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KNOWN AND UNDERSTOOD? SNOEZELEN – MSE: A COMPARATIVE ANALYSIS OF STUDENTS´ KNOWLEDGE

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Abstract

The concept of Snoezelen is a therapeutic, supportive, or recreational method, the essence of which lies in the use of a structured multisensory environment as a means of sensory stimulation, development of perception and active learning, calming and relaxation, and the development of socialization and communication in children and adults with disabilities, seniors, and other marginalized groups. Snoezelen is always related to a stimulating multi-sensory environment. Its aim is to harmonise the personality of individuals and offer varied stimuli and experiences. The added value of this method is the possibility of working individually and specifically with each person, adapting to their needs and finding their unique path. Thanks to its flexibility and functionality, the Snoezelen concept is very often used in 24-hour care and in health, rehabilitation, and educational institutions. Its concept offers a controlled number of sensory stimuli and works on the basis of a positive empathic relationship between its participants. Snoezelen work, which is based on the acquisition of many sensory experiences, is a deeply enriching process, especially for those individuals who are limited in their acquisition of information, e.g., due to their disability or age. Snoezelen-Multisensory Environment (MSE) is considered an innovative, supportive and therapeutic concept with many different and interesting aspects, of which we would like to highlight in particular the social aspect and the human aspect.

Despite Snoezelen-Multisensory Environment (MSE) use continuing to increase worldwide there is a serious lack of formal staff preparation. This is due to the absence of a uniform theoretical understanding of the method and insufficient rigorous research. To help counter these concerns Czech, Polish and Spanish academics have established a project to support Snoezelen concept development within the three countries and promote its uniform integration into university education across the helping professions. (Support of the Snoezelen concept and its integration into university education 2020-1-CZ01-KA203-078267).

The participants in the research were Czech (CZE), Polish (POL) and Spanish (SPA) students and graduates formally educated in the theory of the Snoezelen - MSE. The Czech research group consisted of a total of 145 respondents. In order to carry out qualitative and quantitative research, five research hypotheses were formulated. These hypotheses were then verified using statistical methods (chi-squared test of independence and selected nonparametric tests - specifically Mann-Whitney U test, Wilcoxon signed-rank test and Kruskal-Wallis test). The results of our research show differences between respondents/students in three different countries as we mentioned above – the Czech Republic, Poland and Spain.

This paper reports on an initial survey questionnaire designed to investigate and compare the current level of student knowledge in this area across the three countries. Special issues which are solved in this article concern: type of Snoezelen experience, rating of possible personal approach within the Snoezelen, using Snoezelen in certain way and involving pedagogues or therapists and practising of Snoezelen in certain age of caregivers.

Keywords: Snoezelen-Multisensory Environment (MSE); Snoezelen functions and strengths; Relaxation; Activation; Individual Personal Approach; Helping Professions.

1 INTRODUCTION

This article examines the Snoezelen phenomenon from a selected angle: i.e., the point of view of Czech, Polish and Spanish university students attending Snoezelen courses.

What is Snoezelen today? When we talk about Snoezelen, do we mean it in terms of method, strategy, process, technique, relaxation, activation, philosophy of approaching the patient, sensory stimulation, space, or time, or others? Maybe Snoezelen is all of these at the same time - but to what extent? How

should the various aspects of the Snoezelen phenomenon be interpreted? The answers to these questions turn out to be more difficult than they might seem at first glance, which is probably due to the special history of Snoezelen. It is worth emphasizing that the originators of this method were not professionals but volunteers who had no education in the field of the helping professions. The fact that, today, Snoezelen is used by therapists and pedagogues does not change the fact that they were not the first to notice its extraordinary potential to influence patients. It also does not change the fact that, today, it is representatives of the helping professions who are responsible for its functioning and development, which, of course, is assuming that these representatives correctly understand and disseminate the method.

