THESIS OF THE DOCTORAL (PhD) DISSERTATION

KORNÉLIA PONGRÁCZ

MEASURING THE ATTITUDES OF MAINSTREAM STUDENTS TOWARDS CHILDREN WITH DISABILITIES

SUPERVISOR: FERENCNÉ GEREKEN DR., PROFESSOR EMERITUS

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Problem definition

Disability is not merely a state but also affects the participation of a person in the life of society. One of the basic conditions for successful social integration is the inclusive environment, i.e. in case of a disabled child his relationships with the peers and adults’ community.

Nowadays, the special educational interpretation of disability reflects the concept of inclusion approach, i.e. there is no focus on deficit-oriented thinking, rather on the needs of people with disabilities, their activities and their relationships with environment come under the spotlight (Papp, 2012).

Over the past decade, there has been a growing interest in domestic and international literature on the social dimension of inclusion, that is, more and more studies have been reported on the social integration of students with disabilities or with special educational needs studying in mainstream schools in an integrated or inclusive way.

According to Hungarian studies, a significant proportion of students with disabilities have more issues to fit into integrating class community compared to ordinary mainstream pupils; it is more difficult for them to make friendships and a tough task to achieve their acceptance by the peers (Szücs, 2002, 2003; Somorjai, 2008; Perlusz, 2008; Alt, 2008; Szekeres, 2012).

Negative attitudes of peers may have serious consequences, as this may be realized in low acceptance, a few number of friendships, loneliness, or even rejection or loathing. It can dramatically affect the life of a student with disabilities and may cause difficulties in joining group activities, it might lead to school dropouts as well as behavioral issues (Jackson and Brackena, 1998; Ollendick et al., 1992).

During our previous pedagogical work, we faced the degree of heterogeneity of student population in the correction class of a mainstream primary school. For student population, including the members of class community, only the different, weak performance, "strange" behaviors of the peers, and occasionally the use of aids (such as hearing aids) can draw attention to what mean special pedagogical guidance, help, and the use of other pedagogical methods for the teacher. Based on our own observations and experiences, the question arose in us what the mainstream schoolmates and classmates know and think about their peers, especially those who belong to the peers with disabilities. How do they relate to their mates about whom they do not necessarily know, how the society and the public education system qualify them, who, after the
modification of the founding documents of schools, appear in an increasing number of public education institutions, in line with international tendencies?

Based on an exhaustive survey of the Hungarian literature and in our previous research (Pongrácz, 2013a) we have concluded that there is no Hungarian, scientific, empirical research about measuring the attitudes of mainstream students towards peers with disabilities, furthermore, a standardized Hungarian attitude scale is also not available.

Research goals
The goal of our doctoral research was to investigate the attitudes of Hungarian primary and secondary school students towards peers with disabilities and to map out the possible factors that may be related to their attitude.

To measure students' attitudes by reliable and objective means, we have adapted an attitudinal investigation method with good psychometric properties, and the results were compared to the experience of international research (Pongrácz, 2013b, 2015, 2016).

We trust that with our results we can contribute to changes in the domestic conditions of the inclusive school environment, and to the changing approaches.

Theoretical background
One of the focus areas of our research is the thinking about disability.

One of the basic concepts of special education is disability, which covers a complex concept and its interpretation does not yet have a uniform consensus between representatives of different disciplines and legislators (WHO, 2011). In today's special educational thinking, according to the so-called bio-psycho-social model, the focus is no longer exclusively on individual-specific deficits, but following the ecological approach, the interaction between a child and his environment is under the spotlight.

Special educational needs are not the same as the concept of disability but can be considered an umbrella term, a pedagogical and special educational category (Fehérné & Szabó, 2011), its primary purpose is to provide the necessary conditions to facilitate successful school career. Children with special educational needs form a subgroup of children with disabilities, the attitudes towards them is the focus of our research.
The other aspect of the theoretical framework of our research is thoughts about inclusion, social integration, and attitudes.

The concept of inclusion, inclusive education is closely related to special educational needs described above. It means a procedure that provides quality education for everyone by respecting the diversity, characteristics, needs, and abilities of communities and students, thereby eliminating all forms of discrimination (UNESCO-IBE, 2008).

