# социопогия

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## SOCIAL AND ORGANIZATIONAL ASPECTS OF EMPLOYABILITY IN THE PRODUCTION OF EMPLOYEES WITH HEARING DISABILITY

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## **Abstract**

The article discusses the problems of education, employment, work station organization, and management of employees with hearing disabilities, employed in production operator positions. The main issues related to legal regulations and employment opportunities and barriers are discussed. A questionnaire was prepared covering 18 questions grouped into the following research areas: employee status, selection and recruitment, organization and conditions of work, and employee development. The research study involved 161 employees selected according to the criteria of targeted selection. This article presents the results of the research study on the diversity of opinions from the following perspectives:

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sensory (hearing vs hearing impaired), type of work (production vs non-production), and the employees' age (up to 50 years vs 50+). Theoretical conclusions concern the positioning of the situation of deaf and hard-of-hearing people in workplaces. Recommendations regarding the perception of the occupational situation, management methods, and managerial staff's perception of the specific nature of the work of the surveyed group are application-related, connected with breaking the barriers of "universalism" in the attitudes and decisions of executives.

## **Keywords**

Production workers, work status of employees with hearing disability.

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## Introduction

Education paths of deaf and hard-of-hearing people as well as possibilities of obtaining occupational qualifications by them depend to a large extent on the time of developing the hearing disability, its kind and degree [7, pp. 269-270]. There are three distinguished time periods of sustaining damage to the hearing organ that affect the possibilities of communication. The first one may take place in the prenatal period or in the first year of life (prelingual hearing impairment), the second period covers the time of speech development, i.e. between the second and the seventh year of life (perilingual hearing impairment). If the hearing organ is damaged in the third period, when speech and linguistic skills have already been mastered, it is referred to as postlingual hearing impairment.

Depending on the kind of damage to the hearing organ, the hearing impairment may be classified as conductive, sensorineural, and mixed. People with conductive hearing impairment can hear well when it's noisy, as opposed to people suffering from sensorineural hearing problems, who cannot hear high-pitched tones. The two aforementioned kinds of hearing impairments do not exclude one another: it is possible to develop a mixed kind of hearing loss, which results in lowering the threshold of hearing.

There are four categories of hearing loss: mild, moderate, severe, and profound. In the case of the first three categories of hearing loss, it is possible to enhance the sound level via e.g. application of hearing aids. However, people suffering from profound hearing loss have the greatest problem with understanding speech, even if the sounds are enhanced [13, pp. 7868-7876].

Communication skills do not consist merely in hearing the speech, as people with profound hearing loss may also communicate via the sign language. In Poland, there are two sign communication systems: the Polish Sign Language (Polski Język Migowy, PJM) and Signed Polish (System Językowo-Migowy, SJM). PJM is the natural language used by deaf persons in Poland. SJM, in turn, is an artificial sign system, which was developed in 1960s and was aimed at facilitating the communication between the deaf and hearing people. For many years, hearing disabled people had to learn the systemic language, as it was imposed by the education system.

In fact, SJM did not have a positive effect on enabling hearing impaired people to obtain extensive occupational qualifications. The truth is that few deaf people manage to complete secondary or higher education. All over the country, there are 32 education centers that are specialized in educating deaf and hard-of-hearing children at different education levels. Twenty-two occupational schools, in turn, teach 44 professions/occupations, whereas hearing people are able to choose from the range of 202 [6]. Besides, deaf people have no practical possibilities of changing their occupational qualifications. People who lost their hearing as adults are in a difficult situation, as they do not belong to the community of the hearing or of the deaf.

People with disabilities work both in the protected and open labor market. When employing a disabled person in a sheltered workshop, it is necessary to ensure specific working conditions which support employment and rehabilitation of persons with moderate and severe disability [14, 16]. However, in the case of the open labor market, such employment is based on the standard legal regulations. In this segment, it is usually the people with a mild disability that better cope with the requirements set by employers [14].

