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INVESTIGATING NEEDS AND BARRIERS TO THE EMPLOYMENT OF PEOPLE WITH DISABILITIES

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Abstract
The principal aim of the WorkAbility project was to apply a holistic approach concerning underemployment and unemployment in the case of people with disabilities in Greece. A questionnaire survey was undertaken in the framework of WorkAbility to investigate the employment status of people with disabilities in the Region of Central Macedonia. A total of 306 persons with disabilities participated in the survey, of which 101 persons were deaf or hard-of-hearing, 100 persons vision-impaired and 105 persons were hemiplegics, paraplegics or tetraplegics. A statistical analysis of data collected was performed and interesting results have been drawn for the total sample as a whole and for each disability group separately. A set of different variables has been examined and the statistical significance between them has been also determined. Survey results are available online and can be exploited towards the establishment of accessible employment and entrepreneurship in Greece.

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Introduction

People with disabilities, in both developed and low-income countries, have routinely experienced underemployment and unemployment rates significantly higher than the rest of the population, even before the onset of the financial crisis. According to Eurostat (1995), a person between 16 and 64 years old has 66% probability to find employment or create his/her own enterprise. This percentage is reduced to 47%, if the same person has a moderate disability, and further reduced to 25%, if the same person has severe disability (European Commission, 2001).

In Greek society, unemployment and underemployment, as results of the global financial crisis, constitute major burdens. According to seasonally adjusted figures released by the EU statistics office Eurostat (2017), Greece tops the "black list" of European unemployment, with unemployment rate reaching 23.2% in February 2017. The situation is even worse when it comes to youth unemployment in Greece, as it reached 47.9% in February 2017.

Despite the well-documented relation between disability and unemployment, there are no data available concerning the effect the financial crisis has had in the employment of persons with disability in Greece, in general, and the Region of Central Macedonia, in particular (unemployment percentage in Central Macedonia is slightly higher than that observed in the rest of the country, reaching 24.2 % in the second quarter of 2016, according to the European Job Mobility Portal).

This lack of data has been recognised by the Greek Statistics Authority itself in an announcement made in December 2014 (Greek Statistics Authority, 2014). According to Eurostat, the employment rate in 2011 in Greece, for persons between 15 and 64 years of age, was 35.5% for persons with disability and 58.5% for persons with no disability (Eurostat, 2014).

The data above indicate the necessity to analyse the issue of unemployment and underemployment of people with disability in Greece to greater depth. The WorkAbility project, which was financed by the countries of the European Economic Area – EEA (Iceland, Liechtenstein and Norway), in the frame of the Programme "Diversity, Inequalities and Social Inclusion", and by the Greek National Program of Public Investments, has undertaken this challenge, towards promoting accessible employment and entrepreneurship. The key aim of the WorkAbility project was to address the rising social and income inequalities in Greece, in general, and the effect of the economic crisis to the vulnerable societal group of persons with disabilities, in particular, from a research/scientific perspective.

Two partners participated in the project: the Transport Systems Research Group of Aristotle University of Thessaloniki (TSRG/AUTh), which was also the project coordinator, and the Professionals' Chamber of Thessaloniki (PCTh). Project collaborators included: the Panhellenic Association of the Blind - District Union of Central Macedonia, the Panhellenic Association of Paraplegics - District Union of Macedonia and Thrace and the Association of the Deaf of Northern Greece.

WorkAbility applied a holistic approach, following two major axes of work. The first axis aspired to provide an in-depth view of the existing situation and to initiate actions that would lead to a change of practices implemented. This included examination of legislation, policies and practices through relevant literature and contacts with stakeholders as well as identification of obstacles that citizens with disabilities and employers of disabled persons have to overcome in the employment market. In order to provide a realistic view of the current situation, a survey was conducted investigating the employment status of persons with disability. This survey is the main focus of the present paper. Finally, in Axis 1 accessibility assessment of major employers' infrastructure was carried out.

The second axis of the project aspired to develop a spirit of entrepreneurship among persons with disability, to promote the concept of "social entrepreneurship" and to create a powerful guidance and support tool. Thematic seminars and workshops took place, with the active participation of persons with disability and other stakeholders. These, combined with lessons learned and the knowledge acquired during the implementation of the project, formed the basis of the project's "Toolbox for Employment", containing recommendations and guidelines on how to foster accessible employment and entrepreneurship.

International reports on the employment status of disabled persons

Various surveys have examined disabled employees' working conditions and their implications for working environments.

In 2011 the Ad-Hoc Module of the EU Labour Force Survey (LFS-AHM) examined population members aged between 15 and 64 years, from the European Union (EU) and its individual member states, with data for Iceland, Switzerland and Turkey also available. The survey results were based on two disability definitions:

- Definition 1: People having a basic activity difficulty (such as sight, hearing, walking, and communicating).
- Definition 2: People limited in work because of a Longstanding Health Problem or an Activity Difficulty (LHPAD).

Based on the first definition of disability, the average unemployment rate for disabled people in the 28 member states was 12.1%, a difference of 2.5% from that of people without disabilities. The highest unemployment rates in the member states among people with disabilities were found in Latvia and Spain. Furthermore, the largest difference between people with and without disabilities by country was encountered in Hungary and the Czech Republic.

Based on the second definition, the average unemployment rate in the 28 member states was 17.4% for people with limited activity, with a 9.4% difference from the rest of the population. The highest percentages were once again presented in Latvia and Spain, while the largest differences between those with and those

without disability were observed in Hungary and the Czech Republic, Germany, and Estonia. Furthermore, illness or disability was stated as the main reason why the majority of disabled unemployed persons had left work (30% in total) (Eurostat, 2014).