However, the inclusion of students with special educational needs does not automatically lead to successful social integration. Accepting Frostad and Pijl (2007) ‘s definition, a student can be considered socially integrated if his classmates accept him, he could make mutually friendly relationships with one of his peers, and he could actively participate in group activities. According to domestic and international research, some of the students with special educational needs cannot fulfill these conditions, therefore they cannot be integrated socially (Szekeres, 2012; Bossaert et al., 2015). By exploring this social dimension of inclusion, the goal of our research is to investigate and analyze the attitudes of the key players in social participation, i.e. the attitudes of mainstream students towards peers with disabilities.

The measurement of attitudes and the analysis of possible factors related to attitudes are considered important for inclusion to support, since if we can study the attitude of students towards their peers with disabilities, we might be able to conclude their future behavior, and we could more effectively try to make a more positive attitude and behavior.

**Precise determination of the investigated attitude subject**

Before starting our studies, at first it was necessary to consider and decide that we should plan to analyze the attitude of children belonging to the legal category of special educational needs, or we should focus on the attitudes towards students in a subtype (e.g. visually impaired, autistic, etc. children). After a long deliberation, we concluded that we should follow the scheme of the authors of CATCH attitude scale (Rosenbaum et al., 1986) and the approach used by most of the international researchers who adapted CATCH attitude scale (Tirosh et al., 1997; Vignes et al., 2009; Godeau et al., 2010; Olaleye et al., 2012; Osmanaga, 2013; Blackman, 2016), i.e. we should exclusively focus on the research of the attitudes towards peers with disabilities.

This focus also meant that we had to create the definition of peers with disabilities so that it could be easily interpretable also for the youngest (i.e. the fifth graders) in the planned test sample before they started to fill in their questionnaires. The Hungarian guide follows Rosenbaum et al. (1986) ’s guide written for CATCH attitude scale: “Living with a disability
means that people have trouble walking, talking, using hands and arms, seeing, hearing, or even learning. For a better understanding of this, it means that people with disabilities usually live for a long time, while those who have cold or broken legs will usually recover better after a short period of time. " (An excerpt from the guide of attitude scale "C) Questionnaire about Your Ideas").

This interpretation clearly shows that taking into account the current cognitive development stage of younger children the peers with disabilities are determined based on the easily recognizable and identifiable marks. This definition was thus primarily concerned with the narrower circle of disabled students, i.e. the focus was on children with sensory, motion, speech and mental disabilities.

**Research questions**

Our research focuses on measuring the attitudes of mainstream primary and secondary school students towards peers with disabilities, as well as mapping factors influencing them.

Due to lack of domestic empirical research on this topic, as well as the contradictory results and the research methodological difficulties of the English-language international studies we considered necessary and justified that instead of setting up hypotheses, we should formulate research questions.

Our research questions were grouped around 2 main topics. The first question group organized around measuring attitudes by CATCH attitude scale, while the questions included in the second question group aim to map the relationships between the attitude and the investigated factors.

1. The attitudes of Hungarian mainstream students measured with CATCH attitude scale
   1.1. Whether Hungarian CATCH attitude scale is a reliable and valid questionnaire for the assessment of Hungarian mainstream students?
   1.2. How do the resulted attitudes of Hungarian mainstream students with disabilities measured by CATCH attitude scale relate to the international results?

2. Relationships between the investigated factors and attitudes towards peers with disabilities
   2.1. Whether the gender of the mainstream students (i.e. the respondent is a girl or a boy) affects the attitudes towards peers with disabilities? If yes, in which direction?
2.2. Whether the age of respondents affects attitudes towards disabled peers?
   2.2.1. If yes, what kind of correlation can be determined between the progression of the age and the measured attitudes?
   2.2.2. Whether adolescent changes affect attitudes towards disabled peers? If yes, what effect they have?

2.3. Whether a closer, personal relationship with disabled people leads to more positive attitudes towards peers with disabilities?
   2.3.1. What kind and how deep relationships lead to more positive or even negative attitudes to the relationship with disabled people?

