Lifestyle of visually impaired individuals

(scientific paper)

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Abstract: *The paper presents results from research realized in 2017 and focused on the issue of the "lifestyle of people with visual impairments". Scientific literature, as well as other sources, mostly focus their research on the topic of life satisfaction. Our goal was to approach the field of lifestyle, or rather of "healthy lifestyle", in visually impaired individuals so that this lifestyle can contribute to improving the quality of life of these individuals in intact society. This therefore presents another important aspect of this research area, being the aspect of the current topic of inclusion.*

The research was focused on the lifestyle in people with visual impairments. Also a control group of intact individuals was created. The research result analysis enabled the evaluation of differences in approaches to the lifestyle of the groups. This, eventually, gave us the option to identify the possible barriers, the removal of which could lead to an improvement in lifestyle of the visually impaired in majority society.

The primary research method used was the questionnaire. We established hypotheses, via which we aimed to specify the lifestyle of the monitored groups. In order to verify the created hypotheses, we made use of statistical methods (particularly the chi-squared distribution) and attempted to asses identify and analyse quality of life in visually impaired individuals as well as of the intact group. Further research questions have been established, which helped identify possible obstacles. These questions have also helped to establish, whether these barriers occur in the life of any individual, or only affect the lives of the visually impaired.

The results of the research can be briefly summarised by stating that the lifestyle of the sensorically impaired is similar to that in intact population, but does differ in some aspects. These differences can be found especially in the implementation of physical activities, or rather the availability of centres enabling these activities. These centres also often lack the proper environment adjustments as well as trained staff. The visually

impaired individuals, therefore, often have to choose some other type of physical activity, or need to rely on the help of another person.
Seeing its focus area, the research helps in both theory and practice. This means that in practical terms it is possible to use the research results as a basis, for example, to improve the availability of fitness centres and other sports facilities, which could then be used by the visually impaired, who would then have the opportunity to live their lives without barriers and thus fully to their liking.

***Keywords**: visual impairment, lifestyle, quality of life, inclusion.*

1 Introduction

Inclusion is a topic that is part of the current direction of a democratic society. In the past 27 years, also the Czech Republic has been working towards this principle. After the regime change (in 1989), the country has tried to gradually anchor fundamental human values and principles both in legislative terms and in reality (i.e. practice). The development, of course, is gradual, but after these 27 years, a large step forward can be seen in the segregation of individuals differing from the country's majority towards inclusion. The principle of inclusion is based on the acceptance of diversity in terms of gender, race, nationality, social background or disability. All the people are therefore equal in their dignity and rights, and the presence of diversity is understood as an enrichment and benefit to society.

In this text, we would like to point out an area that is also a part of inclusion, although at first glance it may not be obvious. We will talk about **quality of life**, and above all the **lifestyle of visually impaired individuals** in the context of inclusion. "The paper is created within the framework of Palacký University Student Grant Competition project: Research of Inclusion in Special Needs Individuals (IGA_PdF_2017_008) ". The text is based on the Master's thesis of Alena Hiršová (supervised by Dita Finková) named "Lifestyle of people with visual impairment", as written and defended in 2017.

2 Quality of Life, Lifestyle

The topic of **quality of life** has been the main focus of many papers and dedicated monographs. These papers focus on general topics relating to the quality of life either in specific groups of disabled individuals, minorities in individual countries and quality of life in specific facilities (such as hospital or social facilities), or in the unemployed population, the elderly, etc. We will try to concentrate solely on visually impaired individuals.

The perception of one's own health in relation to the quality of life is, in individuals with visual impairment, significantly different from such perception in intact population. In general, the quality of life in individuals with visual impairment can change, either for the better, or for the worse. In this context, we can talk about the concept of *Health Related Quality of Life*, i.e. quality of life dependent on the health of the individual (Jánský, 2007 in Ješina, Hamřík, 2011).

