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Workplace Stressors of Deaf and Hearing Workers

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Abstract. The occurrence of stress in the workplace is frequent and present in all areas of work. Population deaf workers are at some risk when it comes to the impact of stress in the workplace. The research aims is to determine factors that directly cause stress in the working environment deaf and hearing workers. The sample consisted of 30 deaf workers and 33 hearing workers. For the needs of the research, the measuring instrument of the International labor organizations was used (2003). Research results show that isolated stressors factors are more common in a subsample of deaf subjects. Fear of losing a job, fatigue and short deadlines, lack of support from colleagues and managers, constant change of obligations, feeling insecurities, fear of position in the firm, and communication difficulties are isolated causes of stress in deaf workers. Workflow errors are associated with a feeling of fear and insecurity, they appear due to their insufficient information due to communication difficulties.

Keywords. stressors, deaf workers, hearing workers, workplace

1. Introduction

The labor market has been subject to various changes in the last decade caused by strong competition in the market, global changes in the economy, and advances in technology. Technological changes cause changed working conditions, redundancy, and higher demands from workers, concerning their knowledge acquired during education and professional training. In modern times, stress at work is the leading problem in all business organizations, which is faced by both employees and managers, because it negatively and detrimentally affects the health of all and as such has become a global public health problem. Therefore, stress is considered the leading cause of occupational diseases and is a leader in the use of sick leave [1]. Increasing levels of stress in the workplace are associated with a global and national recession, job insecurity, and work intensity, resulting in higher workloads and increased interpersonal conflict [2]. Workplace stress can be the result of exposure to several stressors

and occurs when workers try to manage their responsibilities, tasks, or other forms of pressure related to their work, and encounter difficulties, stress, anxiety, or worry in trying to achieve it [3].

Stressors at work can take different forms depending on the characteristics of the workplace and can be unique to a particular firm or organization or industry [4]. Factors in the workplace can be classified into those related to the content of work and those related to social and organizational working conditions. Factors related to job content include long working hours, work overload, time pressure, difficult or complex tasks, lack of breaks, and poor physical working conditions [5]. Some authors [6] further state that the causes of stress can come from work and non-work environments, such as work overload, worker-employer relationship, lack of independence at work, poor working hours, lack of organizational support, poor quality of family life, lack of family and social support.

Consequences of workplace stress include low worker performance [7], lack of motivation and poor health [8], as well as burnout in the workplace [9], low morale, poor product quality, low production and increased overtime pay [10]. In the last decade, a significant amount of research has been done that deals with stress, its causes, and its prevention, but a small number of studies have been done with a focus on deaf workers and the consequences that stress leaves on this group of workers. The population of deaf workers, in addition to the difficulties faced by all workers employed in various activities, also faces communication difficulties, as the main consequence of hearing impairment. Insufficiently developed awareness of the possibilities of deaf workers, lack of interest in society, negative attitudes towards their work opportunities, most often lead to unemployment of deaf people, which leaves consequences on their integration into the social environment. The most important factors that contribute to increasing the risk of social exclusion of young unemployed people are low qualifications, passivity in the labor market, precarious financial situation, low or no social support, as well as insufficient or non-existent institutional support. Inspecting the research [11] it can be concluded that deaf workers face unequal positions when it comes to lower employment rates, lower compensation for work performed, work in low-paid jobs, work in jobs that require lower qualifications than those possessed by deaf workers. Communication of deaf workers most often determines their position in the workplace, reduces information, and requires additional effort to which hearing workers are not exposed, and which can cause increased levels of stress in this population of workers. In addition to having a lower participation rate [12], they show an increased risk of absence from work due to illness and early retirement [13]. Research [14] shows that the percentage of deaf workers is significantly higher (77%) than hearing (55%), while the share of deaf workers who reported sick leave due to stress-related problems (fatigue, stress, burnout) was 26%, unlike their hearing counterparts (7%). The same author's further state that deaf workers show a five times higher risk of using sick leave due to fatigue and stress than their hearing counterparts. Research shows that deaf and hearing people have the same working abilities, but that there is a higher rate of sick leave use among deaf workers, and one of the causes of this condition could be stress.

