussen de succesfactoren acceptatie van de visuele beperking, optimisme en mobiliteit en het hebben van betaald werk is het van groot belang dat

er aandacht is en blijft voor deze factoren en dat mensen met een visuele beperking waar nodig ondersteund worden in de ontwikkeling op deze gebieden.

Het in dit onderzoek ontwikkelde beoordelingsinstrument, bestaande uit de drie beïnvloedbare werkgerelateerde persoonlijke succesfactoren, namelijk acceptatie van de visuele beperking, optimisme en mobiliteit, kan toegevoegde waarde hebben in re-integratietrajecten.

Annex 2.

PhD Portfolio

Name: Yvonne H.H. Goertz
PhD period: February 2007-September 2015 (parttime)
 November 2019- July 2024 (parttime)
Promotors: Guy A.M. Widdershoven, Ruth M.A. van Nispen
Co-promotor: Minne Bakker
Departments: Health Organisation, Policy and Economics, and
 Social Medicine, Maastricht University (2007-2015)
 Ethics, Law and Humanities, Amsterdam UMC location
 VUmc (2019-2024)

PhD training	Year	EC
Courses & workshops		
Research Integrity, Amsterdam UMC	2022	2
Scientific Presenting in English, Maastricht University	2009	2
Statistics 2, Maastricht University	2009	2
The strategy of data analysis in Epidemiologic and Public Health Research, Research School CaRe	2009	2
Caphri Coaching Course, Research Institute Caphri	2009	1
Scientific Writing in English 2, Maastricht University	2009	2
CaRe Refresher Meeting, Research School CaRe	2009	1
Statistics 1, Maastricht University	2009	2
Scientific Writing in English 1, Maastricht University	2008	2
CaRe Revision Course, Research School CaRe	2008	1
Clinimetrics, Research School CaRe	2007	2
Research ethics for Health Sciences: how to combine ethics and methodology?, Research School CaRe	2007	2
Systematic Literature Review, Maastricht University	2007	2
CaRe Introduction Course, Research School CaRe	2007	1
English Speaking Skills, Maastricht University	2006	2
Problem-based learning for new teachers, Maastricht University	2006	1
Presentations		
“Arbeidsparticipatie van mensen met een visuele beperking in Nederland.” Symposium Bartiméus, Driebergen-Zeist, the Netherlands. <i>Oral Presentation</i>	2013	-

Continued.

PhD training	Year	EC
“Arbeidsparticipatie van mensen met een visuele beperking in Nederland.” Symposium Koninklijke Visio, Nijkerk, the Netherlands. <i>Poster presentation</i>	2011	-
“Labour participation of visually impaired persons.” International Conference from the International Commission on Occupational Health, Amsterdam. <i>Oral presentation</i>	2010	2
“Factors related to labour participation and underemployment among visually impaired persons worldwide: a literature review.” International Conference from the European Public Health Association, Lodz, Poland. <i>Oral presentation</i>	2009	2
Teaching		
Tutoring Labour and Health Economics	2008-2010	3
Meetings		
Research Meetings, Maastricht University, Amsterdam UMC	2007-2015 2019-2021	3
Expert meetings with advisory board	2009-2015	3
Awards		
Poster Award, Research Institute Caphri	2012	-

Annex 3.

List of publications, List of co-authors and
Authors' contributions per chapter

List of publications

- Goertz, Y.H.H., Lierop, B.A.G. van, Houkes, I., & Nijhuis, F.J.N.** (2010). Factors related to the employment of visually impaired persons: A systematic literature review. *Journal of Visual Impairment and Blindness*, 104 (7), 404-418.
- Goertz Y.H.H., Houkes I., Nijhuis F.J.N.** Labour participation of people with visual impairments in the Netherlands.
Results from this chapter were published in: Klabbers, G., Rooijackers, B., **Goertz, Y., de Rijk, A.** (2014). Krachtig en kwetsbaar. Onderzoek naar de ervaringen met arbeidsparticipatie en sociale participatie van mensen met chronische ziekten en beperkingen [*Powerful and vulnerable. Study regarding the experiences with labour participation and social participation of people with chronic diseases and impairments*]. Maastricht: Universiteit Maastricht.
- Goertz, Y.H.H., Houkes, I., Nijhuis, F.J.N. †, & Bosma, H.** (2017). Factors associated with participation on the competitive labour market of people with visual impairments in The Netherlands. *Work* 58, 251–261.
- Goertz Y.H.H., Bakker M., van Nispen R.M.A., Widdershoven G.A.M.** Implementation of an assessment instrument regarding success factors for competitive labour of persons with visual impairments in the Netherlands: an explorative study. Manuscript submitted.

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Authors' contributions per chapter

Chapter 2

Goertz, Y.H.H., Lierop, B.A.G. van, Houkes, I., & Nijhuis, E.J.N.