Koudelková (2002, in Ješina, Hamřík, 2011) characterises this term as a part of quality of life that is subject to the individual's health characteristics, as well as the level of health care. Therefore, we must also point out the context of quality of life and life satisfaction, which we already mentioned in this paper's introduction. An individual is happy when they can recognize what is important to them and what evokes their sense of inner happiness (Hiršová, 2017).

The above-mentioned thus points to the possibility of evaluation of the quality of life and life satisfaction, despite the presence of visual impairment. Hiršová (2017) also shows a link with the topic of life satisfaction, where one of the prerequisites that influence life satisfaction in the visually impaired is their particular grade and type of visual impairment. Some types of visual impairment may negatively affect e.g. the possibilities the individual's leisure-time activities, in particular those involving any physical activity. Hiršová (2017) states that visually impaired individuals have a reduced the ability of orientation in space, and therefore it is significantly more difficult for them to get involved in physical activities and sports. It is, therefore, of crucial importance to determine the real abilities of a particular person. The involvement of people with visual impairment is also useful for their ability to find a reason to live a satisfied life despite their disability. This may reflect in both their quality of life and the related lifestyle. The opportunity to be in the company of other people, not to be isolated, to have friends, to be able to engage in normal activities (to participate in cultural events, sports, work, etc.) – all these factors can influence the lifestyle.

The concept of **lifestyle** can have a number of different characteristics. It depends on the perception of the meaning of this term. The most general definition is specified as the way in which people live, i.e. the way of living, dining, education, social behaviour, and also how they communicate, work, make important decisions, take care of themselves and others, adhere to a particular value system, etc. This definition therefore suggests that the concept of lifestyle is rather comprehensive and can be approached from a number of angles. Despite this plethora of dimensions and interdisciplinary character, the area of lifestyle requires compliance with the complexity of approach (Duffková, Urban, Dubský, 2008).

In order to be able to understand the issue of lifestyle more easily, sociologists have devised a specific conceptual scheme, which attempts to describe the term "lifestyle" as such. The answer to the question: "What is actually examined in the category of lifestyle" is that **lifestyle is defined as a set of activities and relationships in the**

everyday life of a particular individual or group of people. The activities that the person or the group get involved in, are governed by universally well-known but unwritten rules and are organised in time and space. It is therefore the practice that a person or society implement within their particular style of life thanks to their inherent intelligence upbringing (Duffková, Urban, Dubský, 2008).

Hiršová (2017) in her paper zooms in on those areas of life style (especially **in relation to the "healthy lifestyle"**) in visually impaired individuals, that can contribute to improving the quality of life of these individuals in the society of intact individuals. A healthy lifestyle can be, in general, defined as a decision made by an individual for their own health and fulfilling life. Klescht (2008) lists the following components of a healthy lifestyle: **good nutrition, physical activity, sleep and relaxation, defence against stress, environment, protection from harmful drugs and substances, positive thinking**.

Respecting certain approaches, therefore, improves the lifestyle of the individual, not only in terms of their overall health improvement a well-being, but also in terms of interpersonal relationships. If a person thinks positively and is pleased with his or herself, this fact can be later reflected in the behaviour of other people towards this very individual. If the individual tries to live a healthy and active life, they reduce the risk of health complications and handle stressful situations and obstacles in an easier fashion (WHO, 1999).

3 Methodology and Research Group

The research focuses on the lifestyle of visually impaired individuals. As a control group, a group of intact individuals has been selected. The research seeks to assess the differences in approaches to the lifestyles of these two groups. Having analysed the results, it will then identify possible barriers, the removal of which could lead to an improvement in lifestyle of the visually impaired in majority society.

The primary research method used was the **questionnaire**. We established hypotheses, via which we aimed to specify the lifestyle of the monitored groups. In order to verify the created hypotheses, we made use of statistical methods (particularly the chi-squared distribution) and attempted to asses identify and analyse quality of life in visually impaired individuals as well as of the intact group. Further research questions have been established, which helped identify possible obstacles. These questions have also helped to establish, whether these barriers occur in the life of any individual, or only affect the lives of the visually impaired.