The Fair Treatment at Work Survey, carried out in the UK in 2008 with a sample of 502 disabled people, showed the following key-findings:

- Disabled people were much more likely than non-disabled people to say they had experienced some form of unfair treatment, discrimination, bullying or harassment at work in the previous two years (27 per cent compared with 17 per cent).
- Specifically, 19 per cent of the disabled people said they had experienced unfair treatment, 12 per cent discrimination, two per cent sex-based harassment and 14 per cent other types of bullying or harassment.
- Disabled people were also more likely to say that they had experienced other incidents in the previous two years 'in a negative way' involving work colleagues, clients or customers.
- More than a third (37 per cent) said that they had been treated in a disrespectful or rude manner as compared to 25 per cent of people without disability, while 23 per cent mentioned that they had been insulted or had received offensive remarks made about them as compared to 17 per cent of people without disability. 14 per cent of people with disability had been humiliated or ridiculed in connection with their work, and 9 per cent had experienced actual physical violence at work as compared to 8 per cent and 5 per cent of people without disability, respectively.
- 19 per cent of people with disability, compared to 13 per cent of people without disability, reported unfair treatment, 12 per cent of people with disability, compared to 7 per cent of people without disability, reported discrimination, while 14 per cent, compared to 6 per cent, reported other forms of bullying or harassment.
- The experience of some kind of unfair treatment, discrimination, bullying or harassment at work is considerably higher among people with disability (27 per cent) than among people without disability (17 per cent). (Coleman, Sykes & Groom, 2013)

Furthermore, research carried out by OPM & Ipsos (2014) with the assistance of disability organisations, documented that discrimination is also profound against people with disability who would like to be able to work, but face problems when applying for employment.

Many participants believed that stigma is the reason why employers are not willing to employ people with a disability. This is in conjunction with myths about disability and employment, such as that people with disability are less productive, they take more days off, are less effective and unreliable. Thus, they are perceived as a risky investment.

Other participants supported that employers believe that disability and illness are the same, so they presume that disabled people will need more days off, while some participants believe that employers have little commitment to employing people with disability in accordance with equality legislation.

Another important factor was insufficient support or help from job centres. Some participants reported that they did not receive help from the staff at job centres due to the former's lack of experience or limited experience in paid work or because they were searching for a part-time position. The key finding is that people with disability were unable to find personalised support.

Quite a few people, especially those with mental disabilities, expressed personal fears and worries, which lead to their reluctance in seeking employment. They were concerned about the process and believed that stress would have a negative impact on their wellbeing, while some reported that potential rejection would have an impact on their self-esteem.

What has been described so far is not only a European phenomenon. The Australian Bureau of Statistics notes that 20% of Australians have a disability, but only 53% of those who are of an employable age are in the workforce, compared to 81% of people without disability in the paid workforce. This figure is far worse for people with certain types of disabilities (e.g. vision impairment and high-level spinal cord injury) and/or higher support needs. Moreover, people with disability in employment are more likely to work part-time (37%), forced into work for the unemployment benefits or unpaid internship/work experience, thus, curtailing their career opportunities and access to economic resources (Darcy, Taylor, and Green, 2016).

Furthermore, according to the U.S. Bureau of Labor Statistics, in 2016, the unemployment rate for persons with a disability, at 10.5 percent, had changed little compared to the previous year, while the rate for those without a disability had declined to 4.6 percent. The employment-population ratio for groups of persons with and without a disability increased from 2015 to 2016 (by 0.4 percentage point for persons with a disability and by 0.3 percentage point for persons with no disability).

Highlights from the 2016 data included the following:

- Nearly half of all persons with a disability were age 65 and over, a number about three times higher than the share of those with no disability.
- For all age groups, the employment-population ratio was much lower for persons with a disability than for those with no disability.
- For all educational attainment groups, jobless rates for persons with a disability were higher than those for persons without a disability.
- In 2016, 34 percent of workers with a disability were employed part-time, compared to 18 percent of those with no disability.
- Employed persons with a disability were more likely to be self-employed than those with no disability. (Bureau of Labor Statistics, 2017).

Concerning the Greek context, in a research study carried out by the National Confederation of Persons with Disability (NCPD - E.S.AmeA) among the general population in 2013, 59.1% of participants responded that access to employment for disabled persons had got worse during the previous 3 years and 66.2% responded that cases of social stereotypes and prejudices towards disabled persons had either

increased or remained stable; 51.7% of respondents considered prejudice as the main behavioural aspect of the general population towards disabled persons (NCPD, 2013). Another survey was carried out in 2006 by the Greek Ministry of Internal Affairs (Logaras, 2013). In this survey, lack of accessibility to the working environment was identified as the most prominent cause for problems regarding employees with disability.

Survey on Employment of People with Disabilities

Survey Identity and Methodology

The present study focuses on the questionnaire survey undertaken in the framework of WorkAbility project, with the assistance of local associations of major disability groups, concerning the employment rate of persons with disability, their employment status and the impact the financial crisis had had on their employment status and income. The sample of the survey consisted of 306 people with disabilities (hearing, vision and mobility impairment) living in the Region of Central Macedonia.

The aim of the WorkAbility survey was to record the experiences and points of view of the people interviewed concerning employment of persons with disabilities in Central Macedonia, in order to highlight and improve the current state of employment through improvements of accessibility infrastructure and related services.

The questionnaire was created by the members of the Transport Systems Research Group of Aristotle University of Thessaloniki (TSRG/AUTh) in cooperation with social scientists and the Panhellenic Association of the Blind - District Union of Central Macedonia, the Panhellenic Association of Paraplegics - District Union of Macedonia & Thrace and the Association of the Deaf of Northern Greece. Prior to the design of the questionnaire, extensive literature research had been carried out in order to identify previous studies and surveys on the employment of people with disabilities at national and EU levels.

