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LABOR CAPACITY OF DEAF WORKERS ON THE WORKPLACE: QUALITATIVE ANALYSIS OF THE ATTITUDES OF DEAF WORKERS AND THEIR CO-WORKERS WITHOUT HEARING IMPAIRMENT

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ABSTRACT

The aim of this paper is to determine the opinions of deaf workers on their labor capacity and the opinions of their hearing co-workers about the labor capacities of the deaf. The sample consisted of 247 respondents, of whom 127 were deaf and 120 were hearing workers. Qualitative and quantitative analysis were used in processing the results. Testing was performed by Wilks' Lambda, tested significance in discriminant analysis was done by F test, at the statistical significance of 0.01. It was found that the sub-sample of respondents had a statistically significant difference in views on claims regarding the exploitation of deaf workers by employers, the employment of deaf people in low-paid simple occupations, and the equally successful but insignificant productivity of deaf workers. The statistical differences found indicate that there are differences in the assessment of the labor capacity of deaf workers in the hearing work environment. Qualitative analysis found that hearing impairment and the subjective attitudes of colleagues without hearing impairment have the greatest impact on the assessment of the labor capacity of deaf workers.
***Keywords**: Deaf workers, labor capacity of the deaf, productivity of the deaf*

INTRODUCTION

Deaf people belong to a heterogeneous population, which is caused by the degree and time of hearing impairment. Difficult communication determines their form of schooling and vocational training, with the main problem being the limited choice of occupation offered to deaf students in vocational guidance processes, resulting in low employment rates for this population, as well as low-paying, non-paying jobs in accordance with their acquired professional qualification. Hearing impairment also significantly affects communication, educational achievement, and social interaction (Boutin, 2010; Boutin & Wilson, 2009), it also limits access to employment, and causes an increased rate of unemployment for deaf people (Bradley, Ebener, & Geyer, 2013; Smith, 2011). Research (Appelman et al., 2012; Boutin & Wilson, 2009) shows that despite professional training, legal regulation and raising awareness of the employment needs of deaf people, their unemployment rate is still lower than the rate of the hearing population. Bowe et al. (2005) state that young deaf people encounter employer impedance when it comes to initial employment, training, promotion and job placement because employers find the costs associated with their work integration as unnecessary.

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The study by Kramer, Kapteyn and Houtgast (2006) shows that hearing is an important ability in the workplace and that hearing loss can result in some difficulties related to: subjective noise level, ability to communicate in noise, differentiate and identify sounds, control and job requirements and requirements of additional effort to participate in communication. Buys and Rennie (2001), Scherich and Mowry (1997), and Schroedel and Geyer (2000), state that difficulties in the employment of deaf people arise as a result of insufficient long-term cooperation and inconsistent services between institutions responsible for their vocational training and employment. Deaf workers have limited employment opportunities, due to the stereotype of employers in terms of the impact of their attitudes, as well as professionals charged with implementing vocational training and career planning (Rosengreen, Saladin, & Hansmann, 2009). Insufficiently developed awareness of the opportunities of deaf workers, the lack of interest of society and negative attitudes towards their labor opportunities most often lead to the unemployment of deaf people, which leaves consequences for their integration into the social environment. The most important factors contributing to the increased risk of social exclusion of young unemployed people are low qualifications, passivity in the labor market, uncertain financial situations, low or no social support, and insufficient or nonexistent institutional support (Kiselbach, 2003).

Economic and institutional barriers to the inclusion of the deaf in the labor market continue to exist in most developed countries of the world. The acquisition of a particular profession or professional qualification is insufficient unless there are objective conditions for their employment. The new demands of the labor market and the advancement of technology are changing and requiring new skills from deaf workers, while at the same time there is increasing economic instability and diminished demand for the jobs for which they are trained. The advancement of technology and industry places greater demands on literacy and communication skills for deaf workers. Hasanbegović, Beha and Mahmutović (2013) singled out inadequate professional information and dissatisfaction with the choice of occupation, which most often do not follow the labor market, as the main cause of problems in employment and retaining the employment of deaf workers. Additional challenges for deaf workers arise from increased levels of stress and fatigue, which usually results from increased effort and concentration necessary to communicate and listen in everyday situations, compared to people without hearing loss (Bess & Hornsby, 2014; Granberg et al., 2014; Hornsby, 2013). A series of studies examining the workplace (Coniavitis Gellerstedt & Danermark, 2004; Kramer, Kapteyn & Houtgast, 2006; Nachtegaal et al., 2009) show that deaf workers exhibit higher levels of fatigue, pronounced psycho-physiological stress, and go sick-leave because of stress more often compared to hearing workers. The authors of the studies considered that job control in the workplace is associated with the ability to participate and interact in the workplace, whereby deaf workers may feel insecure, anxious, and insufficient control when interacting with hearing colleagues in situations where important information is communicated verbally. Kieselbach (2003) states that observing the negative impact on the inability to enter the work process promotes a sense of marginalization, as well as that people without vocational training are more sensitive to social exclusion and lack of integration into society. In order to avoid the negative consequences of lifelong unemployment, deaf people seek employment despite the availability of social benefits, because the benefits of self-employed work, as opposed to dependency on care, can contribute to the positive mental health of the deaf person (Danek & Busby, 1999).