Snoezelen, as a method of influencing those with intellectual disabilities, and, subsequently, those with other dysfunctions and diseases, originated in the late 1970s in the Netherlands. As we know from the history of Snoezelen, its creation, and, at first, also its application, were purely intuitive ([1]). Gradually, over time, Snoezelen began to be refined, clarified and codified. Practitioners and theorists of therapy and pedagogy began to take an interest in the method, noticing its effectiveness, especially in difficult cases. Definitions of the method began to be developed. It also began to be subjected to research. Todays´ Snoezelen/Multisensory environment is defined "*…as a dynamic pool of Intellectual property built on an ongoing sensitive relationship between a skilled companion and a controlled environment, where a multitude of sensory stimulation possibilities are offered. It is guided by ethical principles of enriching quality of life". This shared approach has applications in leisure, therapy, and education, and takes place in a dedicated space suitable for all.* ([2]).

A major strength of Snoezelen lies in the fact that, with the help of appropriate stimulation, it is possible to find a way through to the client/patient with whom communication, for various reasons, is difficult. Snoezelen is, therefore, a way of opening communication, running both ways (from care-giver to care-receiver, and vice versa). In addition, Snoezelen also enables participants to experience the environment, and themselves in the environment, in such a way, and to such an extent, that would often be unattainable to them outside the Snoezelen space. The obvious fact that man is a sensory being is exploited in this instance. Appropriate sensory stimulation can be an introduction to communication; it can stimulate it and clarify it, and often initiates it (see also: [3],[4],[5],[6],[7],[8],[9]).

The streamlining of communication processes seems to be key to Snoezelen's success, since it is impossible to imagine any effective therapeutic or pedagogical impact without at least partial communication with the client/patient. But apart from communication, another strength of Snoezelen is its harmonious combination of activating and relaxing aspects. According to Snoezelen rules, during the Snoezelen process, either function may be emphasized, depending on the needs of the given participant.

Admittedly, these rules are sometimes considered "*indications for work rather than proven directives"* ([1]). On the other hand, it can be noted that "*these indications complement each other and are systemic in nature, which allows you to conduct sessions in the Snoezelen room in a safe and beneficial way*" ([10]). Whether we consider the Snoezelen principles 'indications' or 'directives', there is no doubt that they are the only fixed points that structure a Snoezelen session, and that without them the session would remain a purely intuitive activity. The rules require: 1. the right atmosphere; 2. the availability of choice; 3. the opportunity to control the pace; 4. the right length of time; 5. repetition; 6. a selective range of stimuli; 7. the appropriate basic attitude; and 8. appropriate supervision ([4]).

The period of intuitive use, especially on the basis of trial and error, has long since given way to analysis, documentation, exchange of experience in professional groups, and research projects. Running a Snoezelen session effectively is not an easy task. Yet, the innate vagueness of the Snoezelen method means that it is often not taken seriously enough, and that many, despite lacking knowledge and experience, casually undertake the task. ([11], [12], [13], [14])

This article is a much-needed step towards analysing the level of knowledge of Snoezelen concept among students, and those working in the helping professions. This is only the first step in an ongoing project which is planned for several years, and this article focuses on analysis of only two research questions. This choice was dictated by both the volume requirements of the text, and the primary importance of the selected questions to the topics discussed in this article.

2 METHODOLOGY

The participants in the research were Czech (CZE), Polish (POL) and Spanish (SPA) students and graduates formally educated in the theory of the Snoezelen - MSE. The Czech research group consisted of a total of 145 respondents: 132 women and 13 men; the Polish participants consisted of 93

respondents: 91 women and 2 men; the Spanish participants consisted of 80 respondents: 70 women and 10 men. The largest group of respondents were in the age category 18-23 years, (41% of Czech students, 30% of Polish students, 70% of Spanish students) which is understandable, since the research focused on university students.

The data were analysed quantitatively. Individual questions from all three national questionnaires were systematically classified, and the answers were totalled and then converted into an absolute value of percentages and ratios. The data obtained from all groups of respondents were compared.

For the purposes of our research, the following research hypotheses were formulated:

1 Find out whether the type of experience with Snoezelen (practical and theoretical) differs in individual countries (CZE, POL, SPA).