It should be noted that the survey was conducted among members of the aforementioned associations of persons with disability by the associations themselves, who were acting as project subcontractors. Thus, the project itself promoted entrepreneurship among people with disabilities.

A similar questionnaire survey on the employment status for people with disabilities in Greece was carried out in 2003, within the framework of Community Initiative Programme (CIP) EQUAL 1 and 'Proklisi' Project (Magoulios & Trichopoulou, 2012). In that case, the study sample consisted of 1386 people with disabilities, living in urban areas of 10 Regions and 14 prefectures in Greece. The sample included people with physical disabilities, but also people with emotional and mental disorders, intellectual retardation and thalassaemia.

Although the two aforementioned surveys have different characteristics in terms of sample size, the geographical area covered and the types of disabilities included, they depict the employment status of Greek people with disabilities in two specific time periods: the 'Proklisi' survey describes the situation in 2003, before the onset of the financial crisis, while the 'WorkAbilty" survey provides a review of the current situation (year 2016).

Through examining the results of the two surveys in parallel, useful conclusions can be drawn on whether the employment status of people with disabilities has changed over the last years and in what way.

The survey's first phase started in March 2016 and was completed in April 2016. In this phase, personal, as well as phone interviews were conducted. After the completion of the interviews, the second phase of the survey started. In this phase, the questionnaires were codified into meaningful data through data manipulation, in order to be ready for the statistical analysis that ensued. The data were codified into Excel and analysed with SPSS. The statistical processes performed in order to yield results were mainly crosstabs with chi-square tests and McNemar's tests for statistical significance.

The questionnaire used during the interviews consisted of two distinct parts. The first part included demographic and general questions such as type of disability, level of education, allowance and income, while the second part consisted of more targeted questions on issues such as how disability affects performance in the working environment, the need for assistive technology, adjustments or personal assistance, relationship with employers, colleagues and customers, factors affecting employment, etc.

The questionnaire was completed by 306 persons with disabilities, of which 101 were deaf and hard-of-hearing (34.4%), 105 hemiplegics, paraplegics and tetraplegics (33%), and 100 vision-impaired (32.6%).

The participants of the survey were divided into three specific categories, based on their employment status:

- People who were employed
- People who had worked in the past but were unemployed or retired at the moment of the survey
- People who had never been employed

Descriptive statistics

Among the 306 completed questionnaires, 3 were missing vital information and were excluded from the study. Out of the final 303 persons, 20 people had been employed before their disability and retired after the disability. These people were analysed separately from the rest.

Disability

As far as respondents' disability is concerned, 30.14% of the sample population consisted of deaf persons, 4.26% of hard-of-hearing persons, 32.62% of persons with visual impairment, 4.61% of hemiplegic, 18.79% of paraplegic and 9.57% of tetraplegic persons. The total number of participants for the group of the deaf and hard-of-hearing was N=97 persons, of which 87.6% were deaf and 12.4% hard-of-hearing. For the vision impairment group, the total number was N=92 persons. For the physical disabilities group, the total number was N=93 persons, of which 14% hemiplegics, 57% paraplegics and 29% tetraplegics.

Age

The age range of the sample was between 18 and 83 years of age. More specifically, the 1st group consisted of 17 people aged 18-25, which was 6% of the total population sampled, the 2nd group consisted of 66 people aged 26-35, which was 23.3% of the total sample, and so on (Table 1).

Table 1. Age groups of population

Age groups	Frequency	Percent	Valid Percent	Cumulative Percent
18-25	17	6	6.0	6.0
26-35	66	23.3	23.3	29.3
36-45	80	28.3	28.3	57.6
46-55	69	24.4	24.4	82.0
56-65	26	9.2	9.2	91.2
66-75	19	6.7	6.7	97.9
76-88	6	2.1	2.1	100.0
Total	283	100.0	100.0	

Gender

Concerning the gender of participants, 59% were men and 41% women. For the group of the deaf and hard-of-hearing, 58.8% were men and 41.2% women. For the vision impairment group, 63% were men and 37% women. For the group of persons with physical disabilities, 54.8% were men and 45.2% women.

Educational level

As far as educational level is concerned, 13.78% of the population sampled were elementary school graduates, 8.83% junior high school graduates, 31.80% high school graduates, 34.63% University graduates and 3.53% graduates holding Master's and Doctor's Degrees.

In the survey conducted within the framework of EQUAL in 2003, the educational status of people with disabilities reported was quite different, since only 13% of interviewees stated that they held a University degree and 1.1% a Master's degree or a PhD title.

Thus, it seems that there has been an increase over the last decade in the percentages of people with disabilities who have received education at University level and of those who continued their studies to a Master's or a PhD level.

Concerning the educational level of the deaf and the hard-of-hearing group, 29.9% were elementary school graduates, 5.2% junior high-school graduates, 24.7% high-school graduates, 8.2% post-secondary school graduates, 29.9% University graduates and 2.1% Master's or Doctor's Degree holders.

For the group of visually impaired participants, 3.3% were elementary school graduates, 4.3% junior high-school graduates, 30.4% high-school graduates, 12% post secondary-school graduates, 47.8% University graduates and 2.2% Master's or Doctor's Degree holders.

Concerning the physical disabilities group, 6.5% were elementary school graduates, 17.2% junior high-school graduates, 40.9% high-school graduates, 2.2%, post secondary-school graduates, 26.9% University graduates and 6.5% Master's or Doctor's Degree holders.

Working status

Concerning the working status of the population, 34.98% were employed, 14.13% unemployed, 27.21% retired and 23.67% had never worked before. It is worth noting that in the 2003 EQUAL survey (Magoulios & Trichopoulou, 2012) the percentage of persons employed was 35.9%, almost the same as the equivalent percentage reported in the WorkAbility survey (34.98%).