In an enterprise that employs disabled persons there is a need to take a special approach to designing work stations in order to ensure conditions compliant with the principles of ergonomics. Abiding by the principles, it is necessary to take measures aimed at designing an effective work system that takes into account the well-being of people [21]. Such measures include making such changes to the work station that guarantee high work efficiency, decrease the perceptible onerousness of work, at the same time providing physical and mental comfort [4, 8, 10, 11].

Also, aspects such as physical space, work station, work conditions, work organization should also be properly adjusted.

In accordance with the Act on rehabilitation [1], a work station adapted to the needs of a disabled person is a work station which is adequately tooled and adjusted to the needs related to the kind and degree of the disability. However, it should be noted that the basic elements of a work station, i.e.

- tasks to be done (actions),
- employee (group, team),
- equipment (machines, equipment, tools, devices),
- object of the work (product, service),
- size and shape of the space taken

should be adapted in such a way so that the employee is able to perform the given task in a proper manner, assuming a possibility of occurring internal disorders, and the ever-evolving influence of the environment [9].

In case of a person with hearing loss, it is also important that his or her work station does not pose an additional risk of an accident due to the lack of possibility of receiving auditory stimuli from the environment. The ergonomics of the work station is particularly important in the case of designing a work station to be used by a hearing disabled employee. In this process, virtual reality systems may come in handy [19].

Virtual Reality (VR) systems make it possible to create a virtual, 3-dimensional environment which may be viewed in real time [3, 15]. Thanks to the virtual reality, it is possible to design a simulation of a real work station and perceive it via the visual and auditory senses, as well as to interact with objects found at the work station and in its environment [2].

Application of virtual reality in the visualization and interaction process provides a number of benefits. First of all, it makes it possible to eliminate any errors arising in the process of designing the work station, and consequently to reduce the costs of preparing new work stations or adapting the existing ones to meet the requirements of ergonomics [12]. This makes it possible to create and test proposed variants of solutions for a designed work station, also in consultation with the user, i.e. the person working at the work station [22]. Application of virtual reality also makes it possible to analyze the issues of safety and ergonomics at the work station [2].

## Research methodology

The research study consisted in surveying opinions on how the respondents perceived the occupational situation of employees with hearing disability, as well as on HR management methods and tools applied by managerial staff to manage this specific employee group. Therefore, the research study was of the qualitative type [5], and it was aimed at reflecting the internal perspective of the surveyed respondents, in order to find out their subjective points of view that shape the social and economic reality [18].

The study was performed by means of the survey method, applying an originally developed questionnaire containing 18 items regarding the following four content-related areas. The first area identifies the determinants of employee status such as occupational interpersonal relations, readiness to perform demanding tasks, health ability or social character of deaf or hard-of-hearing people. The second the area of organization forming or implementing — includes forms of employment, adaptation of work stations, or specificity of deaf or hard-of-hearing employees' work in the recruitment and selection processes. The third area involves an enterprise functioning and/or implementation of changes; it covers the issues of the specific nature of labor division, assigning work to individual work stations, and work evaluation. It also covers the issues of work reviews, preventive measures, adapting the work to the disability. The fourth area (HR management), in turn, is connected with opinions on promotion, career, trainings or support of a sign language interpreter at work. The features were developed on the basis of the multi-faceted approach to the bases of work position designing, i.e. classic tasks and the flexible approach, organizational roles, group forms of work organization, jobs and work packages [17].

To measure the results, the 5-item Likert scale was applied, where the digits mean, depending on the question content, 1 = I definitely do not agree/is not present/not noticeable; 2 = I do not agree/is present, but has no effect/unimportant; 3 = indifferent/neither yes nor no/I do not know; 4 = I agree/significant effect/important; 5 = I definitely agree/very strong effect/very important.

The respondents were selected on a targeted basis. The respondents' profile was the following: 61% were female; the age of 64% of the respondents fell within the range from 20 to 40 years (the 20-30 years range accounted for 35%, while the 31-40 years range — for 29% of the respondents); domination of two service length periods (47% of the respondents were employed for more than 11 years, while 33% of them had been working from 2 to 5 years); bipolarity of education level (42% of the respondents had tertiary education typical for the hearing employees, and 54% had various forms of secondary education typical for hearing impaired people); and also a 54% share of production operator positions, i.e. the totality of respondents working in production. The targeted character of the sample selection is also manifested by the fact that the survey was conducted among people from a sheltered workshop and an association of the deaf, i.e. two main institutional forms of employment and of organizing the social life for hearing disabled people in Poland.