Labor market changes, including trends towards higher mobility, part-time jobs and fixed-term work, place deaf people in the position of having to change jobs, employers and jobs, which require negotiations with employers, unlike in previous years, when deaf workers spent their entire working lives in the same jobs (Fouad & Bynner, 2008; Savickas, 2012).

Most employers and co-workers are likely to have insufficient knowledge about hearing loss and its implications (Schoffstall et al., 2015), as well as about the capabilities of deaf workers. Connelly (2012) conducted a study on a sample of 215 deaf people, where it is found that the majority of respondents stated that hearing impairment limited the range of tasks they needed to perform at work, their opportunities to apply for other jobs, and their ability to move forward - not only in finding the right job, but also in the achievement on the workplace. DeCaro, Mudgett-DeCaro and Dowaliby (2001) suggest that deafness can be a cultural determinant when it comes to choosing occupations and opportunities for the deaf. The authors noted that, regardless of the cultural difference between countries, deaf people are pursuing similar occupations based on the views of employers and society.

Advanced industrial companies are looking for a better educated and technically skilled labor force. Current occupations in the labor market require modern approaches to education and higher qualifications, which deaf people most often do not have. Training of deaf people for vocational occupations, with the completed third or fourth level of education, does not meet the needs of the labor market. Stauffer and Boone (2007) cite difficulties in the professional rehabilitation of deaf people related to inadequate communication skills associated with an ineffective education system, resulting in insufficient practical work and developed work experience, as well as limited family support. Research by DeCaro et al. (2001), which included parents of deaf children and professionals, engaged in vocational training, on occupational competences of deaf children, indicate that respondents expressed a view that deaf persons have reduced labor capacity to perform certain occupations, with respondents expressing a tendency to limit the scope of occupation which this population can perform.

Research aim: This research aimed to determine, by qualitative analysis, the perception (opinion) of deaf workers about their labor capacity and what their hearing co-workers think about their labor capacity. The study hypothesized that there were no statistical differences in the assessment of the labor capacity and social adjustment of deaf workers in a hearing work environment.

METHODS

The research was preceded by preparatory activities related to the verification of the success of inclusive employment of the deaf, and which were implemented in cooperation with centers for social work. It was found that there were reported difficulties in some companies, related to delayed work, irresponsibility at work, maladaptation of deaf workers to working conditions, etc. Although these were individual cases, it was decided to conduct a survey on a larger sample of respondents to examine the social relationships between deaf workers and their co-workers and what their opinions were about their labor capacity and labor skills. For this purpose, open-ended interview questions were created with the answers offered as I agree, I am hesitant and I do not agree, and the interview consisted of the following claims: Responsible company services send hearing workers for additional training, but do not send deaf workers; In low paid simple occupations Deaf workers are more likely to be employed than hearing workers; Each hearing worker is more likely to perform more entrusted tasks than a deaf worker; Deaf people's limited working ability is the cause of their unemployment; Deaf workers may be as productive as hearing workers, but their productivity is not so important; I have nothing against deaf workers at work, nevertheless I do not think they are particularly worthy workers; Deaf people should only work in workplaces where there is no need for communication; Deaf people should be given social and financial assistance even when employed; Deaf people in the work environment are exploited by employers to the maximum level; In the production chain where the deaf people work, there must always be a hearing control person; Deaf workers always prefer to be on sick-leave than hearing workers; It is best for deaf people to be auxiliary workers regardless of qualification level and productivity level; Deaf people should perform the tasks of a manual worker without mental strain and hearing perception of the environment.

