



Article

Validation of the Perceptions of Inclusion Questionnaire including PE Teachers' Opinion as Part of an Innovative Use of the Tool

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Abstract: The aim of the study was to validate the Polish version of the Perceptions of Inclusion Questionnaire (PIQ) for the first time. The analysis included not only pupils, parents/legal guardians, and teachers but also physical education teachers, which is an innovative solution proposed by the authors. The sample consisted of 448 respondents. Confirmatory factor analysis showed that the tested model corresponding to the construct proposed by the PIQ authors did not have good fit indicators ($\chi^2/df = 7.73$; CFI = 0.855; SRMR = 0.103; RMSEA = 0.123). The three-factor structure of the questionnaire was confirmed by the eigenvalues obtained for each extracted factor based on the Kaiser criterion and the scree plot based on the Cattella criterion. All three factors showed satisfactory levels of reliability (Cronbach's alpha > 0.7). The conditions of convergent and discriminant validity for the construct were confirmed. However, Horn's parallel analysis showed that the optimal number of factors is 4. Therefore, the research presented here should constitute a starting point for further analyses. It is recommended that research teams should conduct further scientific exploration of the PIQ tool in four perspectives, i.e., including PE teachers' opinions.

Keywords: inclusion; school; pupils; parents; teachers; PE teachers; well-being



Citation: Zwierzchowska, A.; Kostorz, K.; Rosolek, B.; Tomińska-Conte, E. Validation of the Perceptions of Inclusion Questionnaire including PE Teachers' Opinion as Part of an Innovative Use of the Tool. *Sustainability* **2022**, *14*, 3241. <https://doi.org/10.3390/su14063241>

Academic Editors: Amador Jesús Lara Sánchez, Manuel Castro Sanchez and Ramón Chacón Cuberos

Received: 22 January 2022

Accepted: 7 March 2022

Published: 10 March 2022

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1. Introduction

It is emphasized that the main task of school should be to include each pupil, regardless of gender, age, place of residence, race, poverty, degree of disability, ethnicity, indigeneity, language, religion, migration or displacement status, sexual orientation or gender identity and expression, incarceration, beliefs, and attitudes in the education process [1–4]. Many publications have indicated that the issues of inclusion are not only an interesting social problem, but above all, they are significant for the proper social and emotional development of pupils [5–8]. There is no doubt that for pupils, the class is an important, if not the most important, group to which they belong, in which interpersonal bonds of a special nature are established [7,8]. Ganotz et al. [9] emphasized that to have friends in the class seems to be important to defend negative threats and pursue a positive development. These authors noticed that peer relations in class are important not only for resilience, self-esteem, and well-being but also for other skills. It was shown that social inclusion in the classroom was statistically significant to promote resilience [9], and that pupils who feel personally accepted and integrated reported higher satisfaction in life [10,11]. Furthermore, Schwab and Rossmann [12] examined well-being in class in relation to their psychical health and found that positive school well-being is related to fewer psychosomatic complaints and higher subjective health and linked the teacher–pupil relationship and peer relations to depressive symptoms. It is also suggested that social competences, social withdrawal, aggressiveness, and cognitive abilities are important factors for social inclusion in school classes [13,14]. It should be emphasized that the phenomenon of loneliness or rejection is common, universal, and concerns all pupils, regardless of their nationality or social status.

The sense of alienation does not only affect pupils with disabilities and sensory-motor deficits but also those who coexist with them. DeVries, Voß, and Gebhardt [15] underlined that although school inclusion is an important right of pupils in school systems around the world, many pupils, not only those with special education needs (SEN), have lower perceptions of inclusion.

Schwab et al. [3] underlined that within schools, teachers are primarily responsible for the evaluation of their pupil's current levels of functioning as doing so allows teachers to adapt their daily decisions to the pupil's individual needs—for instance, offering additional support lessons. This is one of the reasons why the assessment of the perception of inclusion in the education process is extremely important. It seems that the lack of homogeneous tools and groups of participants that take into consideration the multitude of disturbing factors does not allow for unequivocal interpretation of the sense of being included in the process of school education.