As far as the relation between the type of disability and working status is concerned, 50.6% of the deaf and 66.7% of the hard-of-hearing were employed. 12.9% of the deaf persons of the sample were retired, while 15.3% of the deaf and 25% of the hard-of-hearing had never worked. For the visually impaired group, 28.3% were employed and 9.8% unemployed, 43.5% retired and 18.5% had never worked. As far as the physical disabilities group is concerned, 30.8% of the hemiplegics, 28.3% of the paraplegics, and 11.1% of the tetraplegics of the sample were employed. Unemployment rates were about 15% for hemiplegics and paraplegics, and 3.7% for tetraplegics, 25% of hemiplegics and paraplegics were retired and 30% of them had never worked, while 33.3% of tetraplegics were retired and 51.9% had never worked.

Vocational rehabilitation seminars

Across all disability groups 45.2% of participants had attended vocational rehabilitation seminars and, specifically, 44.3% of the deaf and hard-of-hearing group, 42.4% of the vision impairment group and 48.4% of the physical disabilities group.

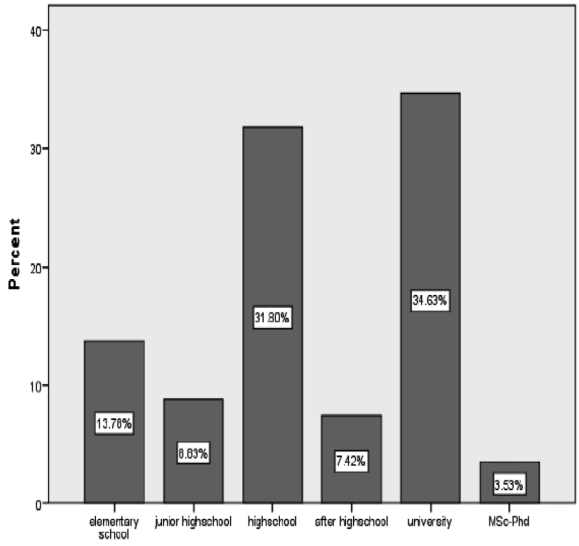

Figure 1. Level of education of population

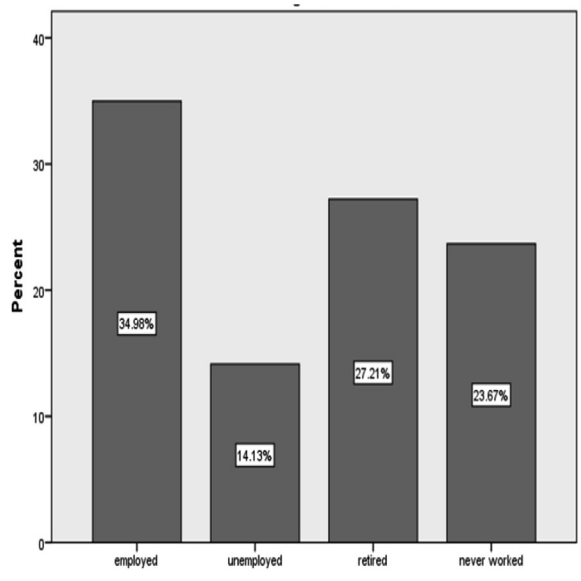

Figure 2. Working status of population

Special school

59.8% of the hearing disability group, 20.7% of the vision impairment group and 32.3% of the paraplegics and tetraplegics groups attended a special school.

Employment sectors (self-employment, full-time permanent staff, part-time permanent staff, full-time contract, part-time contract)

For the deaf and hard-of-hearing, 5.6% (4 persons) and 12.5% (1 person), respectively, were self-employed, 57.7% (41 persons) and 62.5% (5 persons) were working as full-time permanent staff, 1.4% (1 person) worked as part-time permanent staff, while 25.4% of the deaf worked on a full-time contract (18 persons) and 9.9% (7 persons) of the deaf and 25% (2 persons) of the hard-of-hearing worked on a part-time contract.

Concerning the visually impaired group, 9.5% (7 persons) were self-employed, 66.2% (49 persons) were working as full time permanent staff, and 4.1% (3 persons) worked as part-time permanent staff, while 16.2% (12 persons) worked on full-time contract work and 4.1% (1 person) worked on a part-time contract.

For the group with physical impairments, 44.4% of hemiplegics, 18.9% of paraplegics and 7.7% of tetraplegics were self-employed. The percentages of hemiplegics, paraplegics and tetraplegics working as full-time permanent staff were 33.3%, 70.3% and 76.9%, respectively. In addition, 2.7% of the paraplegics had a permanent part-time job, while 5.4% of the paraplegics and 15.4% of the tetraplegics worked on full-time contracts. Finally, 22.2% of the hemiplegics and 2.7% of the paraplegics worked on a part-time contract.

Number of working hours

To the question "Do you consider your disability as restricting the number of hours you can work?", 80% of the deaf and 91.7% of the hard-of-hearing answered "no". The same answer was received by 75.8%, of the visually impaired, 84.6% of the hemiplegics, 71.2% of the paraplegics and 33.3% of the tetraplegics.

Performance at work and disability

To the question, "Do you consider your disability as affecting the performance of your work tasks?", 70.2% of the deaf and all of the hard-of-hearing answered "no". Furthermore, 68.1% of the visually impaired, 84.6%, of the hemiplegics, 83% of the paraplegics and 66.7% of the tetraplegics also responded with a negative answer.