Interviews were conducted in direct contact with the respondents, within the companies where they are employed and at their workplaces. Authorization for the research was obtained from the management of the companies, which was preceded by a meeting and discussion in order to get acquainted with the purpose and importance of the research. Because of the sample of the respondents, a sign language interpreter was hired to obtain accurate information.

Sample of respondents

The sample consisted of deaf respondents aged 18-65 (n = 127) (experimental group), employed in a company with a minimum of one year of service and hearing respondents aged 18-65 (control group), who work in the same company with deaf workers or have at least one year of work experience in jobs where a deaf person worked (n = 120). The survey respondents are employed in the field of manual services and production (71.6%), service industry (18.8%), health care institutions (6.3%), mining and construction (2.4%) and education (0.8%).

Measuring instruments

The measuring instrument was created with the aim of establishing the respondents' attitudes on the labor capacity of deaf workers and their social behavior in the workplace. An Interview was used to verify the quantitative data, and the questions of this interview were scaled in a Likert-type questionnaire, according to Hasanbegovic (2016)[2].

[2]http://www.human.ba/Hasanbegovic/mi.htm

RESULTS AND DISCUSSION

Table 1 shows the frequencies of respondents' responses to the interview conducted. Both groups of respondents mostly disagree on claims related to each hearing worker is more likely to perform more entrusted tasks than a deaf worker, deaf people should only work in workplaces where there is no need for communication, deaf workers always prefer to be on sick-leave than hearing workers and the claim that deaf people should be manual and auxiliary workers regardless of qualification level and productivity level. Differences in the answers of the respondents were noticed on the claims related to the improvement inability of deaf workers, in low paid simple occupations deaf workers are more likely to be employed than hearing workers, deaf people's limited working ability is the cause of their unemployment, productivity of deaf workers, exploitation of deaf workers by the employer. The claims - deaf people should be given social and financial assistance even when employed, in the production chain where the deaf people work, there must always be a hearing control person - did not discern any differences and disagreements in the respondents' answers.

Table 1. Respondents' answers on offered claims

Claims	Hearing workers %			Deaf workers %		
	A	H	DA	A	H	DA
Responsible company services send hearing workers for additional training, but do not send deaf workers	35.8	25	**39.2**	**55.9**	11.8	32.3
In low paid simple occupations Deaf workers are more likely to be employed than hearing workers	33.3	22,5	**44.2**	**68.5**	10.2	21.3
Each hearing worker is more likely to perform more entrusted tasks than a deaf worker	16.7	7,5	**75.8**	20.5	14.2	**65.4**
Deaf people's limited working ability is the cause of their unemployment	**47.5**	17,5	35	43.3	9.4	**47.2**
Deaf workers may be as productive as hearing workers, but their productivity is not so important	**46.7**	18,3	35	30.7	3.9	**65.4**
I have nothing against deaf workers at work, nevertheless I do not think they are particularly worthy workers	13.3	10	**76.7**	25.2	1.2	**64.6**
Deaf people should only work in workplaces where there is no need for communication	10.8	15,8	**73.3**	12.6	5.5	**81.9**
Deaf people should be given social and financial assistance even when employed	**43.3**	20.8	35.8	**48.8**	5.5	45.7
Deaf people in the work environment are exploited by employers to the maximum level	15	15.8	**69.2**	**72.4**	7.9	19.7
In the production chain where the deaf people work, there must always be a hearing control person	**59.2**	15.8	25	**55.1**	11	33.9
Deaf workers always prefer to be on sick-leave than hearing workers	3.3	11.7	**85**	12.6	10.2	**77.2**
It is best for deaf people to be auxiliary workers regardless of qualification level and productivity level	5	10	**85**	9.4	5.5	**85**
Deaf people should perform the tasks of a manual worker without mental strain and hearing perception of the environment	8.3	4.2	**87.5**	4.7	9.4	**85.8**

Legend: A-I agree, H-I am hesitant, DA-I do not agree

Within the descriptive statistical analysis, central tendency measures, dispersion measures, and tabular data presentation were calculated. The t-test of the difference of arithmetic means on the results of the respondents' answers on the offered claims was calculated. Table 2 gives an overview of the basic statistical parameters: arithmetic means, standard deviations, variance, and t-test results. The results of the t-test indicate that there is a statistically significant difference defined at the 0.01 level of significance, expressed through claims relating to the employment of deaf workers in low-paying jobs, malpractice of hearing impairment by deaf workers, irrelevant productivity of deaf workers, and exploitation of deaf workers by employers.