The development of the tool which could provide an easy-to-use screening instrument for school practice and support the early identification of the lack of school inclusion was a very important issue. It is indicated that emotional inclusion, social inclusion, and academic self-concept can be noted as central key issues of inclusion [8]. In response to the above challenge, a European team [8,16] developed and implemented a tool for the assessment of inclusion termed the Perceptions of Inclusion Questionnaire (PIQ). Furthermore, DeVries, Voß, and Gebhardt [15] and Schwab, Zurbriggen, and Venetz [3] also recommend the continued use of the Perception of Inclusion Questionnaire for collecting information about school inclusion and learners.

Although the PIQ is currently available in 24 languages, and in different countries studies are under way or have been published [8,16–19], the validation studies mentioned concern only the German and French versions of the PIQ. Its psychometric properties were demonstrated in a study of 823 German-speaking Swiss pupils (mean age 12 years), including 190 pupils with SEN [8]. The PIQ proved to be a reliable tool, particularly at the lower levels of the scales indicating limited inclusion.

The PIQ has been extended for use with pupils in grades 3 to 9 [16]. Subsequently, the teacher version (PIQ-T) was tested and the consistency between teachers and pupils was evaluated [16,20]. More recently, the parent version (PIQ-P) showed good psychometric qualities [3].

Guillemot and Hessels [18] indicated that since the PIQ's psychometric properties cannot be considered universally valid, it is important to scrutinize the instrument's characteristics in other cultural and linguistic zones in which it is applied. The lack of any publications in the literature concerning the factorial validity, internal consistency, and test-retest reliability of the Polish version of the PIQ inspired us to investigate this problem. Therefore, the aim of this paper was to investigate some psychometric properties of the Polish version of the PIQ, such as its factor structure and convergent validity. An innovative solution used by our team of researchers is to address the PIQ questionnaire to PE teachers, i.e., to introduce an additional fourth perspective in the assessment of the pupil's sense of inclusion in school education.

The additional assessment form for PE teachers is intended to collect and verify the information about their role in developing the sense of school inclusion juxtaposed with the opinions of the teachers, parents, and pupils. There is no doubt that the role of a physical education teacher is to support the social, emotional, and cognitive inclusion of pupils in the educational process. The measures used are motivating, appropriately selected forms of physical activity and counteracting barriers to taking up physical activity [21]. This is especially important in the context of the integration of pupils with special educational needs [22–25]. The special preparation of PE teachers for inclusive education is crucial [22,23,26,27]. The PE teacher can be perceived as an initiator of involving pupils in the educational process, regardless of their diversity. There is empirical evidence of various attitudes of teachers towards pupils (including PE teachers) determined by the type of disability [22,26,28,29]. It is also indicated that physical education at school is one of the

elements that affect the perception of inclusion in the school environment by the pupils. It is through sporting activity that the pupils' emotional potential to break down barriers is developed while PE classes undoubtedly represent a source of learning new motor skills and raising the level of physical fitness. The pupil acquires movement skills and social competences through cooperation and competition, which significantly contributes to the development of his or her emotional stability [30]. Today, the overriding principle of education is to take into account diversity, and even more, to nurture and support diversity so that every pupil feels included in school education. At the same time, the problems of physical activity at school are not often presented from the perspective of pupil inclusion. Therefore, it seems that identification of the phenomenon of exclusion in mass, inclusive, and special schools in relation to the level of physical activity of their pupils may allow for the development of effective pedagogical strategies. It seems that for the assessment of inclusion in various Polish education systems (mass, inclusive, or segregating system), the use of feedback in four perspectives may have a significant contribution to the science in the field of the theory of adapted physical activity and thus the health sciences, especially taking into account the aspect of the pupil's mental health.

Furthermore, given the importance of PE classes for the child's biological development, it seems to be critical to examine the PE lesson environment as one of the major weaknesses or strengths of inclusion. This is because the physical education classes stimulate and trigger various types of pupils' behavior affecting the class environment. To support the above thesis of extending the PIQ tool with the fourth dimension, it is worth quoting a study by Lindsay [31], who argues that the lack or incomplete diagnosis of inclusion leads to the poor effectiveness of school operations.

Taking into account all issues mentioned above, the aim of the study was to investigate whether the Polish version of the PIQ can be effectively used in further research. This paper presents the validation of the PIQ tool for four perspectives, i.e., pupils, parents/legal guardians, teachers, and PE teachers, which is an innovative solution proposed by the authors.