2 Find out whether respondents who have practical experience working at Snoezelen rate the possibility of a personal approach to the client higher than those who have only theoretical knowledge and have never practiced Snoezelen (all countries together).

3 Find out if participants from the three countries think that the use of Snoezelen results in relaxation and calming are more often than a change in the client's behavior.

4 Find out if participants from the three countries think that the therapist should work more often than the educator in Snoezelen room.

5 To find out whether the age of the participants from all countries (CZE, POL and SPA) affects a clear own idea of practicing the Snoezelen method.

Hypothesis 1 will be verified using a non-parametric chi-squared test of independence. This test evaluates the independence of two categorical data. It is based on a contingency table of these data, i.e. a rectangular or square table of frequencies of individual values. The null hypothesis states that both categorical variables are statistically independent. The degree of dependence of the categorical data in the contingency table will then be measured using Cramer's V and contingency coefficient C. ([15])

Due to the fact that the normality of the data sample is not met, it was not possible to apply a standard parametric *t*-test to compare two samples to verify hypothesis 2. However, nonparametric tests have less power ($1 - \beta$) than parametric tests (e.g. *t*-test). This means that they like to be careful not to reject the null hypothesis (either the null hypothesis really holds true or there is little data to prove otherwise). We will therefore use the non-parametric Mann-Whitney U test, which determines whether two selections have the same median. In any case, this test is very robust to a variety of non-normal distributions, so it is still a significantly better option for non-normal data than to use the *t*-test incorrectly ([16]).

Hypotheses 3 and 4 will be evaluated by nonparametric Wilcoxon signed-rank test. This test is used to evaluate pairwise experiments when the observed quantity does not correspond to the Gaussian normal distribution which is our case. It therefore compares 2 measurements performed on one sample. Wilcoxon signed-rank test generally assumes asymmetric distributions. Therefore, instead of the average, the median is considered, because it is really in the middle. It is used in similar situations as the sign test, but the Wilcoxon signed-rank test also considers the magnitude of the difference. Therefore, the Wilcoxon signed-rank test is stronger because we have a better chance of detecting small differences between measurements and deciding to reject the null hypothesis. The Wilcoxon signed-rank test compares the differences by size - so it considers a "smaller" and a "larger" difference, not the actual size of the difference as calculated by the parametric paired *t*-test ([17]).

Finally, to verify hypothesis 5 the non-parametric Kruskal-Wallis test will be utilized. This test represents a parametric equivalent of the one-way ANOVA. Because the null hypothesis of normality of sampling data is rejected, it is necessary to choose a nonparametric test. The Kruskal-Wallis test is an extension of the Mann-Whitney U test, which can only be used for one or two samples. A significant value of the Kruskal–Wallis test connotes that at least one data sample stochastically dominates others ([18]).

3 RESULTS

Students who have participated in the research have different experiences with Snoezelen. Even so, we can say that most students from all three countries not only have theoretical experience, but have seen Snoezelen in practice as well. Conclusion 1: Based on the value of the Chi-squared test, the statistically significant dependency between the type of experience and the particular country exists. Assumptions of using the Chi-square test are met. None of the cells have an expected count of less

than 5. Dependency achieves moderate values, as confirmed by the values of contingency coefficients. Respondents from the Czech Republic in particular have practical experience. In the case of Polish and Spanish respondents, the sample values are different. Most Polish respondents only saw Snoezelen. (see Tab. 1+ Tab. 2)

Table 1. Contingency table

		Experience with Snoezelen			Total
		I have heard of Snoezelen, but I have never seen it in practice	I have seen Snoezelen in practice	I have practical experience	
Country	CZE	52	65	21	138
	POL	1	43	5	49
	SPA	26	29	4	59
Total		79	137	30	246

Table 2. Chi-squared test and symmetric measures of significance

Chi-squared test and Symmetric Measures		Value	Approximate Significance
Nominal by Nominal	Chi-squared test	,359	<,001
	Cramer's V	,254	<,001
	Contingency Coefficient C	,338	<,001
N of Valid Cases		246	