Table 2. Description of basic statistical parameters and t-Test

On.	Claims	AM	SD	VAR	t - Test
1	Responsible company services send hearing workers for additional training, but do not send deaf workers	1.89	.90	.81	-2.38
2	In low paid simple occupations Deaf workers are more likely to be employed than hearing workers	1.81	.90	.80	**-5.36**
3	Each hearing worker is more likely to perform more entrusted tasks than a deaf worker	2.52	.79	.62	-1.42
4	Deaf people's limited working ability is the cause of their unemployment	1.96	.93	.87	1.39
5	Deaf workers may be as productive as hearing workers, but their productivity is not so important	2.12	.93	.88	**4.00**
6	I have nothing against deaf workers at work, nevertheless I do not think they are particularly worthy workers	2.51	.80	.64	-2.37
7	Deaf people should only work in workplaces where there is no need for communication	2.66	.68	.46	.79
8	Deaf people should be given social and financial assistance even when employed	1.95	.93	.87	.37
9	Deaf people in the work environment are exploited by employers to the maximum level	1.99	.94	.87	**-10.83**
10	In the production chain where the deaf people work, there must always be a hearing control person	1.72	.89	.79	1.14
11	Deaf workers always prefer to be on sick-leave than hearing workers	2.73	.60	.36	-2.25
12	It is best for deaf people to be auxiliary workers regardless of qualification level and productivity level	2.78	.56	.32	-.61
13	Deaf people should perform the tasks of a manual worker without mental strain and hearing perception of the environment	2.80	.54	.29	.28

Discriminant analysis was used to further process the data. Testing was performed with Wilks' Lambda, and tested significance in discriminant analysis was done by F test. Table 3 shows the statistical significance of Wilks's Lambda, where it is observed that the sub-samples of respondents statistically differ significantly in their views on the claims: „In low paid simple occupations Deaf workers are more likely to be employed than hearing workers“, „Deaf workers may be as productive as hearing workers, but their productivity is not so important“ and „Deaf people in the work environment are exploited by employers to the maximum level“.

Table 3. Linear discriminant analysis in manifest space

Claims	Wilks' Lambda	F	p
Responsible company services send hearing workers for additional training, but do not send deaf workers	.978	5.639	.018
In low paid simple occupations Deaf workers are more likely to be employed than hearing workers	.895	28.767	**.000**
Each hearing worker is more likely to perform more entrusted tasks than a deaf worker	.992	2.024	.156
Deaf people's limited working ability is the cause of their unemployment	.992	1.927	.166
Deaf workers may be as productive as hearing workers, but their productivity is not so important	.939	15.962	**.000**
I have nothing against deaf workers at work, nevertheless I do not think they are particularly worthy workers	.978	5.630	.018
Deaf people should only work in workplaces where there is no need for communication	.997	.616	.433
Deaf people should be given social and financial assistance even when employed	.999	.134	.715
Deaf people in the work environment are exploited by employers to the maximum level	.676	117.209	**.000**
In the production chain where the deaf people work, there must always be a hearing control person	.995	1.296	.256
Deaf workers always prefer to be on sick-leave than hearing workers	.980	5.079	.025
It is best for deaf people to be auxiliary workers regardless of qualification level and productivity level	.998	.374	.542
Deaf people should perform the tasks of a manual worker without mental strain and hearing perception of the environment	1.000	.079	.778

The linear correlation coefficient on the measuring space of deaf and hearing workers is 0.643. Wilks' Lambda was tested by the χ^2 test, with a degree of freedom (df 13), with statistical significance at p = 0.00.

Table 4. Correlation coefficient and statistical significance of the isolated discriminant function

Coefficient	% Variants	Cumulative %	Linear correlation	Wilks' Lambda	χ2	df	p
.706[a]	100.0	100.0	.643	.586	127.446	13	.000

The results obtained by discriminant analysis provide insight into the structure of causal relationships in the measurement space used. By looking at the content of isolated discriminant factors, it can be stated that the greatest discrimination of the respondents' answers was noticed on the claims: „Deaf people in the work environment are exploited by employers to the maximum level", „In low paid simple occupations Deaf workers are more likely to be employed than hearing workers" and „Deaf workers may be as productive as hearing workers, but their productivity is not so important".