Table 2. Percentages of employment sectors across disabilities

			Disability						Total
			Deaf	Hard of hearing	Visual disability	Hemiplegics	Paraplegics	Tetraplegics	
Regime	Self-employed	Count	4	1	7	4	7	1	24
		%within Disability	5.6%	12.5%	9.5%	44.4%	18.9%	7.7%	11.3%
	Permanent Full-time	Count	41	5	49	3	26	10	134
		%within Disability	57.7%	62.5%	66.2%	33.3%	70.3%	76.9%	63.2%
	Permanent part-time	Count	1	0	3	0	1	0	5
		%within Disability	1.4%	0.0%	4.1%	0.0%	2.7%	0.0%	2.4%
	Contract full-time	Count	18	0	12	0	2	2	34
		%within Disability	25.4%	0.0%	16.2%	0.0%	5.4%	15.4%	16.0%
	Contract part-time	Count	7	2	3	2	1	0	15
		%within Disability	9.9%	25.0%	4.1%	22.2%	2.7%	0.0%	7.1%
Total		Count	71	8	74	9	37	13	212
		%within Disability	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table 3. Percentages of answers to the question "Do you consider your disability as affecting the performance of your work tasks?" across all disability groups

			Disability						
			Deaf	Hard of hearing	Visual disability	Hemiplegics	Paraplegics	Tetraplegics	Total
Duty Due to Disability	yes	Count	25	0	29	2	9	9	74
		%within Disability	29.8%	0.0%	31.9%	15.4%	17.0%	33.3%	26.4%
	no	Count	59	12	62	11	44	18	206
		%within Disability	70.2%	100.0%	68.1%	84.6%	83.0%	66.7%	73.6%
Total		Count	84	12	91	13	53	27	280
		%within Disability	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Commuting from and to the working place

To the question, "Do you consider your disability as preventing you from moving from and towards your working place?", 94.1% of the deaf and 100% of the hard-of-hearing answered "no". Furthermore, 49.5% of the visually impaired, 76.9% of hemiplegics, 70.6% of paraplegics and 37% of tetraplegics gave negative answers.

Personal help

Concerning the need for personal help, the survey results indicate that persons from the deaf and hard-of-hearing group need more personal help than any other group. In particular, after comparing employed, unemployed and retired participants, it was found that 56.6% of the deaf, 45.5% of the hard-of-hearing and 16.5% of the visually impaired are in need of personal help. None of the hemiplegics is in need of personal help, while 86% and 55.6% of the paraplegics and tetraplegics, respectively, stated that they do not need personal help.

Special equipment

Comparing employed, unemployed and retired persons, 34.9% of the deaf and 34.6% of the hard-of-hearing are in need of special equipment. Furthermore, 38.5% of the visually impaired and 15.4% of hemiplegics, 64% of paraplegics and 77.8% of tetraplegics are in need of special equipment.

Table 4. Percentages of working status and need for personal help for the hearing impaired and the hard-of-hearing

Disability				Working Status				Total
				Employed	Unemployed	Retired	Never worked	
Deaf	Personal Help	yes	Count	25	10	5	7	47
			%within Disability	59.5%	55.6%	45.5%	58.3%	56.6%
		no	Count	17	8	6	5	36
			%within Disability	40.5%	44.4%	54.5%	41.7%	43.4%
Total		Count %within Disability		42	18	11	12	83
				100.0%	100.0%	100.0%	100.0%	100.0%
Hard-of-hearing	Personal Help	yes	Count	1	1		3	5
			%within Disability	14.3%	100.0%		100.0%	45.5%
		no	Count	6	0		0	6
			%within Disability	85.7%	100.0%		100.0%	54.5%
Total		Count %within Disability		7	1		3	11
				100.0%	100.0%		100.0%	100.0%

Table 5. Percentages of working status and need for personal help for the visually impaired

Disability				Working status				Total
				employed	unemployed	retired	never worked	
Visual impairment	Personal Help	yes	Count	4	1	7	3	15
			%within Working Status	15.4%	12.5%	17.5%	17.6%	16.5%
		no	Count	22	7	33	14	76
			%within Working Status	84.6%	87.5%	82.5%	82.4%	83.5%
Total		Count %within Working Status		26	8	40	17	91
				100.0%	100.0%	100.0%	100.0%	100.0%

Table 6. Percentages of working status and need for personal help for the hemiplegics, paraplegics and tetraplegics

Disability				Working status				Total
				Employed	Unemployed	Retired	Never worked	
hemiplegics	Personal help	no	Count	4	2	3	4	13
			% within Working status	100%	100%	100%	100%	100%
	Total		Count	4	2	3	4	13
			% within Working status	100%	100%	100%	100%	100%
paraplegics	Personal help	yes	Count	2	1	0	4	7
			% within Working status	13,30%	12,50%	0%	25%	14%
		no	Count	13	7	11	12	43
			% within Working status	96,70%	97,50%	100%	75%	86%
	Total		Count	15	8	11	16	50
			% within Working status	100%	100%	100%	100%	100%
tetraplegics	Personal help	yes	Count	0	1	2	9	12
			% within Working status	0%	100%	22,20%	64,30%	44,40%
		no	Count	3	0	7	5	15
			% within Working status	100%	0%	77,80%	35,70%	56,60%
	Total		Count	3	1	9	14	27
			% within Working status	100%	100%	100%	100%	100%
Total	Personal help	yes	Count	32	14	14	26	86
			% within Working status	33%	36,80%	18,90%	39,40%	31,30%
		no	Count	65	24	60	40	189
			% within Working status	67,00%	63,20%	81,10%	60,60%	68,70%
	Total		Count	97	38	74	66	275
			% within Working status	100%	100%	100%	100%	100%

Special working conditions

Comparing employed, unemployed and retired participants, 50.6% of the deaf and 54.5% of the hard-of-hearing are in need of special working conditions. Furthermore 22% of the visually impaired, 30.8% of the hemiplegics, 22% of the paraplegics and 66.7% of the tetraplegics are also in need of special working conditions.