The second question involves two groups of students from all three countries: 1. those students who have practical experience with Snoezelen (30) and 2. those who have theoretical experience or only have seen Snoezelen room (263). We compared both groups with the scaled question: whether students think that the possibility of a personal approach to the client is a strength of Snoezelen. Conclusion 2: The results of the non-parametric Mann-Whitney test show that there is no statistically significant difference between the two groups in the evaluation of the possibility of a personal approach to the client. Both groups evaluate the possibility of a personal approach to the client in the same way. There is no statistically significant difference between groups of respondents.

Table 3. Mann-Whitney test statistics

Test Statistics	
In my opinion, the strongest aspect of the Snoezelen concept is the possibility of a personal approach to the client.	
Mann-Whitney U	3633,000
Z	**-,799**
Asymp. Sig. (2-tailed)	**,424**
Grouping Variable: Practical or theoretical experience with Snoezelen	

Conclusion 3: Based on the results of the nonparametric Wilcoxon signed-rank test, it is possible to state that respondents from all three countries confirmed the hypothesis that the use of Snoezelen results more likely in relaxation and calming of the client than in a change in the client's behaviour. Subjectively, people think that the result of Snoezelen lessons and practising should be relaxation, not a change in behavior. The *p*-values of the statistical tests are clearly lower than the chosen significance level of 0.05.

Tab. 4: Wilcoxon signed-rank test statistics

Country		Test Statistics
CZE	Z	-8,726
	Asymp. Sig. (2-tailed)	**<,001**
POL	Z	-6,386
	Asymp. Sig. (2-tailed)	**<,001**
SPA	Z	-4,896
	Asymp. Sig. (2-tailed)	**<,001**

The fourth hypothesis was to find out if participants from the three countries think that the therapist should work more often than the educator in Snoezelen room. Conclusion 4: Yes, this is the case in all compared countries. The results are similar to hypothesis 3. The differences between the pairs of measurements are statistically significant for respondents in all countries at 5% significance level. Subjectively, people think that a therapist should work in Snoezelen rooms more often than pedagogues.

Table 5. Wilcoxon signed-rank test statistics

Country		Test Statistics
CZE	Z	-5,630
	Asymp. Sig. (2-tailed)	**<,001**
POL	Z	-6,644
	Asymp. Sig. (2-tailed)	**<,001**
SPA	Z	-2,872
	Asymp. Sig. (2-tailed)	**,004**

To answer the fifth hypothesis whether the age of the participants from all countries (CZE, POL and SPA) affects their own idea of practicing the Snoezelen-MSE see the Table 6 and 7. Conclusion 5: Based on the results of the Kruskal-Wallis tests performed for respondents in all three countries, it can be stated that age plays a statistically significant role only in the Czech Republic, here older people can rather imagine that they work in Snoezelen in person. The p-value of the test criterion is less than 5%. In Poland and Spain, the effect of age is not statistically significant when we are talking about the idea that the respondent works in Snoezelen in person.

Table 6. Partial calculations for the Kruskal-Wallis test

Country		Age	N	Mean Rank
CZE	I can imagine that I work in Snoezelen personally.	18-23	60	81,38
		24-30	30	75,72
		31-40	20	70,85
		41 and more	35	57,53
		Total	145	
POL	I can imagine that I work in Snoezelen personally.	18-23	29	53,16
		24-30	22	38,77
		31-40	17	45,38
		41 and more	25	48,20
		Total	93	
SPA	I can imagine that I work in Snoezelen personally.	18-23	57	40,47
		24-30	16	41,38
		31-40	2	33,50
		41 and more	4	31,00
		Total	79	

Table 7. Kruskal-Wallis test statistics

Test Statistics[a,b]		
Country		I can imagine that I work in Snoezelen personally
CZE	Kruskal-Wallis H	8,044
	df	3
	Asymp. Sig.	**,045**
POL	Kruskal-Wallis H	6,229
	df	3
	Asymp. Sig.	,101
SPA	Kruskal-Wallis H	0,998
	df	3
	Asymp. Sig.	,802

a. Kruskal Wallis Test

b. Grouping Variable: Age

4 CONCLUSION

Our research was conducted on students from three countries and universities. The conclusion can only be based on the sample populations from The Czech Republic, Poland and Spain.