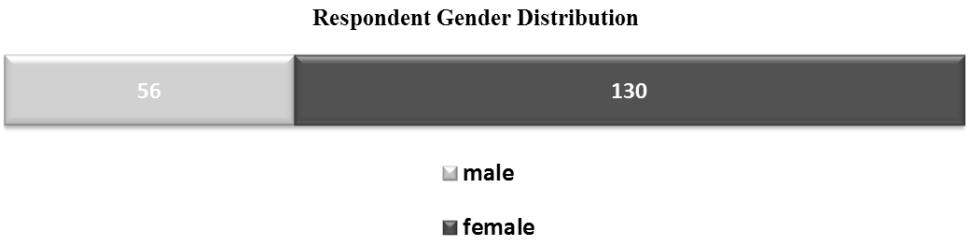
Table 1: Questionnaire Item Distribution in Respective Questionnaires

Intact Individuals' Questionnaire		Visually Impaired Individuals' Questionnaire	
Open-Ended Items	13	**Open-Ended Items**	14
Semi-Close-Ended Items	10	**Semi-Close-Ended Items**	10
Close-Ended Items	15	**Close-Ended Items**	16
Total	∑ 38	**Total**	∑ 40

For the purposes of the research, two questionnaires were created. One of them aimed at intact individuals (containing 38 items), whereas the other aimed at the visually impaired group (containing 40 questions). Both versions contained predominantly close-ended items. Other items in the questionnaires, however, were open-ended. Semi-close-ended items, i.e. questions containing answer suggestions as well as the possibility of the respondent commenting, were less frequent. This option was used by the visually impaired group more often than by the intact group. In the first part of the questionnaire, in questions where the authors have inquired about the sex of the respondent or whether the respondent is regularly physically active, the questions were predominantly dichotomous. The authors also included items enlisting a number of possible answers, e.g. in questions on the respondents' age or on the negative phenomena, that discourage the respondents from engaging in physical activities.

The respondents then completed the survey online via an Internet portal. The average time of completion was 20 minutes. The Web form of completing the survey was chosen, as it is easily accessed, especially for individuals with sensory disabilities. The final form of the questionnaire (before it was placed on the Internet) was consulted directly with a visually impaired individual in order to avoid any future issues, such as poor clarity of the questionnaire, too many items, an unsuitable way of completing the questionnaire, etc.

In total, **186 respondents took part in the questionnaire survey, 50 of which were in the group of visually impaired individuals**.



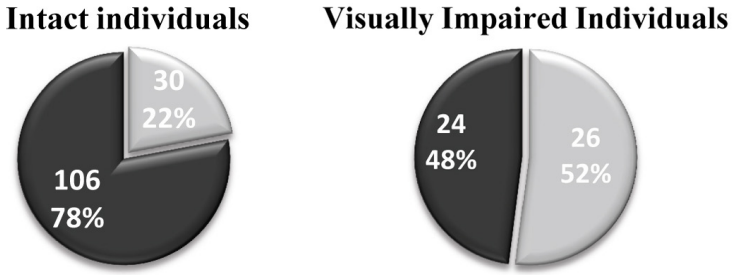


Table 2: Respondent Gender Distribution

As far as the **issue of age** is concerned, most of the intact individuals were in the age group of 18–30 years of age. The group of visually impaired individuals contained mostly individuals older than 31 years of age. The results of the research also provide current employment information of the visually impaired individuals, as employment can affect quality of life and lifestyle of these individuals. The results show that people with visual impairments work mainly on administrative positions (34%) or work manually (14%) or are in full disability pension (14%). Some of the interesting positions reported in the survey were e.g. music teachers, piano tuners, English teachers, exhibition guides, software developers, masseurs or call centre employees. Most of these positions are not dependent on the quality of the person's vision and give the opportunity of employment to any given individual.