2.4. Whether prior knowledge of disability affects the development of attitudes towards students with disabilities?

2.5. Whether are there any correlations between the self-esteem of the investigated students and their attitudes towards peers with disabilities? If yes, what kind of correlations are there?

2.6. Whether are there any correlations between the subjectively judged quality of life and attributes towards peers with disabilities? If yes, what kind of correlations are there?

2.7. Whether are there any correlations between opinion about the class community and the attitudes towards peers with disabilities? If yes, what kind of correlations are there?

**Selecting research methodologies and tools, operationalization**

In our research, our investigations were based on a quantitative strategy using a nomothetic explanation model, i.e. for some phenomena we sought for explanations, correlations, and we also strived for generalization.

Since we were primarily interested in the attitudes of Hungarian mainstream students towards children with disabilities, therefore we would have liked to measure attitudes in a direct way using an attitude scale.
Besides investigating attitudes, we also aimed at mapping factors related to attitudes, therefore we put together a questionnaire package for students which enables us not only to recognize attitudes towards students with disabilities, but we can also crawl the factors influencing them (e.g. prior knowledge, quality of life, learning outcomes, and self-esteem).

The questionnaire package consists of four parts: in the first questionnaire, we are curious about knowledge on disability; in the second questionnaire, we would like to know about the respondent person; in the third part, we examine the attitudes towards disabled peers; finally, the study is completed by filling in a self-esteem scale.

**Presentation of the questionnaire package**

As described above, for measuring attitudes and related factors, the selected attitudinal investigation procedure was extended with three additional questionnaires. Below we present the detailed description of the package contents.

**A) Questionnaire on disability**

The first questionnaire is a multiple-choice questionnaire with closed questions, by which we asked about disability-related knowledge and experience. The guideline for assembling the questionnaire was some questions about the "disability-related knowledge" factor published in Vignes et al. (2008) ’s study, which had been taken from the information items of Multinational Study of Attitudes Towards Individuals with Intellectual Disabilities.

We expected answers to questions, such as having ever heard about students with disabilities and if so, from whom, having ever read the subject and where, having ever seen such a movie and where, having ever met people with disabilities and where, and what kind of people with disabilities having ever met.

In case of the question “What kind of people with disabilities have you ever met?” the answers listed below are the "classically interpreted" disability sub-categories that are easily recognizable or identifiable by children, i.e. the respondents had to check for meetings with people with visual impairments, hearing impaired, disabled, intellectually obstructed, speech-impaired people.

We gave a short explanation for each answer, i.e. for instance, we wrote in parentheses next to the "visually impaired" definition that someone who does not see you badly, the term "handicapped" is explained by the fact that those who are difficult or unable to move etc.
B) Questionnaire on You

In the questionnaire on personal factors, we asked about the date of birth, gender, parents' highest qualifications, the size of family library, family's standard of living, study performance, class community, and friendships. The questions in the questionnaire were gathered from the items of three questionnaires. 9 out of 17 questions were collected from questionnaire “National Student Measurement Survey - 2008” (Oktatási és Kulturális Minisztérium, 2008); 6 out of 17 questions inherited from questionnaires available in British and Hungarian reports in WHO’s “Health Behaviour in School-aged Children” reports from the year 2002 and 2006 (Aszmann, 2003; Morgan et al., 2006).

C) Questionnaire on Your Concepts (Attitude scale)

The central core of the questionnaire package is the Hungarian adapted version of Chedoke-McMaster Attitudes Towards Children with Handicaps Scale (a.k.a CATCH). In the year 2009, we looked for Professor Rosenbaum, one of the authors of this attitude scale that - as the scale was not available electronically for us - let us have CATCH scale available and allow us to use it in our research. We received the support from Professor in a letter, he provided some useful advice on its adaptation, and he also sent us a questionnaire developed for parents and their study published on this topic.