Multinomial logistic regression analysis method for the total sample

Model

A model to estimate the importance of each factor of the dataset against employment was needed. The full model was analysed in order for the statistically significant variables to be shown.

Employment was checked in terms of Gender, Disability, Educational Level, Special Training, Seminars, Working hours Due to Disability, Trip Due to Disability, Personal Help, Special Equipment, Special Work Status and Age Groups.

The 'Gender' variable represents whether someone is male or female, 'Disability' represents the disability group someone belongs to, 'Educational Level' represents the level of education of the interviewee, 'Special Training and Seminars' shows whether someone attended special instruction or vocational rehabilitation seminars, 'Working hours/Trip-Due to Disability' represents whether one's disability affects their commuting from and to their job and the hours they spend at work, 'Personal Help/Special Equipment/Special Work status' stands for whether the interviewee's disability makes them need personal help, special equipment or special working conditions, and 'Age Group' stands for the age group the survey participant belongs to.

When using multinomial logistic regression, as seen in the table below, the most important (i.e. statistically-significant) factors that influence employment in the sample, are the interviewee's Age, Educational level, and Disability (p-value<0.05%).

Further analysis of survey results and concluding remarks

In order for statistical significance across groups to be shown, especially after knowing which were the variables most significantly affecting the working status of a disabled person, and for further comparisons to be made, some variables got regrouped to enhance the behaviours shown.

The term 'statistical significance' is used to describe whether the spread of answers between groups presents significant discrepancies. In statistical hypothesis testing, statistical significance (or a statistically significant result) is attained when a p-value is lower than the significance level (as a matter of good scientific practice, a significance level is chosen before data collection, i.e., when the p-value is below 5%). The p-value is the probability of obtaining results at least as extreme when the null hypothesis is true, whereas the significance level is the probability of rejecting

the null hypothesis when it is true. Therefore, almost always, the null hypothesis is that the spread of the answers is equal across all groups; in other words, when there is statistical significance in these data, it means that the spread of the answers is not equal across groups.

The variables with more groupings were "Education" and "Disability", as the number of answers needed for the results to be considered valid, through this more detailed comparison, was not covered without those groupings. After moderations, there was a clearer view of trends followed by those groups. Findings are presented below.

Concerning the working sectors participants worked in, 41% of the deaf and hard-of-hearing worked in the private sector and 56% in the public sector. For the visually impaired group, percentages were 60% and 36%, respectively, while for the group of paraplegics, hemiplegics and tetraplegics percentages were 53.3% for the private sector and 54.9% for the public sector. The analysis showed that the results above were not statistically significant across disability groups.

There is statistical significance between working status and disability. The group of hearing impairment presents the highest percentages of employed (52.6%) and unemployed individuals (28.3%), compared to the equivalent percentages of the visually impaired group (28.3% and 9.8% respectively) and the paraplegics, hemiplegics and tetraplegics group (23.7% and 11.8%, respectively). Concerning retired persons, the visually impaired group presents the highest percentage (43.5%), followed by the percentage of paraplegics, hemiplegics and tetraplegics (28%) and the percentage of the deaf and hard-of-hearing (11.3%). The paraplegics, hemiplegics and tetraplegics group has the highest percentage of those who had never worked, closely followed by the visually impaired and the deaf and hard-of-hearing groups.

Table 7. Presentation of the main multinomial logistic regression results through Likelihood Ratio tests, where in column Sig. the three important factors are Disability, Educational Level, and Age Groups (p-value<0.05%)

Effect	Model fitting criteria	Likelihood Ratio Tests		
	Reduced model likelihood	Chi-square	df	Sig.
Intercept	428.749	0	0	.
Gender	431.181	2.432	3	0.488
Disability	486.371	57.622	15	0
Level of education	465.82	37.071	15	0.001
Special training	430.793	2.043	3	0.563
Seminars	430.113	1.364	3	0.714
Working hours due to disability	430.788	2.039	3	0.564
Duty due to disability	433.072	4.323	3	0.229
Trip due to disability	433.059	4.31	3	0.23
Personal help	429.353	0.604	3	0.895
Special equipment	434.771	6.022	3	0.111
Special working status	432.187	3.438	3	0.329
Age groups	555.026	126.277	18	0

There is also statistical significance between employment mode and disability. The group of paraplegics, hemiplegics and tetraplegics presents the highest percentage of self-employed individuals, two times higher than the percentage of the visually impaired group, with the group of the deaf and hard-of-hearing presenting the lowest percentage.

As far as full-time contracts are concerned, the highest percentage was that of the deaf and hard-of-hearing (22.8%), which is slightly higher than the mean percentage, followed by the percentage of the visually impaired group (16.2%), which is very close to the mean percentage, and by the percentage of the physical impairment group, which is very low (6.8%). Concerning part-time contracts, the hearing impairment group comes first with 11%, followed by the other two groups (4.1% for the visually impaired and 5.1% for the paraplegics, hemiplegics and tetraplegics).

To the question, "How important do you consider the factors below in finding employment", 10 factors were presented in order to be ranked by the employed, unemployed and retired persons of the three main groups of disabilities. The factors were: 1st "Skills required", 2nd "Education", 3rd "Employers' point of view", 4th "Employers previous experience with disabled people", 5th "Accessibility in the working environment", 6th "Subsidized Program", 7th "Professional experience", 8th "Gender", 9th "Age", and 10th "Marital status".

The top five affecting factors for the visual impairment group are skills required, education, employer's behaviour, accessibility and employers previous experience with disabled. For the group with physical impairments the top five is education, skills required, subsidized employment program, employers' behaviour, and accessibility, while for the hearing impairment group the top five are skills required, professional experience, gender, age and employers behaviour.