Based on the results of these studies, it can be said that deaf workers are at a certain risk when it comes to the impact of stress in the workplace, which is why it is necessary to determine the stressors that cause it.

Objective: This research aimed to determine the factors that directly cause stress in the work environment in deaf and hard-of-hearing workers. The research hypothesized that there

were no statistically significant differences in attitudes and opinions in assessing the occurrence of stressors in two subsamples of respondents.

2. Methods of work

2.1. Sample

The research included 30 deaf and 33 hearing workers.

The subsample of deaf workers consisted of 59.4% of male respondents and 40.6% of female respondents. Concerning the age structure, the largest percentage of respondents (37.5%) is in the age group of 31 to 40 years, followed by 21 to 30 years of age (31.3%), and are in the same percentage (15.6%) represented respondents aged 41 to 50 and 51 to 60. When it comes to working in shifts, 68.8% of respondents work only in the first shift, 28.1% in the first and second shifts, and the smallest percentage of this subsample of respondents (3.1%) work in the first, second, and third shifts. According to the length of service, most of the respondents had over 30 years of service (31.3%), followed by the same percentage of respondents (25%) who had from 1 to 9 years and from 10 to 19 years of service, while in the smallest percentage (18.8%) represented respondents who have 20 to 29 years of service.

The gender structure of hearing workers consisted of 55.6% of male and 44.4% of female respondents. The highest percentage of respondents (47.2%) is in the age group of 41 to 50 years, followed by 31 to 40 years (25%), and 51 to 60 years of age (16.6%). When it comes to working in shifts, the structure of this subsample consisted of 41.7% of respondents who worked only the first shift, 44.4% of respondents were engaged in the first and second shifts, while the lowest percentage of representation (13.9%) expressed in respondents who worked all three shifts. Following the age structure of this subsample, 38.9% of respondents have 10 to 19 years of work experience, then 30.6% of them have 20 to 29 years of work experience, 19.4% of respondents have 1 to 9 years of work experience, while the lowest percentage of represented respondents who have more than 30 years of work experience.

2.2. Measuring instrument

The research used the measuring instrument "Assessment of stress in the workplace" [15], consisting of fifteen statements. The measuring instrument was made in the form of a questionnaire, through which the attitudes and opinions of a subsample of deaf and hearing workers on the offered claims were determined. In the first part, the measuring instrument collects general data related to the socio-demographic characteristics of the respondents (gender, age, length of service, shifts).

The second part of the measuring instrument consists of statements, based on which the factors influencing the occurrence of stress were determined, which relate to fear of losing a job, independence in work, fatigue and short deadlines, support and relationship with business managers, financial compensation for work performed, working conditions, communication of workers and interpersonal relations at the workplace, organization of work and work tasks. Respondents rated their experience of a certain risk factor on a Likert scale of 1 to 3 (never, occasionally, always).

2.3. Research procedure

The research was conducted in the period from May to October 2020, in Bosnia and Herzegovina, and was preceded by preparatory activities, which were realized in cooperation with the employers of the companies in which the research was conducted. A meeting was held with the managers of companies in which deaf and hearing workers are employed, and it was determined that the managers do not have information on the degree of difficulties that workers face when performing jobs and work tasks. The main problem mentioned by employers is

communication difficulties, which arise as a consequence of deafness. The research covers companies that are engaged in production and service activities, education and health services. All respondents were interviewed individually, through a guided interview method. The purpose of the research was explained to the respondents, after which their written consent for participation in the research was obtained. Sign language interpreter services were used for the examination of deaf workers.