In the first part of the analysis, we found out that students have different experiences with the Snoezelen - MSE method. Within three categories (1. I have heard of Snoezelen, but I have never seen it in practice; 2. I have seen Snoezelen in practice; 3. I have practical experience) we have come to the fact that there is a significant dependency between the type of experience and a group of students from each country. Most often, students from all three countries chose the possibility nr. 2 that they had seen Snoezelen in practice, but had not yet practiced it.

Regarding the possibility to use the unique and individual approach to the client, which is offered during the lessons in Snoezelen, neither of the two groups of respondents (those who have only theoretical experience and those who also have practical experience) did not differ significantly in their opinion. Both of these groups evaluated the possibility of using this method in order to individualize approaches very highly. Individualization of the approach to the client/patient is at the core of all modern helping professions, but it has not always been emphasized as strongly as it is today. From this perspective, Snoezelen is a pioneering method, and at the same time convergent with the concepts of those such as Maria Montessori, Virginia Axline, Tom Kitwood, and Carl Rogers. This part of the Snoezelen education program appears already to be optimally planned and implemented, and, therefore, needs only to be maintained at its current level.

Subjectively, students think that the result of Snoezelen lessons and practising should be relaxation, not a change in behavior. The reason why students were more inclined to identify Relaxation rather than Changing of Behavior may be connected to the current situation regarding its implementation and practice in the helping professions, which primarily use the Snoezelen room atmosphere to calm and relax their clients, and eliminate stress, tension, and restlessness. It is quite logical that at this moment, more than ever - a time of unprecedented pressure on performance, and development of skills and mental resilience - it is necessary to create first a safe and calm environment with clients, which then forms the basis for any further action.

However, in order for both Snoezelen functions to be realized, it is necessary to extend the method of conducting sessions. In other words, in addition to so-called "Free sessions, Free Snoezeling", where appropriate, thematic sessions or sessions organized around a script should be introduced. This is a considerable challenge, since in thematic sessions/sessions around a script it is more difficult to comply with the principles: i.e., the opportunity for choice, the opportunity to set the pace. One should also pay special attention in order not to violate the Snoezelen postulate: "I don't have to do anything; I can do everything". This is a challenge not only for those working with Snoezelen, but also for educators of future Snoezelen therapists. The curricula must contain detailed instructions on how to conduct the two types of Snoezelen sessions. Naturally, even during free Snoezeling an activating element will be involved (e.g., in the intensification of perceptions). However, in many cases, special conditions must be created so that this function is sufficiently enhanced and made available to participants.

To confirm the fourth hypothesis subjectively, all groups of respondents/students think that a therapist should work in Snoezelen rooms more often than pedagogues. Of course, this view is based on the fact that most respondents will work as a therapist rather than an educator in their professional future. However, we are also inclined to the fact that the answer to this hypothesis is also influenced by the nature of the activities in Snoezelen, which are more related to therapies and psychotherapies than to the support of education and cognitive development of clients. This fact also applies to the existence of Snoezelen rooms, which are more often found in social services and day services than in schools.

The age of the respondents was a significant factor in the last analysis. We found that older students / graduates from the Czech Republic answered more positively than younger students when it comes to the practical use of Snoezelen. Within other countries, the results on this issue did not differ significantly.

We see Snoezelen, as a separate concept, as an innovation with many aspects, of which we would like to highlight and take into account, in particular, the highest rated, the social aspect and the human aspect. The purpose of integrating new strategies and approaches into the lives of people with special needs is to improve the quality of life, which is related to social equality, justice, inclusion and the individual development and support of each person.

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