During the translation of CATCH attitude scale into Hungarian, we conducted a simplified version of the translation protocol developed by Beaton et al. (2000). We have chosen CATCH attitude scale to use it in our research due to its good psychometric properties (Vignes et al., 2008); it measures all three dimensions of attitudes (i.e. affective, behavioral and cognitive components), self-filling, and its sentences can be interpreted well for children irrespective of cultural factors, and could easily be adapted into Hungarian (Pongrácz, 2011, 2012).

The attitude scale has been successfully used and applied in several countries (Rosenbaum et al., 1986; Tirosr et al., 1997; Holtz & Tessman, 2007; Vignes et al., 2009; Bossaert et al., 2011; Olaleye et al., 2012; de Laat et al., 2013; Osmanaga, 2013; Blackman, 2016), it reliably measures children between 9 and 13 years old (i.e. children who attend at primary school and is able to read well), and even later papers discuss applications with children up to 22 years old (Bossaert et al., 2011; de Laat et al., 2013).
D) As you see yourself (Self-esteem scale)

We completed the questionnaires filling in by Susan Harter's so-called "Global Self Worth Subscale". The translation of this self-esteem scale into Hungarian was based on a simplified version of the translation protocol developed by Beaton et al. (2000) – similarly described at CATCH attitude scale.

This scale is a part of Self Perception Profile for Children (a.k.a SPPC) investigation procedure (Harter, 1985), which was created for 8-15 years old children, i.e. from 3rd grade till 8th grade. The SPPC questionnaire procedure is widely used to investigate children’ self-image and self-esteem. Self-esteem can be seen as an important predictor of child welfare and mental health. Harter considers self-esteem as the evaluation aspect of the self-system, which is related to an image of self-ideal. When there is only a small difference between the ideal and the perceived real/true self, we have a high self-esteem, but if this discrepancy gets bigger, our self-esteem becomes lower. The used "Global Self Worth Subscale" is a general measure that expresses how children like themselves, are satisfied with themselves or with their lives.

Characteristics of the research sample

Our sampling method was not a probability sample selection for the pilot survey, rather we had selected a school in which we know that children with disabilities were integrated with ordinary mainstream students during the study period.

The pilot survey was recorded in the spring of 2012 in two fifth and two seventh grades of an integrating primary school in Gödöllő. 87 out of 101 students filled out with their parents' consent. The age of respondents was between 11.0 years and 14.8 years at that time.

In the large sample analysis, random sampling was performed to obtain a balanced sample. Our investigations were conducted in the year of 2013 and 2014 with 211 students of 6 randomly selected mainstream schools. The data was collected via online (using an Internet-based questionnaire filling application) and offline (on paper) methods.
Statistics
In our research, we first conducted univariate analyses to find out the mean, variance, and quartiles of CATCH values. Based on these analyses, the Hungarian scores were lower compared to the foreign CATCH measurements both in the pilot survey and the large sample analysis.

The reliability of the Hungarian version of CATCH attitude scale and Harter self-esteem scale was calculated using the following methods:
- Calculating Cronbach-alpha for the full scale and the subscales (cognitive, affective and behavioral)
- Testing Cronbach-alpha stability using several measures: scale mean without a given item, scale variance without a given item, item-total correlation, item-rest correlation and Cronbach-alpha without a given item,
- Investigating the difference of the later measure and the full Cronbach-alpha

On CATCH attitude scale and on Harter’s self-esteem scale, face, predictive and construction validity were investigated. For the internal construction validity test, a well-known method of item-response theory called Mokken scale analysis was applied (Mokken, 1971, 1997).
We then studied the correlations between the factors described in the research questions and the attitude values using multivariate analyses (ANOVA, regression analysis, cluster analysis) and significance tests (single and two-sample t-test, Welch test). We classified the sample into subclasses (5-6th, 7th, 9th, 12th-grade students, or girls-boys, or relationship with a disabled person – e.g. brother, relative, etc.), then we executed these correlation tests between the factors and the attitude values also for the subgroups.

Summarizing the results
1. The Hungarian mainstream students’ measured attitude values using CATCH attitude scale
Based on the pilot survey and our large sample analysis, similarly to international research results, CATCH attitude scale is a reliable and valid measuring tool.