3. Research results

Subsamples of hearing and deaf workers were interviewed with a questionnaire on the basis of which data on the attitudes and opinions of the mentioned subsamples on the frequency of stress in the workplace, as well as risk factors that contribute to its occurrence. Table 1 shows the frequencies of respondents' responses to the offered claims. Based on the presented representation, it can be noticed that there is no difference in the answers of the respondents to the claims related to working conditions, reduced working ability of deaf people due to hearing loss, bad interpersonal relationships and depression caused by work. Differences in respondents' responses can be seen in claims related to fear of losing a job as a cause of stress, lack of support from managers and colleagues as a cause of stress, lack of employee independence, stress caused by short deadlines, exploitation by employers, low compensation for work performed, frequent changes of jobs and obligations in the workplace, relationship with the manager, frequent mistakes in the workplace caused by stress, feelings of insecurity due to the position at work and communication in the workplace.

Table 1. Respondents' responses to the offered claims

Claims	Hearing Workers			Deaf Workers		
	%			%		
	N	O	A	N	O	A
I am under stress because I am afraid of losing my job	72.2	19.4	8.3	40.6	21.9	37.5
At work, everyone tells me what to do	19.4	69.4	11.1	9.4	28.1	62.5
I am under stress due to fatigue and short deadlines	19.4	55.6	25	9.4	25	65.6
The lack of support from managers and colleagues causes me stress	41.7	44.4	13.9	15.6	46.9	37.5
I feel that my employer is taking advantage of me	44.4	50	5.6	40.6	37.5	21.9
Do you think they pay you a little for the work you do	25	38.9	36.1	25	25	50
They are constantly changing my job and I don't know what my obligations are	50	38.9	11.1	15.6	43.8	40.6
I have a good relationship with the manager	11.1	27.8	61.1	6.3	46.9	46.9
Working conditions are not in line with the results expected of me	33.3	55.6	11.1	25	43.8	31.3
Due to hearing impairment, the working ability of deaf workers is reduced	13.9	80.5	5.6	18.8	62.5	18.8
I often make mistakes at work because of the stress I feel	72.2	25	2.8	15.6	78.1	6.3
I am reluctant to go to work because of bad interpersonal relationships	55.6	38.9	5.6	53.1	34.4	12.5

I feel insecure at work because I am afraid for my position in the company	83.3	8.3	8.3	46.9	15.6	37.5
I often feel depressed and bad because of work	33.3	63.9	2.8	16.6	59.4	25
It seems to me that my communication with my superiors and associates is full of tension	61.1	36.1	2.8	28.1	43.8	28.1

Legend: N - never, O - occasionally, A – always

In the further statistical analysis, measures of central tendency, measures of dispersion, and t-test of difference of arithmetic means were calculated on the results of respondents' answers to the offered claims. The results of the t-test indicate that there is a statistically significant difference ($P < 0.05$), expressed through claims related to stress caused by fear of losing a job, insufficient independence in the workplace, the occurrence of stress due to fatigue and short deadlines, lack of support from managers, changing jobs and insufficient knowledge of work obligations, making mistakes in the workplace caused by stress, feeling insecure due to fear for their position in the workplace and communication with associates and superiors.

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

Claims	Hearing Workers		Deaf Workers		t – Test	p
	AM	SD	AM	SD		
I am under stress because I am afraid of losing my job	1.36	.63	1.96	.89	3.24	0.002
At work, everyone tells me what to do	1.92	.55	2.53	.67	4.13	0.000
I am under stress due to fatigue and short deadlines	2.05	.67	2.56	.66	3.10	0.003
The lack of support from managers and colleagues causes me stress	1.72	.70	2.21	.70	2.90	0.005
I feel that my employer is taking advantage of me	1.61	.59	1.81	.78	1.20	0.234
Do you think they pay you a little for the work you do	2.11	.78	2.25	.84	0.70	0.484
They are constantly changing my job and I don't know what my obligations are	1.61	.68	2.25	.71	3.74	0.000
I have a good relationship with the manager	2.50	.69	2.40	.61	-0.58	0.561
Working conditions are not in line with the results expected of me	1.77	.63	2.06	.75	1.68	0.098
Due to hearing impairment, the working ability of deaf workers is reduced	2.08	.73	2.00	.62	-0.50	0.617
I often make mistakes at work because of the stress I feel	1.30	.52	1.90	.46	4.97	0.000
I am reluctant to go to work because of bad interpersonal relationships	1.50	.60	1.59	.71	0.58	0.561
I feel insecure at work because I am afraid for my position in the company	1.25	.60	1.90	.92	3.49	0.001