4 Research Result Analysis

Seeing the research topic (lifestyle of individuals with visual impairment), we have focused mostly on the areas of **correct nutrition and physical activity**.

Based on the chi-squared distribution, we found that the research group demonstrated the same frequency of physical activity in individuals with visual impairments as in the intact group. Other questions show, however, that visually impaired individuals tend to engage in other sorts of physical activity than the intact group. The most common sports and activities in the survey include tourism (33%), swimming (14%) and also riding a tandem bike (10%). Furthermore, the majority of people with sensory disabilities enjoy e.g. yoga, rehabilitation exercises, but also extreme sports such as mountain climbing or windsurfing. Based on the results, we can conclude that these individuals prefer to engage in slower-paced physical activities and can always be accompanied by another person. The intact population, on the other hand, predominantly prefers running (25%) and fitness and strength training (16%) to maintain their physical well being. Comparing these two groups. we can also determine some interesting accord in some of the physical activities.

The observation shows that the intact individuals also swim and hike. Despite the different types of physical activities in the two groups, the calculation of average weekly frequency bears witness to the fact that both of these groups engage in some sort of physical activity at least three times a week. Using the questionnaire, we also explored many more specifics and preferences related to physical activity, such as **exercise daytime preference** (morning, evening), **monthly cost** of the physical activity, **exercise lessons preference** (individual, groups) or even **phenomena discouraging from physical activity**, as shown in Chart 1. Further questions included the **respondent's dependence on a trainer**, the importance of **special gym equipment** etc.

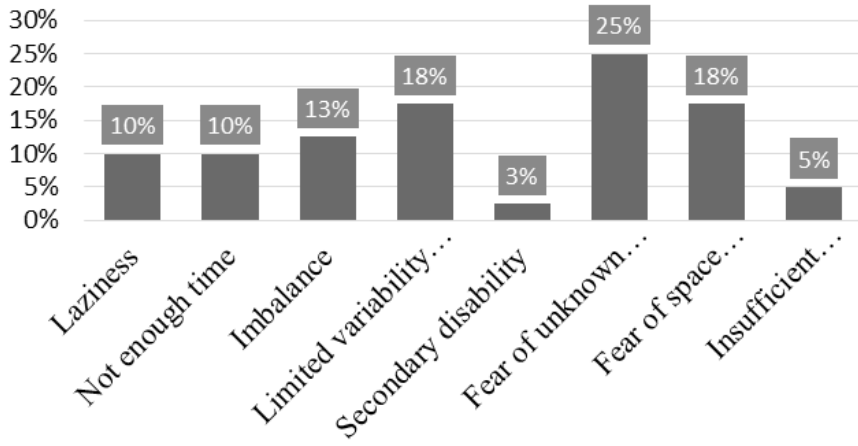


Chart 1: Phenomena discouraging the visually impaired individuals from physical activity

The reasons for inactivity, as directly stated by the respondents with visual impairment, arise directly from the existence of their visual disability (see Chart 1). They would like to exercise, but they are faced with barriers, some of which cannot be affected by the will of these individuals.