It can easily be noticed that there are wide differences throughout all three groups, when it comes to the ranking of the ten factors above. It should be noted that the ranking came out of a sum of scores from -2 to +2 ([-2,2]), where the interviewees were asked to mark a level of importance, (very positive=2, positive=1, neither=0, negative=-1 and very negative=-2).

As far as the need and use of personal help, special equipment and being in a special working status (such as flexible schedules, part-time work, job-sharing and teleworking) is concerned, most of the survey's results were statistically significant, showing that the distribution of whether the participants need and use the above or not is not equal amongst the three disability groups.

In particular, 55.3% of the persons from the hearing impairment group need personal help, with 46.8% actually having it. These percentages are reduced to 16.5% and 16.9% for the visually impaired group and to 21.1% and 8.2% for the group of persons with physical disabilities.

The percentages of those who need special equipment and those who use it, are 35.1% and 16.2% for the group with hearing impairments (NB: the difference between need and use of special equipment percentages within the hearing impairment

groups is statistically significant, p=0.007<<0.05, particularly for the employed and the unemployed), 38.5% and 33.3% for the group with visual impairments, and 61.1% and 49% for the group with physical disabilities, respectively.

As far as the need of special equipment is concerned, the physical impairment group presents the highest percentages, compared to other disability groups.

Percentages of those who need special working conditions and those who actually have it are 51.1% and 43.1% for the hearing impairment group, 22% and 20.6% for the visual impairment group, and 36.7% and 36.7%, respectively, for the physical disability groups.

The group of people from all disability groups that have never been employed presents the highest percentage among other working status groups (employed, retired, unemployed) concerning the need of special working conditions (p-value < 0.05).

Table 8. Factors considered as important for finding employment across disabilities

	Visual disability group	Physical disability group	Hearing disability group	Total
Skills required	114	35	79	228
Education	107	37	17	161
Employers' behaviour	73	28	48	149
Employers Previous experience with the disabled	54	23	41	118
Accessibility of working environment	55	27	30	112
Subsidised plan	16	31	2	49
Professional experience	39	20	54	113
Gender	17	13	53	83
Age	22	13	53	88
Marital status	22	11	43	76

Regarding the means of searching for jobs, persons in all working status and disability groups agreed that they most frequently used the services provided by the Manpower Employment Organization (OAED). Their next preference was "Call of job openings through disability associations" followed by the choice "Knowing the employer".

According to previous research data (Magoulios & Trichopoulou, 2012) the vast majority of people with disabilities (75%) agree that the most important role in job-seeking is played by skills and qualifications, followed by other positive factors, such as work experience, qualifications and studies, exploitation of subsidy plans, while what comes last is the employer's attitude. Concerning the means used in the

process of job-seeking, people with disabilities who participated in the 2003 EQUAL survey answered that they mostly preferred personal or family acquaintances as employers when looking for a job and, to a lesser extent, they exploited other means, such as OAED subsidy plans, job advertisements, personal efforts other than via acquaintances, employers recommended by OAED and their broader network, or schemes promoting employment.

There appears to be statistical significance concerning the distribution of choices between the educational level of participants and their willingness to work. The higher their educational qualifications, the higher the percentages of those who want to work in all disability groups.

To the question "evaluate the behaviour of your employer, your colleagues, your working environment, and the customer behaviour towards you", ratings were "Not satisfied at all", "Semi-satisfied", and "Very satisfied". In general, the hearing impairment group is the most dissatisfied of the three disability groups, concerning all four questions, especially the last one concerning customers' behaviour. However, the majority of respondents across all disabilities seem to be satisfied in terms of working environment attitude. The same conclusion emerged from the 2003 survey (Magoulios & Trichopoulou, 2012), which showed that behaviour patterns of colleagues, employers, customers and managers were quite satisfactory for most employed people with disabilities.

According to the tables below, there is statistical significance between disability and colleagues' behaviour, as well as between disability and customer behaviour.

Persons that have never worked from all disability groups

These persons constitute a separate group, as they have no working experience and interviewers were interested in determining whether they were actually willing to find a job. The percentage of interviewees who answered they did not want to work drops as their level of educational level rises. Specifically, it falls from 63.6% for those who graduated from elementary school to 7.1% for University graduates and holders of Master's and Doctor's Degrees. Those results are statistically significant (p-value<0.05).

Persons that were employed before their disability and retired after their disability

A small group within the sample (20 persons) had working experience only before their disability occurred. Thus, even though they had experience of the needs of a working environment, they had not been employed as disabled persons. Eight of the interviewees were visually impaired, two were hemiplegics, three were paraplegics, and seven were tetraplegics. Some descriptive statistics for their disability and education are provided at Tables 13 and 14.

Table 9. Levels of satisfaction across disabilities, regarding employers' behaviour towards disabled employees

			Disability			
			Visual disability group	Physical disability group	Hearing disability group	Total
Employers' behaviour	Not satisfied at all	Count	4	3	4	11
		% within disability	5.70%	6.80%	5.80%	6.00%
	Moderately satisfied	Count	14	13	25	52
		% within disability	20.00%	29.50%	36.20%	28.40%
	Very satisfied	Count	52	28	40	120
		% within disability	74.30%	63.60%	58.00%	65.60%
	Total	Count	70	44	69	183
		% within disability	100%	100%	100%	100%

Table 10. Levels of satisfaction across disabilities, regarding colleagues' behaviour towards disabled employees

			Disability			
			Visual disability group	Physical disability group	Hearing disability group	Total
Colleagues' behaviour	Not satisfied at all	Count	1	2	4	7
		% within disability	1.40%	4.50%	5.80%	3.80%
	Moderately satisfied	Count	16	7	26	49
		% within disability	22.90%	15.90%	37.70%	26.80%
	Very satisfied	Count	53	35	39	127
		% within disability	75.70%	79.50%	56.50%	69.40%
	Total	Count	70	44	69	183
		% within disability	100%	100%	100%	100%