I often feel depressed and bad because of work	1.69	.52	2.09	.64	2.82	0.006
It seems to me that my communication with my superiors and associates is full of tension	1.41	.55	2.0	.76	3.63	0,001

The discriminant analysis was done to isolate the statements that give the greatest contribution to the established difference in the answers of the respondents, to practically act on the isolated stressors, and offer practical solutions to overcome them. Testing was performed with Wilks' Lambda, and the significance tested in the discriminant analysis was done with the F test. The statistical significance of Wilk's lambda is 0.491, and it was determined at the level of $p=0.00$. The coefficient of linear correlation was calculated on the measuring space of deaf and hearing workers, which is 0.713. Wilks' Lambda was tested by χ^2 test, with a degree of freedom df 15.

Table 3. Correlation coefficient and statistical significance of the isolated discriminant function

Coefficient t	% Variants	Cumulative %	Linear correlation n	Wilks' Lambda	χ^2	df	p
1.036 ^a	100.0	100.0	0.713	0.491	41.579	15	0.000

Table 4 shows the statistical significance of Wilks' Lambda, which shows that the greatest discrimination is isolated on the statements "Everyone at work tells me what to do", "They constantly change my job and I don't know what my responsibilities are" and "I often make mistakes at workplace because of the stress I feel".

Table 4. Linear discriminant analysis in manifest space

Claims	Wilks' Lambda	F	p
I am under stress because I am afraid of losing my job	0.86	10.51	0.002
At work, everyone tells me what to do	0.79	17.08	0.000
I am under stress due to fatigue and short deadlines	0.87	9.65	0.003
The lack of support from managers and colleagues causes me stress	0.88	8.43	0.005
I feel that my employer is taking advantage of me	0.97	1.44	0.234
Do you think they pay you a little for the work you do	0.99	.49	0.484
They are constantly changing my job and I don't know what my obligations are	0.82	14.01	0.000
I have a good relationship with the manager	0.99	.34	0.561
Working conditions are not in line with the results expected of me	0.95	2.82	0.098
Due to hearing impairment, the working ability of deaf workers is reduced	0.99	0.25	0.617
I often make mistakes at work because of the stress I feel	0.72	24.66	0.000

I am reluctant to go to work because of bad interpersonal relationships	0.99	0.34	0.561
I feel insecure at work because I am afraid for my position in the company	0.84	12.20	0.001
I often feel depressed and bad because of work	0.89	7.974	0.006
It seems to me that my communication with my superiors and associates is full of tension	0.83	13.23	0,001

4. Discussion

The discriminant analysis highlights the claims that make the greatest contribution to the isolation of stressors. In addition to claims related to insufficient independence in the workplace, frequent changes of jobs and work obligations, and frequent mistakes in the workplace, there are isolated claims that make a significant contribution to understanding the stress of deaf workers and relate to fear of losing a job, fatigue and short deadlines, lack of support from managers and colleagues, and communication difficulties.

I stress factor - insufficient independence in the workplace and constant change of jobs and work obligations

The isolated factor of insufficient independence in the workplace is closely related to the constant change of jobs and work obligations of deaf workers. Insufficient independence in the workplace can be the cause of lower self-confidence, regardless of the working abilities and qualifications of deaf workers. The obtained information indicates that deaf people, in addition to the workplace, could have direct consequences in other daily life activities, due to lack of self-confidence, feelings of inferiority, but also insufficient stimulation of the community, which does not support the possibility of advancement deaf people. Based on the obtained results, it can be concluded that deaf respondents very often change work tasks and do not have control at the workplace, and they express insufficient independence in work when it comes to working obligations. Similar results are obtained by some authors [16], who state that the psychosocial environment in the workplace is more demanding for deaf workers than their hearing colleagues. Deaf workers express a greater need for control over their work, point out that they have a lower level of control over the work done, experience a lack of social support, and are more likely to experience high levels of stress in the workplace. Research [14] shows that deaf workers have low control over work tasks, compared to their hearing colleagues, although the requirements and jobs they performed were identical.