#### Discussion

Hearing and deaf/hard-of-hearing employees

The analysis of the impact of the hearing ability on perception and performance of occupational tasks by employees with hearing disability requires division of the results into responses obtained from the hearing (43% of the respondents) and hearing disabled employees (57% of the respondents).

Regarding the questions on employee status, the opinions of both employee groups did not differ much (Fig. 1). This pertains first and foremost to the issues of communicative isolation (IZL), medical clearance (ZLK), and social problems (INN). The features addressed in all these questions were considered important by the employees. As for the opinions regarding suitability of hearing disabled employees to perform more demanding tasks (PRZ), the hearing employees assessed it as important, whereas the hearing impaired employees found the issue indifferent. Such an evaluation was caused predominantly by difficulties in communication between both groups and not knowing the differences in perception of phenomena and values, which in this case resulted in greater incomprehension of the hearing impaired group.

In the area of organization formation, the research results were the most equal. The issue of adapting a work station to make it possible to employ a hearing disabled person (ST) was equally important to both surveyed groups, whereas addressing the specificity of hearing disabled persons in recruitment and selection processes (NS) was important to the hearing impaired employees but indifferent to the hearing employees. The actual form of employment (OK) was assessed by the hearing and the hearing disabled employees in the same way: this issue was indifferent to both of them. Nevertheless, the expectations of both groups were different, though both of them were in favor of working under regular employment contracts (ET). Yet, the hearing disabled employees assigned a higher value to this form of employment.

In the area of the organization functioning, the hearing employees attached a higher value to the following issues: periodic work review (WP), work assignment (PRZ), noise reduction (RD). For the hearing employees, the issues of the periodic work review and noise reduction were very important, whereas the hearing disabled

employees found them indifferent. In the area of preventive and resultant changes (ZM) and employee evaluations (PR), the hearing employees assigned higher marks to those issues, however, for both groups these issues were indifferent for the functioning in an organization. These features were considered to be less onerous and important by the hearing disabled employees [20].

The greatest disproportion in terms of values attached by both employee groups is manifested in the area of HR management. The biggest differences, reaching up to 30% of the scale, were found in the area of hearing impaired employees' promotion and career (DK), improving the conditions at their work positions (DO), access to sign language interpreters (TŁ) and trainings (SZK). In the first two questions, the hearing employees positively assessed HR decisions having an impact on promoting hearing disabled employees and on noise reduction. However, to the hearing impaired employees these aspects proved to be indifferent. The aspects that were much more important for them were access to an interpreter and trainings.

The above described research study has shown diverse opinions regarding the functioning of enterprises and the analyzed employee groups, i.e. those with and without hearing disabilities.

Production workers vs non-production workers

The second perspective of the research study was evaluation of the opinions expressed by production workers (54% of the sample) and by other workers referred to in this study as non-production workers (46% of the respondents). The results are shown in Fig. 2.

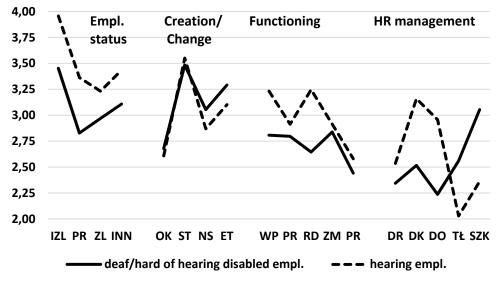


Fig. 1. The survey results for the hearing vs deaf/hard-of-hearing employees. Source: survey results.

*Puc. 1.* Результаты опроса сотрудников без нарушения слуха и сотрудников с полной или частичной потерей слуха. Источник: результаты опроса.