Based on the pilot survey and our large sample analysis, we can conclude that the results of the Hungarian students involved in our research (average score of 23.09 in pilot survey, and the average score of 22.21 points in large sample analysis) indicate that the average score is similar
to the lower values of the results reported in international research (between 22.55 and 32.4 points), i.e. they have a similar average score as Nigerian (Olaleye et al., 2012), Albanian (Osmanaga, 2013) and Barbados (Blackman, 2016) researchers.

2. Correlations between the investigated factors and the attitude towards peers with disabilities

The most frequently investigated factor in the literature is the gender of respondents. When we analyzed the correlations within the whole sample, we did not find any significant differences between the scores of girls and boys. In our large sample analysis, we also investigated these correlations per grades: in 5-6th grades and in the 9th grade the girls, in the 7th grade the boys proved to be more acceptive, while the boys and girls of the twelfths did not show any deviation in their attitudes towards the peers with disabilities.

While investigating the correlation between age and attitudes, we conclude in the pilot survey that the higher attitudes of fifth-grade students show a significant difference compared to sevenths, i.e. fifth graders are more acceptive than the older students. By analyzing our large sample, the average attitudes of fifth graders are slightly higher than the values of the seventh graders, and the average score of secondary school students is significantly higher than the value of primary school students.

According to our research relationships with disabled people do not mean a clearly more positive attitude. Based on our investigations we can state that there was no correlation between the presence of a disabled friend and the measured attitude values. The correlation between acquaintance with the disabled and attitudes towards the peers with disabilities is still questionable: in the pilot survey, we found a correlation between contact with disability partners and a more positive attitude, but we did not succeed in detecting it during the large sample analysis.

We did not find any correlations between the prior knowledge and the positive attitude in the full sample of the pilot survey, but if we continued our analyses per grades, we found that there was a correlation between prior knowledge and attitudes among the fifth graders.

According to the investigations executed on the large sample, students with prior knowledge on disability has more positive attitude, although we would note that in the seventh grade the correlation between prior knowledge and attitudes is weaker.
Analyzing the correlation between self-esteem and attitudes, we can conclude that both the results of the pilot survey and the studies on the larger sample did not establish any relationships between this factor and the attitudes.

In the course of our investigations, we found that in case of seventh-grade students a better quality of life was associated with a more positive attitude, and in the other grades, among the fifth, ninth and twelfth-grade students, there was a smaller correlation between worse quality of life and attitude scores.

There was no significant correlation between the opinion on the class community and attitude values either in the pilot survey or in our large sample study. It means if a student feels well in his classroom, this does not imply more positive attitudes towards peers with disabilities.

**Limitations of the research**

In our research, we generally investigated the attitudes of mainstream students with disabilities, thus we did not carry out more profound investigations about the attitudes towards children with different types of disability. This was primarily since the research methodological difficulties encountered in the English-language literature meant that it was more appropriate to investigate the attitudes towards peers with the commonly-formed disability, following the concept of the authors of CATCH attitude scale as well as the authors of several subsequent studies.

The aim of our research on attitudes is another limitation of our investigation, since according to our objectives we only examined the attitudes of mainstream students, ignoring other important actors in school integration and inclusion, i.e. teachers, special education teachers, parents, etc.

In our study on a large sample, we made a probability sampling scenario which had some disadvantages: while students from integrating schools participated in our research, at the recording time of the questionnaire, as it turned out, respondents did not have a classmate with disabilities, only a part of them had a disability friend, schoolteacher, acquaintance or a relative. Consequently, the effect of the disabled classmate on the attitudes has not been analyzed in our present study, rather the effects of the aforementioned factors cited in the literature have been investigated more thoroughly.
Cross-sectional research has been carried out with a clear limitation that we can crawl only the actual attitude measured at the time of the survey. By repeating the recording of questionnaires, we can gain additional important and reliable data on the student's attitudes and the factors that influence them.

**Outline: the usefulness of research and the possibilities of future investigations**

According to the international and domestic research studies, there is no longer a professional debate about why students with special educational needs are necessary and relevant for school inclusion. Therefore, the focus moved on investigating how this process can be achieved so that we could ensure the social participation of all students with special educational needs in the class community.