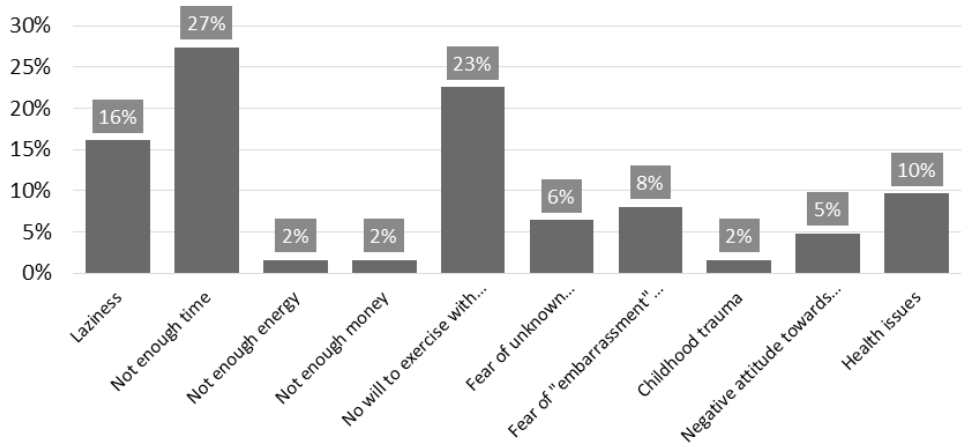


Chart 2: Phenomena discouraging the intact individuals from physical activity

The responses of the intact group, by contrast, demonstrate somewhat different phenomena, on the basis of which these individuals reject or do not engage in physical activity on a regular basis. The results de facto reveal that everything depends on the will of each individual, and the vital thing is to overcome one's laziness and decide to start exercising. Most of the phenomena stated by the intact individuals can be generalized under the broader term of "reluctance to exercise". For the results, see Chart 2. The question remains, whether the visually impaired individuals would not state the same reasons as the intact group, if the barriers mentioned by them were removed.

The questionnaire also posed the question, whether the respondent's perceive the issue of initial dependence on a trainer or assistant as a problem. Both groups have stated that the help of a trainer or assistant is welcome and is thus no hindrance in their training.

The next question asked whether the respondents preferred individual or group lessons. In both groups, the respondents who have stated that a trainer is a hindrance to their training have also stated that they prefer individual lessons. This fact seems like paradoxical, because a person taking individual lessons is in the majority of cases dependent on the help of a trainer (see Chart 3).

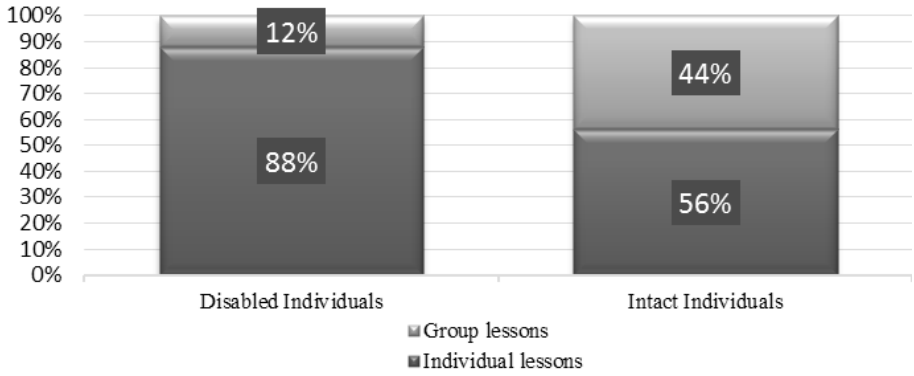


Chart 3: Respondents who prefer to exercise without the aid of a personal trainer and their preferred type of exercise

Other results also show the need of special equipment for individuals with special needs in sport centres. These centres often lack such special equipment. The intact individuals, who participated in the research, perceive the issue in the same manner. The main importance was placed especially on labels and instructions in Braille, guide lines and contrasting elements throughout the fitness centres, as well as suitable lighting, exercise equipment with sound guidance and dedicated dressing rooms for the disabled. Most of the respondents also reflected the crucial need of trained staff, which would often be enough for the visually impaired individuals to not be afraid of entering these facilities and thus beginning to change their lifestyle via active movement.

In the research, we also sought to determine the dependence of frequency of physical activity on the type of environment (i.e. cities and countryside), where the individual lives. The authors of the research were trying to find out, whether individuals living in cities tend to indulge in sport more often than people living in villages. We wanted to verify this fact on the basis of cities' better availability of sports centres. The survey results have shown that 64% of the respondents live in cities and engage in physical activity. The ratio of respondents living in villages and engaging in regular physical activity is virtually equal (61%). These results show that the environment has no effect on the frequency of engaging in physical activity.