As for the issues regarding employee status, they were more valued by the non-production workers. In that area of the research, the respondents from both groups predominantly chose the answer "rather yes". Only the issues regarding problems with performing more demanding tasks by hearing disabled people (PRZ) and with medical verification of occupational suitability of such people (ZLK) were found ambivalent by the production workers. Thus, they confirm their greater self-confidence in their occupational capabilities in the area of working with objects and information rather than cooperation with people at work.

In the area of organization formation and/or implementation of changes, the views of both groups regarding forms of employment (OK) were coincident at the ambivalent level, whereas those regarding work stations (ST) — at the significant level. The other elements received varied responses, however, they were more positive in the case of the production workers. This regards hearing disability in recruitment and selection of employees (NS) and employment under regular employment contracts (ET).

In the area of an enterprise functioning, in turn, the non-production workers showed a more positive attitude. What they found relevant was taking into account hearing problems in the course of work and work stations reviews (WP), task assignment (PRZ) as well as preventive and corrective measures aimed at reducing the noise impact on employees (RD). The production workers put more weight on the possibility of changing tasks or work positions (ZM) and perception of the hearing disability criterion in employee evaluation (PR). However, the two issues fell within the ambivalent range (neither yes nor no).

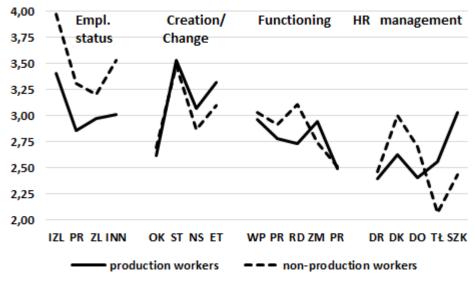


Fig. 2. The survey results for production vs non-production workers. Source: survey results.

Рис. 2. Результаты опроса производственного и непроизводственного персонала. Источник: результаты опроса.

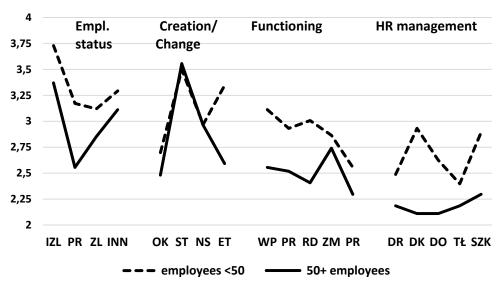
This area was fully covered by ambivalent opinions on the management functioning. This means lack of own opinions, being cautious to express an opinion, or an indifferent attitude of most of the respondents. The production workers showed more favorable opinions with regard to assistance of a sign language interpreter at the workplace (TŁ) and to OHP trainings (SZK). The other issues, pertaining to promotion, career, and decision-making by the executives, showed higher values in the case of the non-production workers.

Workers aged under 50 vs workers aged 50+

There seem to be slight variations between the opinions voiced by the respondents from the two age groups with regard to the occupational situation of hearing disabled employees and the methods and tools used in managing this employee group (Fig. 3).

The slight variations may be observed when analyzing the research results regarding employee status according to the two groups of employees: those aged up to 50 (80% of the sample) and those aged over 50 (20% of the respondents). Generally, the younger group assigned higher values to all the employee status features. The biggest difference in the opinions regarded the issue of employee suitability (PRZ), which the 50+ employees found indifferent, but those under 50 — important. A similar opinion with a slight variation can be found in both groups with regard to medical clearance (ZKL). Opinions regarding the issues of communicative isolation (IZL) and social problems (INN) were significant to both groups.

In the area of organization formation and implementation of changes, the results were the most coincident for both groups. The only noticeable differences regarded the



*Fig. 3.* The survey results for employees aged under 50 vs 50+ employees. Source: survey results.

*Puc. 3.* Результаты опроса сотрудников в возрасте до 50 и старше 50 лет. Источник: результаты опроса.

possibility of being employed under regular employment contracts (ET): it is important to those under 50 but indifferent to those over 50. The form of employment (OK) as well as the process of recruitment and selection (NS) were indifferent to both groups.