Investigating the social dimension of inclusion plays a key role, since – as we pointed out in answering the research questions – it is the case that students with a mainstream and special educational needs study in the same classroom, it does not automatically lead to more mutual social interaction, acceptance, and friendships (Bossert et al., 2011; Schwab, 2017). By investigating the attitudes of mainstream students to peers with disabilities, we have the chance to predict the potential behavior of the students towards peers with disabilities, and according to the knowledge of their attitudes, we as teachers can make some steps to support the social inclusion and to change the attitudes.

In our present study, we attempted to map the attitudes of mainstream students towards peers with disabilities based on samples of primary and secondary students. Hereby, we are filling the gap in the Hungarian special pedagogical literature, since no Hungarian empirical research results have been yet published on this topic.

Another important achievement of our research is that we have successfully adapted two test methods with good psychometric characteristics, CATCH attitude scale and Harter's "Global Self Worth Subscale" in Hungarian. By adapting CATCH attitude scale, Hungarian researchers can measure the attitudes of primary school and secondary school students towards peers with disabilities using an objective test procedure.

In this topic, we are recommending and planning to continue our investigations in many directions.
From Allport's contact theory (Allport, 1954) it would be worth measuring the attitudes of students using CATCH attitude scale both in integrating classrooms (i.e. where a student with disabilities also studies) and in non-integrating classrooms (i.e. only in mainstream class communities). Furthermore, in the integration classes, we should investigate students' social situation and their relationships to each other using the technique of sociometry and a multi-faceted questionnaire. By combining the application of these two test methods our opinion is that we could map out the deeper, more complex relationships behind the successful or even unsuccessful social integration.

Furthermore, in the near future, we would like to investigate not only the mainstream students but also the attitudes of special education teachers and parents, so that we can explore the attitude of two other important actors involved in the social integration of disabled students and its impact on the attitudes of mainstream students.

The attitude of teachers is planned to explore using the translated version of Larrivee's "Opinions Relative to the Integration of Students with Disabilities" (a.k.a ORI) questionnaire. In the translation of this tool dr. Yvonne Csányi, Professor at ELTE Bárczi Gusztáv Faculty of Special Needs Education also participated. The statements of this 25-items questionnaire can be grouped into four factors: the advantages of integration, the organization of an integrating class, the feeling about the ability to teach SNI students, and the opinions of special and mainstream education. The questionnaire has good psychometric properties, studies have reliably demonstrated its reliability and homogeneity (Antonak és Larrivee, 1995; Cook, 2002; Pierce, 2007).

In the 1980s, Rosenbaum et al. (1987) developed Parental Attitudes Towards Children with Handicaps (a.k.a PATCH) questionnaires based on the CATCH attitude scale. The questionnaire of 30 items is currently under translation.

As we mentioned above, we investigated only attitudes towards children with disabilities. Consideration should be given to assessing attitudes towards students belonging to other sub-categories of special educational needs or disabilities not in general, but more specifically in future studies.
Of course, this may induce a wide range of research methodological problems and may raise a dilemma:

- The attitudes of students towards peers with which disability category should we investigate? Should we focus on students with sensory, locomotor or with intellectual disabilities?
- Should we focus more on children with less visible appearance but with very different special educational needs? Should we prefer students with autism spectrum disorder or ADHD?
- How should we explain the specific features of each category of specific educational needs to the respondents? Should we use a video or short description, or a teacher's presentation, a tale?
- In case of using a video recording, who should participate in this? A parent? A child? A boy? A girl?
- Should we present the visible features or not?
- Should we expose the positive or rather the negative properties during the presentation?
- etc.

We recommend that the age as one of the most important factors affecting attitudes should be investigated on a larger sample including several grades and different types of schools: for instance, in primary school until 5th-8th grades, while in secondary school between the grades of 9th to 12th (13th).
References


(download date: 29. October 2017)


Papers published within the scope of the Ph.D. dissertation

Books, book chapters

Studies published in journals


Conference papers and conference presentations in Hungarian


**Conference papers and conference presentations in English**