The authors of the research, as already stated in the introduction, have not only dealt with physical activity of the population, but also with other aspects that affect society's lifestyle. A further research issue was the aspect of **healthy nutrition**. Here we investigated e.g. the availability of information on healthy foods. The most often noted source in this regard was the Internet. In order to live a healthy lifestyle, however, it is not only important to know the information, one must also implement this knowledge. The next question investigated the respondents' ability to prepare

a nutritionally suitable dish for themselves (Chart 4). Intact individuals gave a positive answer in 82%, whereas visually impaired individuals gave a positive answer in 80% (even though they may be dependent on others to prepare their food, e.g. family members, caretakers, etc.).

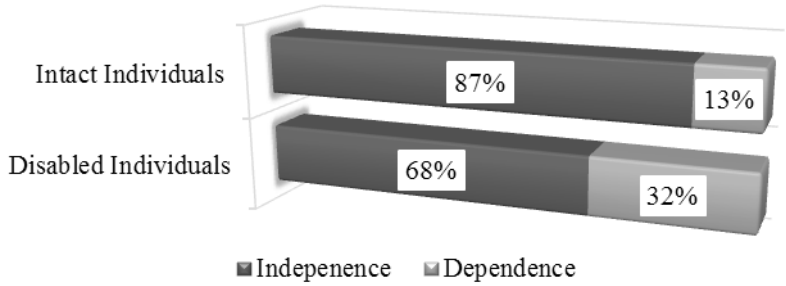


Chart 4: Respondents' dependence/independence on the preparation of food by another person

The research has also shown that there is no connection between visual impairment and food allergy. Both groups claim that they mostly do not suffer from any food intolerance. Only 12% of the intact respondents responded positively, in that they were either lactose or gluten intolerant or allergic to fruit and nuts. 8% of the visually impaired group claimed either gluten intolerance or seafood allergy. This item was included in the questionnaire as food allergy can, to certain extent at least, affect an individual's lifestyle. The need for diet adjustments, the need for allergen monitoring in restaurant dishes and while shopping for food (usually finding out the nutritional information of the particular food item) can carry some risk. Non-compliance with certain principles can even endanger an individual's life as such.

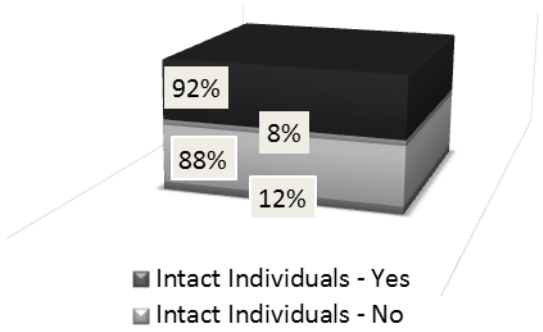


Chart 5: Food allergy

The authors have eventually focused on the investigation of phenomena that can affect the respondents' quality of life. The responses show that the quality of life in intact individuals is most affected by family relationships and the individuals' current health status (see Chart 6). In other answers, the respondents mentioned their relationships with friends and regular physical activity. The results of the research show that physical activity has an impact on the particular individual's quality of life and is an integral part of an active lifestyle.

The quality of life of individuals with visual impairment is most affected by the degree of their visual impairment (see Chart 7). However, these respondents are able to live their lives at a similarly high degree of quality to the lives of the intact community, despite the presence of their visual impairment and the obstacles related. Both groups of respondents reported, as the second most common phenomenon, their current state of health. It goes without saying that each individual is affected by their current health state. Any activity or employment comes easier to a healthy and strong individual than to a person with certain health issues.