II stress factor - mistakes in the workplace

Mistakes in the workplace can often be related to a lack of concentration, which is caused by additional stress to understand and comprehend verbal instructions given to deaf workers because an important part of interaction in the workplace is the ability to communicate with co-workers and managers. Deaf people most often communicate in sign language, while spoken language as the primary form of communication is generally prevalent in the workplace [17]. In most companies, it is often the case that a deaf person is the only one who uses sign language, which is also a serious communication barrier. Everyday communication between deaf workers and managers is rare and can affect the reduction of labor productivity. It can be concluded that mistakes in the workplace can be related to the lack of information that occurs during the working day. If a deaf worker does not hear or understand new information, the possibility of mistakes during work increases, which leads to the conclusion that the

productivity of deaf workers does not have to be related only to his abilities and capabilities, but that there are objective factors that can affect her. The obtained results on the awareness of deaf workers to make mistakes in the workplace show that they have an impact on the feeling of discomfort, loss of self-confidence, and the appearance of stress.

The cause of stress, bad and depressed state due to the work they do is expressed by both groups of respondents. This data is worrying, considering the length of working life of each individual and the general impact of work, working conditions, and working environment on the health of workers. Some research [18] shows that two-thirds of deaf workers (65%) feel isolated at work due to hearing loss and that 79% of deaf respondents feel stress at work due to hearing loss.

III stress factor - fear of losing a job and feeling insecure

The employment rate of the deaf population is significantly lower than the hearing population, so it is difficult to establish an employment relationship for this category of workers, which is why deaf workers are in constant fear of losing their jobs. According to research [19], deaf people very often do not want to consider retraining or further education, instead choosing to stay at a low level of education because they fear losing their permanent job. Cases of active concealment of hearing impairment for fear of social exclusion and job loss have also been reported [20]. The effect of fear of losing a job [21] shows that fear negatively affects worker morale, motivation, and reduced work performance. Based on the above, it can be concluded that there is a strong influence of this stressor factor, which is expressed through reduced desire and motivation for the advancement of deaf workers, but also on their productivity and work efficiency.

IV stress factor - fatigue and short deadlines for work

Exhaustion and short deadlines for work are isolated as a cause of stress in the largest percentage of deaf workers (65.6%), in contrast to workers with good hearing who have this factor occasionally isolated (55.6%). Considering that these are subsamples of respondents who do the same jobs, under the same working conditions, it can be concluded that deaf workers experience stress to a greater extent on this basis. An explanation for this situation can be found in the additional effort that deaf workers invest in the communication process, to understand the instructions or changes in the work process. The results are consistent with the research [14] where a high degree of exhaustion or need for recovery after work was found among deaf workers, while some authors [22] concluded that people with severe hearing impairment, full-time employees had less energy and strength than their hearing colleagues.

VI stress factor - communication difficulties

Communication difficulties cause difficult understanding of work instructions, insufficient information about changes in the work process, which has a direct impact on maintaining equal productivity with hearing colleagues. As a consequence of this situation in the work environment can be misunderstandings, frustrations, and social exclusion, which can lead to reduced self-confidence deaf worker [25]. Having in mind the mentioned research and the results of the subject examination, it can be concluded that communication is a key factor in the work integration of deaf workers. Deaf people often feel isolated in their workplace, especially due to their limited ability to communicate effectively [26]. Further research [26] shows that deaf workers describe negative attitudes of hearing associates or employers, who express themselves in a way that they do not want to repeat what they said or say that they are bothered by their "loud" communication orally. The relationship between deaf workers and

hearing colleagues and employers is extremely important when it comes to job sustainability. Deaf workers often experience fatigue and stress as a result of the greater effort required to concentrate, listen and read a speech from the face and lips [27] to understand work activities, create a feeling of discomfort, delay in performing work tasks, and finally with the appearance of stress in this population of workers.