In the area of organization functioning, higher values were assigned by employees under 50 years of age, to whom only periodic work reviews (WP) and measures aimed at noise reduction (RD) were important. To the employees over 50, all the aspects in the area of organization functioning were indifferent.

Even though both groups were indifferent to the HR management aspects, it is here that the greatest differences in opinions between the younger and the older employees could be observed. To the employees over 50, all the aspects were unimportant and were assigned a very low level, whereas the employees under 50 assigned the highest value to the aspects connected with promotion and career of auditory impaired employees (DK), trainings (SZK), and improving the conditions at work stations (DO). Such low marks obtained in the HR management area may most probably result from a belief that they have no real impact on HR management.

#### **Conclusions**

Hearing disabled people are more and more often hired by employers in production operator positions, where it is possible to adapt the work stations to the specific kind of disability using subsidies from the Polish State Fund for Rehabilitation of Disabled Persons. From the point of view of the management science, auditory disabled employees require an individual approach, which in practice is not always taken.

With regard to the four areas of the research study (employee status, enterprise formation and implementation of changes, the functioning of the enterprise, and HR management) the respondents' opinions were analyzed in three perspectives: the hearing vs the hearing disabled employees, production vs non-production workers, and employees aged up to 50 vs 50+ employees.

In all the three perspectives, the research results showed a gradual downward trend. The highest level was found for employee status, then the level was decreasing through the areas of enterprise formation and implementation of changes all the way down to HR management. The differences in value were slight for all the three studied perspectives. This may mean that employers and managerial staff do not approach their employees on an individual basis, or that they follow stereotypes on hearing disabled employees.

Both the auditory impaired employees and those aged 50+ assessed the treatment of the hearing disabled employees as of a separate category of employees, which does not necessarily follow the traditional HR management function.

On the other hand, the interpretation of the presented research study results may be understood as having diverse criteria for evaluating hearing disabled employees in terms of their career and promotion opportunities. Such persons working in production operator positions do not focus on overcoming their limitations in order to add momentum to their careers but only on correct performance of their work tasks. It should be added that diagnosing the occupational situation of the studied employee group may help depart from the stereotype thinking about people with hearing disabilities. The presented research study makes it possible to continue and deepen any further research in this field that is so little discussed in academic literature.

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## СОЦИАЛЬНО-ОРГАНИЗАЦИОННЫЕ АСПЕКТЫ ЗАНЯТОСТИ В ПРОИЗВОДСТВЕ СОТРУДНИКОВ С ИНВАЛИДНОСТЬЮ<sup>\*</sup>

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#### Аннотация

Цель исследования — представить эмпирическую идентификацию проблемы восприятия статуса функционального исполнения рабочих обязанностей сотрудниками, которые слышат, а также теми, у которых существуют нарушения слуха, и глухими. В статье рассматриваются проблемы образования, трудоустройства, организации рабочего места и управления работниками с нарушениями слуха, занимающими должности на производстве. Обсуждаются основные вопросы, связанные с правовым

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регулированием, возможностями и барьерами трудоустройства. Был подготовлен опросный лист, состоящий из 18 вопросов, сгруппированных по следующим областям исследования: статус работника, отбор и наем, организация и условия труда, а также профессиональное развитие сотрудников. Исследование проводилось в группе из 161 работника, отобранных по критерию целевого отбора. Результаты исследований, касающиеся разнообразия мнений, были представлены в следующих разделах: сенсорный (работник «слышащий» и с нарушениями слуха), тип работы (работник производственного отдела или представитель другого отдела) и возраст работника (до 50 лет и старше 50). Теоретические выводы касаются позиционирования положения глухих и людей с нарушениями слуха на рабочих местах. С другой стороны, рекомендации относительно восприятия профессиональной ситуации, способов управления и восприятия специфики работы опрошенной группы людей административным персоналом имеют прикладной характер и могут быть применены для преодоления барьеров «универсализма» в отношении и решениях руководства.

### Ключевые слова

Занятость работников с нарушениями слуха, работники производственного отдела.

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