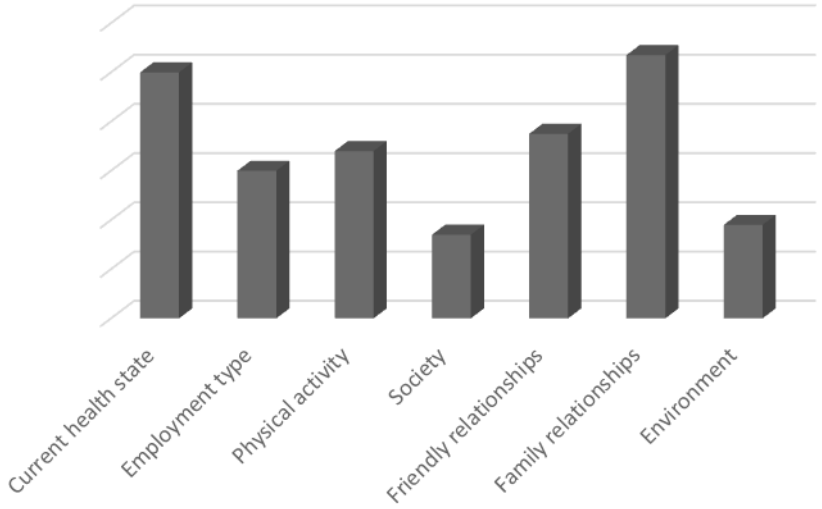


Chart 6: Phenomena affecting quality of life in intact individuals

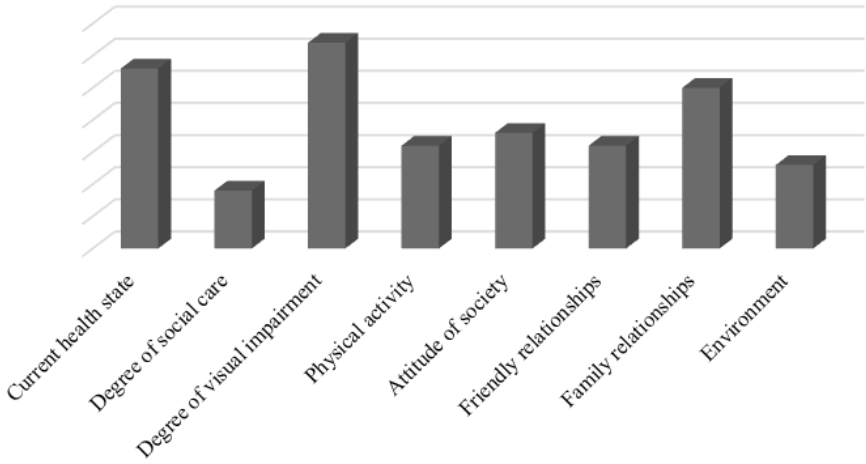


Chart 7: Phenomena affecting quality of life in visually impaired individuals

As has already been said, the research attempted to evaluate the differences between the approach towards lifestyle in intact individuals and in people with visual impairment. A partial aim was the identification of possible obstacles which could be removed, leading to an improvement in lifestyle of visually impaired individuals in majority society.

5 Conclusion

The results show that there are differences in the lifestyles of intact and visually impaired individuals. Both groups feel the importance of their current health state, but also the presence of their visual impairment. The visually impaired individuals also perceive the amount of finances they pay monthly for their physical activity as somewhat of an issue, whereas the intact individuals do not. Therefore, their low disability pension can present a financial constraint for these individuals, or they might prefer other physical activity (such as hiking).