5. Conclusion

The results of the research indicate that stressors are more frequent and more pronounced in the category of deaf workers. It was found that the stress present in the category of deaf workers is mostly caused by insufficient independence in the workplace, insufficient knowledge of work obligations, frequent changes of jobs and work tasks, and frequent mistakes in the workplace.

It was found that in addition to the above factors, a significant contribution to the development of stress in deaf workers is caused by fear of losing their job, short deadlines and fatigue of deaf workers, and lack of support from colleagues and managers. The communication stressor factor was also isolated, as a significant factor influencing their social position in the work environment. Frequent mistakes of deaf workers in the workplace have been identified as a cause of stress, and their occurrence can be attributed to a lack of control over work activities and communication difficulties, where deaf people do not understand instructions or changes during the production process.

Determined stressors, in further work with employers, can serve practical purposes, to act to prevent them, through clear guidelines and recommendations to employers, which should ultimately increase productivity and efficiency of workers, reduce the use of stress sick leave, but also increase job satisfaction in this category of workers.

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References

- [1] JURAS, K., KNEŽEVIĆ, B., GOLUBIĆ, R., MILOŠEVIĆ, M., I MUSTAJBEGOVIĆ, J. (2009). Stress at work: recognition measures, solutions and prevention. *Sigurnost: časopis za sigurnost u radnoj i životnoj sredini*, 51(2), 121-126.
- [2] COOPER, B. (2011). Economic recession and mental health: an overview. *Neuropsychiatrie Klin Diagnost Ther Rehabilitation*, 25(3), 113-7.
- [3] STRANKS, J. (2015). *Stress at Work: Management and Prevention*. Elsevier Butterworth-Heinemann.
- [4] KARASEK, R., & THEORELL, T. (1990). *Healthy Work: Stress, Productivity and the Reconstruction of Working Life*. Basic Books.
- [5] MICHIE, S. (2002). Causes and management of stress at work. *Occupation Environ Medicine*, 59(1), 67-72. <https://doi.org/10.1136/oem.59.1.67>
- [6] KHAN, N., & KHURSHID, S. (2017). Workplace Stress and Employee Wellbeing: Case of Health Care Staff in UAE. *European Scientific Journal*, 13(5), 217. <https://doi.org/10.19044/esj.2017.v13n5p217>