Table 11. Levels of satisfaction across disabilities, regarding their working environment

			Disability			
			Visual disability group	Physical disability group	Hearing disability group	Total
Working Environment	Not satisfied at all	Count	4	2	4	10
		% within disability	5.70%	4.50%	5.80%	5.50%
	Moderately satisfied	Count	20	8	29	57
		% within disability	28.60%	18.20%	42.00%	31.10%
	Very satisfied	Count	46	34	36	116
		% within disability	65.70%	77.30%	52.20%	63.40%
	Total	Count	70	44	69	183
		% within disability	100%	100%	100%	100%

Table 12. Levels of satisfaction across disabilities, regarding customers' behaviour towards disabled employees

			Disability			Total
			Visual disability group	Physical disability group	Hearing disability group	
Customer Behaviour	Not satisfied at all	Count	3	1	10	14
		% within disability	4.30%	2.30%	14.50%	7.70%
	Moderately satisfied	Count	26	6	32	64
		% within disability	37.10%	13.60%	46.40%	35%
	Very satisfied	Count	41	37	27	105
		% within disability	58.60%	84.10%	39.10%	57.40%
Total		Count % within disability	70	44	69	183
			100%	100%	100%	100%

Table 13. Disabilities of the specific group of persons that were employed before their disability occurred and retired after their disability occurred

	Frequency	Percentage	Valid percent	Cumulative percentage
visual disability	8	40	40	40
hemiplegics	2	10	10	50
paraplegics	3	15	15	65
tetraplegics	7	35	35	100
Total	20	100	100	

Table 14. Educational level of the specific group of persons that were employed before their disability occurred and retired after their disability occurred

	Frequency	Percent	Valid percentage	Cumulative percentage
elementary school	1	5%	5%	5%
junior high school	3	15%	15%	20%
high school	9	45%	45%	65%
post-secondary school	1	5%	5%	70%
university	6	30%	30%	100%
Total	20	100%	100%	

Conclusions

Accessible employment has not been sufficiently developed in Greece yet and any actions towards this goal could have significant potential impacts for people with disabilities, employers and society as a whole.

People with disabilities face serious obstacles in employment, including prejudice and stereotypes, barriers to education, accessibility barriers, as well as inadequate policies and practices.

The WorkAbility project activities aimed to bring together all actors involved, to raise awareness of employers about disability and to provide people with disabilities with all appropriate incentives for successfully entering the labour force, either as employees or as entrepreneurs.

Elimination of discriminating attitudes and provision of reasonable accommodations at workplaces, in combination with adoption of new employment policies and practices, are important steps towards promoting employment and entrepreneurship among people with disabilities. In this context, WorkAbility has provided a set of powerful tools, information and knowledge to be utilised, paving the way for the establishment of accessible employment and the creation of an inclusive marketplace and society.

WorkAbility survey results provide an indication of the aforementioned obstacles and limitations, specifically depicting the situation in the Region of Central Macedonia. Results also indicate areas of intervention and initiatives that need to be taken in terms of accessible employment and entrepreneurship in Greece.

From the answers given by survey participants it is obvious that Greek people with disabilities have a high educational level nowadays, which allows them to build strong CVs, be competitive and successfully enter the labour market. Especially for visually impaired people, the percentage of University graduates and Master's and Doctor's Degree holders among the survey population reached 50%. In addition, the survey indicated that there is a strong correlation between educational level and willingness to work, meaning that, as the educational level rises, so does the percentage of those who want to work.

According to answers provided, 23.67% of interviewees had never worked before. For this group of participants, it is interesting to note that only 7.1% of graduates and Master's and Doctor's Degree holders stated they do not want to work. Thus, a lot of crucial questions emerge: Why do people with disabilities get discouraged from finding a job or starting up their own businesses, although they are willing to work? Do disability allowance policies discourage beneficiaries from job seeking? Are the incentives offered by family, friends, employers and society sufficient to promote employment for people with disabilities? Finding true answers to such questions is a rather demanding and multifaceted task, but also necessary in order to reverse the current situation.

It is worth mentioning that the majority of respondents across all three disability groups stated that their disability did not affect their performance at work. Tetraplegics seemed to have greater needs in terms of special equipment and special working conditions compared to individuals with other disabilities. They also felt that their disability was a hindering factor for commuting to and from their working place and also restricted the number of hours they were able to work. In addition, it appeared that the group of people with hearing problems had the highest percentage of individuals needing personal help.

Most participants stated that they were satisfied with the behaviour of colleagues, employers and customers. This is a positive finding indicating that attitudes towards employees with disabilities within contemporary working environments in Greece have been substantially improved and have become friendlier, compared to the past.

Furthermore, based on the results of the multinomial logistic regression analysis conducted, it was determined that the most significant factors affecting employment are age, educational level and type of disability.

The results of the survey have been included in WorkAbility Deliverable 3.1 entitled "Analysis of existing situation concerning employment of persons with disability in Central Macedonia" and are available at the project's website: www.workability.gr.

These results, in combination with the 'Toolbox for Employment' developed in the context of the WorkAbility project, can be appropriately exploited in order to overcome the barriers identified and to enhance employment opportunities for people with disabilities in Greece, thus, allowing their vocational rehabilitation.

Following the completion of the WorkAbility project, an interesting challenge is to conduct a new, extensive survey covering a broader geographical range and more types of disability. Of course, interdisciplinary cooperation of, for example, social workers, psychologists, engineers and key- stakeholders is of vital importance for the proper design and successful implementation of such a survey.

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