Factors related to the employment of visually impaired persons: A systematic literature review.

BvL and FN contributed to the study conception. All authors contributed to the design of the study. YG organized data collection and performed analysis. All authors interpreted the results. YG drafted the manuscript. All authors critically reviewed the initial manuscript and revised manuscripts. All authors approved the final version of the manuscript and take responsibility for its content.

Chapter 3

Goertz Y.H.H., Houkes I., Nijhuis E.J.N.

Labour participation of people with visual impairments in the Netherlands.

FN contributed to the study conception and funding acquisition. All authors contributed to the design of the study. YG and IH organized data collection. YG performed analysis. All authors interpreted the results. YG drafted the manuscript. All authors critically reviewed the initial manuscript and revised manuscripts. All authors approved the final version of the manuscript and take responsibility for its content.

Chapter 4

Goertz, Y.H.H., Houkes, I., Nijhuis, F.J.N. †, & Bosma, H.

Factors associated with participation on the competitive labour market of people with visual impairments in The Netherlands.

FN contributed to the study conception and funding acquisition. All authors contributed to the design of the study. YG and IH organized data collection. YG and HB performed analysis. All authors interpreted the results. YG drafted the manuscript. All authors critically reviewed the initial manuscript. YG, IH and HB critically reviewed the revised manuscripts and approved the final version of the manuscript and take responsibility for its content. FN had passed away in the phase of finalizing the article.

Chapter 6

Goertz Y.H.H., Bakker M., van Nispen R.M.A., Widdershoven G.A.M.

Implementation of an assessment instrument regarding success factors for competitive labour of persons with visual impairments in the Netherlands: an explorative study.

All authors contributed to the concept and design of the study. Data was collected by YG and GW. YG and GW analyzed the data. All authors interpreted the results. YG drafted the manuscript. All authors critically reviewed the initial manuscript and revised manuscripts. All authors approved the final version of the manuscript and take responsibility for its content.

Annex 4.

Dankwoord (Acknowledgements)

*“Optimism is the faith that leads to achievement;
nothing can be done without hope.”
-Helen Keller-*

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Annex 5.

Curriculum Vitae

Yvonne H.H. Goertz werd geboren op 14 februari 1981 te Roermond. Zij groeide op in Vlodrop en behaalde in 1999 haar VWO diploma aan het Bisschoppelijk College Schöndeln te Roermond.

Vervolgens startte zij met de opleiding Gezondheidswetenschappen, afstudeerrichting Beleid en Beheer van de Gezondheidszorg, aan de Universiteit Maastricht. Tijdens haar studie verhuisde zij naar Maastricht en in 2004 behaalde zij haar diploma met genoegen.



Na het afronden van haar studie ging zij, eveneens in 2004, werken als assistent-onderzoeker (deeltijd) bij het Pijn Kennis Centrum van het Academisch Ziekenhuis Maastricht. Het onderzoeksproject ging over pijnklachten bij kankerpatiënten. Tegelijkertijd werkte zij als veldwerker (deeltijd) voor het Nivel (Nederlands Instituut voor Onderzoek van de Gezondheidszorg) te Utrecht. In deze functie verzamelde zij voor de projecten Nationaal Panel Chronisch Zieken en Gehandicapten en Astma-/COPD monitor informatie bij huisartsenpraktijken in Limburg.

In 2006 werd zij aangesteld als junior onderzoeker (voltijd) bij de vakgroep Gezondheidsethiek en Wijsbegeerte van de Universiteit Maastricht. In die tijd werkte zij aan de eerste fase van een onderzoek naar juridische en ethische aspecten van gedwongen opname van drugsverslaafde, zwangere vrouwen. Daarnaast voerde zij een evaluatie-onderzoek uit van het onderwijs voor promovendi binnen de onderzoeksschool CaRe (Netherlands School of Public Health and Care Research).

Vervolgens werd zij in 2007 aangesteld als promovendus bij de vakgroep Beleid, Economie en Organisatie van Zorg, later bij de vakgroep Sociale Geneeskunde en bij het onderzoeksinstituut CAPHRI van de Universiteit Maastricht. Het grootste deel van dit onderzoeksproject over de arbeidsparticipatie van mensen met een visuele beperking in Nederland heeft zij daar uitgevoerd (voornamelijk in deeltijd). In deze periode heeft zij ook onderwijs gegeven binnen de opleiding Gezondheidswetenschappen. Na een onderbreking van het onderzoek heeft zij vanaf eind 2019 (deeltijd) de laatste dataverzameling uitgevoerd en dit proefschrift afgerond bij de afdeling Ethiek, Recht en Humaniora van het Amsterdam UMC, locatie VUmc en bij het Amsterdam Public Health onderzoeksinstituut.