- [7] ARSHADI, N., & DAMIRI, H. (2013). The relationship of job stress with turnover intention and job performance: Moderating role of OBSE. *Procedia – Social and Behavioral Sciences*, 84(9), 706-710. <https://doi.org/10.1016/j.sbspro.2013.06.631>
- [8] FARLER, L., & BROADY-PRESTON, J. (2012). Workplace stress in library: A case study, *Aslib Proceedings. New Information Perspective*, 64(3), 225-240. <https://doi.org/10.1108/00012531211244509/f>
- [9] AHMAD EZANE, H., ZARINA I., FARIDAH, I., NOR RIMA, M. A., NATASHA, K., & NORMAZWIN, I. (2012). Workplace stress and behavior studies of other space: Commercial Complex. *Procedia-Social & behavioral Sciences*, 36, 752-769. <https://doi.org/10.1016/j.sbspro.2012.03.082>
- [10] KESHAVARZ, M., & MOHAMMADI, R. (2011). Workplace stress and Organizational performance, Case study: Iran. *Procedia-Social and Behavioral Sciences*, 30, 390-394. <https://doi.org/10.1016/j.sbspro.2011.10.077>
- [11] WALTER, G., & DIRMYER, R. (2013). The effect of education on the occupational status of deaf and hard of hearing 26-to-64-years-olds. *American Annals of the Deaf*, 158(1), 41-49. <https://doi.org/10.1353/aad.2013.0014>
- [12] EMMETT, S. D., & FRANCIS, H. W. (2015). The socioeconomic impact of hearing loss in U.S. adults. *Otology & Neurotology*, 36(3), 545-550. <https://doi.org/10.1097/MAO.0000000000000562>
- [13] HELVIK, A. S., KROKSTAD, S., & TAMBS, K. (2013). Hearing loss and risk of early retirement. The HUNT study. *European Journal of Public Health*, 23(4), 617-622. <https://doi.org/10.1093/eurpub/cks118>
- [14] KRAMER, S. E., KAPTEYN, T. S., & HOUTGAST, T. (2006). Occupational performance: Comparing normally-hearing and hearing-impaired employees using the Amsterdam Checklist for Hearing and Work. *International Journal of Audiology*, 45(9), 503–512. <https://doi.org/10.1080/14992020600754583>
- [15] MOR. (2003). Your health and safety at work. A collection of modules, *Ergonomics Book*, pp. 34-37.
- [16] DANERMARK, B. & GELLERSTEDT, C. L. (2004). Psychosocial work environment, hearing impairment and health. *International Journal of Audiology*, 43(7), 383-389. <https://doi.org/10.1080/14992020400050049>
- [17] ROSENGREEN, K. M., & SALADIN, S. P. (2019). Deaf Workers Prioritized Workplace Expectations: A Qualitative Study. *JADARA*, 43(3).
- [18] ACTION ON HEARING LOSS. (2018). *Workplace experiences: Survey results*. <https://rnid.org.uk/wp-content/uploads/2020/05/Working-for-Change-survey-report.pdf>
- [19] LEESON, L., & MATTHEWS, P. A. (2001). Submission to the Advisory Committee on Deaf Education. Dublin: Centre for Deaf Studies, Trinity College Dublin. <http://www.tara.tcd.ie/handle/2262/1577>
- [20] HEYKO, D. (2021). Supporting d/Deaf and Hard of Hearing Employees in Their Workplaces Through Technology, Design, and Community. [Master Thesis, The University of Guelph.]. https://atrium.lib.uoguelph.ca/xmlui/bitstream/handle/10214/25700/Heyko_Darya_202105_MSc.pdf?sequence=5&isAllowed=y
- [21] ALI, W. U., RAHEEM, A. R., NAWAZ, A., & IMAMUDDIN, K. (2014). Impact of stress on job Performance: An empirical study of the employees of private sector

- universities of Karachi, Pakistan. *Research Journal of Management Sciences*, 3(7), 14-17.
- [22] GRIMBY, A. & RINGDAHL, A. (2000). Does having a job improve the quality of life among post-lingually deafened Swedish adults with severe profound hearing impairment? *British Journal of Audiology*, 34(3), 187-195. <https://doi.org/10.3109/03005364000000128>
- [23] TYE-MURRAY, N., SPRY, J. L., & MAUZE, E. (2009). Professionals with hearing loss: Maintaining that competitive edge. *Ear and Hearing*, 30(4), 475-484. <https://doi.org/10.1097/AUD.0b013e3181a61f16>
- [24] NACHTEGAAL, J., FESTEN, J. M., & KRAMER, S. E. (2012). Hearing ability in working life and its relationship with sick leave and self-reported work productivity. *Ear Hearing*, 33(1), 94-103. <https://doi.org/10.1097/AUD.0b013e318228033>
- [25] ROSENGREEN, K. (2007). Understanding workplace expectations: a study of the perceptions of prelingually deaf workers and employers. Available at: <http://www.canberra.edu.au/researchrepository/items/c535e462-bb20-f49a-8ff7-8babaf263948/1/>
- [26] PUNCH, R., HYDE, M. & POWER, D. P. (2007). Career and workplace experiences of Australian university graduates who are deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education*, 12(4), 504-517. <https://doi.org/10.1093/deafed/enm011>
- [27] BESS, F. H., & HORNSBY, B. W. Y. (2014). Commentary: Listening can be exhausting-fatigue in children and adults with hearing loss. *Ear and Hearing*, 35(6), 592–599. <https://doi.org/10.1097/aud.0000000000000099>