Information obtained on isolated claims „Deaf people in the work environment are exploited by employers to the maximum level" and „In low paid simple occupations Deaf workers are more likely to be employed than hearing workers" are closely related and have a causal relation. Responses from deaf respondents (72.4% of them) indicate that employers are exploiting them and that they are given a volume of jobs, which is not in line with the remuneration and qualification, in relation to their hearing co-workers, and this is due to the fact that 71.4% of respondents believe that deaf workers usually do low-paying jobs. The findings are in line with research by Hasanbegovic and Kovacevic (2018), who state that deaf workers express views on unequal workplace positions with their hearing colleagues, and that managers and hearing workers do not have a realistic picture of deaf workers. Ozdowski (2004) states that although deaf people have good knowledge and sufficient qualification to perform certain jobs, they most often do not get the job they are qualified for, while Schroedel and Geyer (2000) state that 13-15% of deaf workers covered by their research have higher level of education compared to the jobs they perform. Although there are deaf people in the labor market who have achieved success in various fields and occupations, there is still a trend of lower employment rates today, and as Punch (2016) states, paid work is around 20% lower in relation to the hearing population. The study by Svinndal et al. (2018) shows that employed deaf people use a variety of strategies to maintain work performance, which include workplace accommodation and self-advocacy requirements, but these strategies are limited to individual activities depending on the ability of deaf workers. The same authors state that, although a positive attitude of employers towards deaf workers has been observed, their efforts and commitment to improving conditions and adjusting jobs for deaf people are not evident, and such attitudes argue for difficulties in communication, more time needed for clarification of jobs and increased fatigue in deaf workers caused by communication efforts. The reason for this condition can be found in the research by Haynes and Linden (2012), who cite the lack of support from co-workers and their unwillingness to adapt to the needs of workers with hearing impairments as the most common difficulty in the workplace, and Kramer et al. (2006) state that the use of sick-leave is five times more frequent in the deaf than in the hearing workers, caused by fatigue, psychical- and physical straining at work. Punch et al. (2007), as specific examples, cite negative attitudes and inability to promote in the workplace regardless of the labor capacity of deaf workers, as well as a lack of tolerance when it comes to communication difficulties, which is reflected in a lack of will to repeat content that is not understood by deaf persons.

A condition for successful and efficient completion of work tasks is an understanding of instructions and orders, as well as speed in the performance of tasks. Extra time is usually not available to deaf workers, and they are assigned simple jobs, usually below the labor skills they have.

When it comes to the claim „Deaf workers may be as productive as hearing workers, but their productivity is not so important", 46.7% of hearing respondents believe that the productivity of deaf colleagues is not important, which is a clear example of the unequal position and specific environment in which deaf people work. The highest percentage of deaf workers (65.4%) value their work as productive, which is in line with the research of Kramer et al. (2006) who conducted a study on the work performance of deaf workers on a sample of 151 hearing impaired workers and 60 hearing workers, equal in gender, age, educational level, and the type of work they perform.

The results indicated that there were no differences in productivity and effectiveness between the two groups of respondents. Opinions expressed about the limited working ability of deaf workers indicate the presence of negative attitudes towards this population, regardless that those are respondents who have had experience working with deaf workers and expressed satisfaction with their capabilities and productivity. Such attitudes are confirmed by Lussier, Say and Corman (2000) and Punch, Hyde and Power (2007), in which studies most respondents stated that they experienced discrimination in the workplace and felt that they were being treated differently from their hearing co-workers, with hearing impairment at the forefront.

CONCLUSION

Based on the research conducted and the results obtained, it can be seen that hearing impairment and the subjective attitudes of hearing colleagues have the greatest impact on the assessment of the labor capacity of deaf workers, with the primary focus being on hearing impairment and not on the sole labor capacity of deaf workers. The results of the study showed that there are statistically significant differences in attitudes between deaf and hearing workers, regarding claims related to the exploitation of deaf workers, employment in low-paid simple occupations, and successful but insignificant productivity of deaf workers. Although it is a working-age and intellectually healthy population, the erroneous assumptions based on their deafness indicate that at a set statistical significance of 0.01, there are differences in the assessment of the labor capacity of deaf workers in a hearing-based work environment, expressed through employment in low-paying jobs, which are most often incompatible with deaf workers qualification; exploitation of deaf workers by employers and unequal workplace placement when it comes to assessing the productivity of deaf workers. The systematic scientific analysis of the professions they can pursue, which would ultimately aim to promote the potential and labor capacity of deaf workers, would greatly contribute to improving the position of the deaf worker population.

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