When investigating the aspects that discourage the respondents from regular physical activity, we have found that the reasons are similar, but can also differ greatly (maybe even typical for each individual group). The aspects discouraging the visually impaired individuals from physical activity are characteristic in that they mostly cannot be affected by the will of the individual. In this case, it can be argued that individuals with visual disabilities would like to engage in physical activity, but the unfortunate external circumstances and the sports centres' lack of preparation and specific equipment discourage them. The opposite side is then represented by the phenomena presented by the intact individuals, who can mostly influence these

discouraging aspects by their will. In intact individuals, therefore, it can be said that it is merely a personal matter of each individual (as long as they are not suffering from a temporary health issue) whether they do or do not want to engage in regular physical activity. The question remains, whether the visually impaired individuals would not provide the same answers as the intact individuals if the conditions presented by them were actually adapted.

The analysis of the data showed an interesting paradox in the question specifying the presence of a trainer during physical activity. It was found that respondents who consider the presence of a trainer or assistant an obstacle during physical activity, prefer individual lessons. And yet it is the case of individual lessons where the presence of a trainer is needed.

One further question examined the need for special equipment for the disabled in the sports centres and gyms. The majority of respondents (in both groups) pinpointed the importance of such special fitness centre equipment for individuals with special needs. Unfortunately, most of the owners of fitness centres do not reflect on this, as they mostly do not presume that these individuals would visit their fitness centres at all. Most of the sports centres, therefore, do not offer suitable conditions for individuals with special needs. The visually impaired individuals themselves were supposed, within the framework of the questionnaire, to enumerate what changes and adjustments would be appropriate and even welcome in these centres. The following were stated most frequently: descriptions of exercise equipment in Braille, guidelines throughout the fitness facility, sound guidance for equipment, dressing room only for the visually impaired, contrasting elements on exercise equipment and on the floor, suitable lighting, trained staff. The results indicate that such adjustments are not substantial in their scope and should not be present a major financial obstacle for the fitness centres. The main issue to tackle here would probably be the one of trained staff, as this is mostly the problem of willingness to learn and implement one's knowledge if a disabled person visits the particular fitness centre.

Another area of research was healthy nutrition. The respondents answered the question whether they can prepare nutritionally valuable food on their own. The response analysis shows that the ability to prepare a nutritionally valuable food does not directly depend on the degree of visual impairment, but rather on the manual dexterity and skill of a particular individual. The question of the respondent's dependence on another person to prepare their food is also closely related. Most of the intact respondents as well as those visual disabilities stated that they are not dependent on anyone in their food preparation. The above stated makes it clear that even the visually impaired individuals can take care of themselves and prepare food of the same quality as the intact respondents.

An essential component of lifestyle, as clearly defined in the research, is the environment, where a person lives and grows up. Here we posed the question whether the

characteristics of one's environment also affect the engagement in physical activity. The basis of this idea was the fact of greater availability of fitness and sports centres in cities. This leads us to believe that the frequency of physical activity would be higher for individuals living in larger conurbations. The result was that the frequency ratio of physical activity was more or less equal in individuals living in cities and in those living in smaller villages. Therefore, it cannot be stated that the type of environment would have effect on the frequency of engaging in physical activity. Another interesting point found out within the sensory disabled individuals research was the fact that those individuals, who regularly engage in physical activities, tend to live in quieter parts of towns or in villages, rather than in busy city centres. This is caused by the fact that these individuals have, due to their visual impairment, a reduced ability of spatial orientation. For this reason, it is easier for them to move in a calmer environment, where there is no large amount of people and vehicles. A quieter environment gives them a feeling of certainty and security when exercising.

The questionnaire also focuses on the difference of frequency of physical activity in individuals living in flats or houses. It was found that physical activity of individuals with visual impairments who live in flats, is three times higher than of those people who live in houses. From this we can assume that living in a flat, where there is not much space, forces the inhabitants to visit fitness centres more often or go exercise in the countryside.

In summary, it can be said that the lifestyle of individuals with sensory disabilities is similar to that of the intact population. There will always be possible ways to improve the conditions of inclusion (in this cases e.g. the adjustments on conditions of fitness centres in order to make them more suitable for the visually impaired). The current state of affairs, however, enables even these visually impaired individuals to live a life of high quality.

Acknowledgements

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