2. Material and Methods

2.1. Participants and Measures

The research was conducted in 2018–2019 in the Silesia Voivodeship (Tychy and Zabrze). Non-probability consecutive sampling was applied in the analysis. The following exclusion criteria were adopted in the study: no consent of the participant and/or legal guardian, no normal intellectual functioning, medical contraindications (behavioral dysfunctions, psychoses), contraindications by a psychologist and/or pedagogue, multiple intellectual disabilities of the motor organ, vision, or other problems that make it impossible to understand the PIQ questionnaire. With the above-mentioned exclusion criteria, 448 respondents underwent final analysis. The sample consisted of 112 pupils aged 10–16 years attending mass, integrated, and segregated schools, 112 parents or legal guardians, 112 teachers, and 112 PE teachers. The study involved both healthy pupils without any sensory-motor dysfunctions and deficits and children and adolescents with slight disorders that did not exclude them from completing the questionnaire. According to the instructions, pupils with intellectual disabilities were excluded from the survey. All individuals gave written consent to voluntarily participate in the research. In the case of minors, consent was obtained from the parents or legal guardians.

The PIQ is based on the German self-report Questionnaire for Assessing Dimensions of Integration of Students (FDI 4–6; Haeberlin, Moser, Bless, and Klaghofer [32]. The tool is dedicated to people directly involved in the school inclusion process, i.e., (1) pupils in the situation of school inclusion, (2) parents, and (3) teachers. All the above-mentioned individuals fill in the questionnaire, which contains 12 statements. It is worth adding that the items are short and use accessible wording. The Perceptions of Inclusion Questionnaire (PIQ) [8] addresses three relevant issues in this regard, namely the pupil's perception of (1) emotional inclusion (item 1, 4, 7, 10), (2) social inclusion (item 2, 5, 8, 11), and (3)

academic self-concept (item 3, 6, 9, 12). The development of the short PIQ scales included evaluation of the construct validity of the scales [16]. Respondents needed approximately 5 min to complete the PIQ. The task of the respondent is to rank the particular statements using a 4-point Likert scale, where 1 meant ‘not at all true’, 2—‘somewhat not true’, 3—‘somewhat true’, and 4 stood for ‘certainly true’. Reverse coding was used for the negatively formulated items, i.e., items 4, 8, and 12. Subscale scores were obtained by summing the ratings of the four items in each scale. The Perceptions of Inclusion Questionnaire (PIQ) has been translated into different languages. The examinations of psychometric properties of the German and English versions of the PIQ revealed that the tools meet high psychometric standards.

The lack of any publications in the literature concerning the factorial validity, internal consistency, and test-retest reliability of the Polish version of the PIQ inspired us to investigate these issues. The tool was downloaded from the website http://piqinfo.ch/wp-content/uploads/2021/01/PIQ-Polski_2021.pdf (accessed on 12 January 2022).

Approval was obtained from the Bioethics Committee of the Academy of Physical Education in Katowice (Resolution No. 2/2018 as of 21 June 2018). This paper presents the validation of the PIQ tool for four dimensions including PE teachers’ opinions. The present study was conducted according to the guidelines of the Declaration of Helsinki (Act No 9/2012 of 8 March 2012).

2.2. Statistical Analysis

The distribution of the results for the whole sample differs from the normal distribution for all the variables studied (Shapiro–Wilk $W > 0.81$; $p < 0.001$). The study revealed cases of asymmetric (skewed) distributions. However, all variables fell within the range of $< -1, 1 >$, both for the whole sample and irrespective of the pupils, parents/legal guardians, teachers, and PE teachers. Therefore, it was assumed that the distribution of the variable studied was moderately asymmetric. The kurtosis (Ku) for all variables in each group fell within the range of $< -2, 2 >$, indicating that the concentration around the mean value was satisfactory. The analysis was performed using Microsoft Office Excel 2010 and StatSoft Statistica v. 12 software. The purpose of the study was to examine the factorial validity, internal consistency, and reliability of the Polish version of the PIQ.

3. Results

The descriptive statistics are presented in Table 1.

Table 1. Descriptive statistics.

Group	Factors	<i>M</i>	<i>Min.</i>	<i>Max.</i>	<i>SD</i>	<i>As</i>	<i>Ku</i>
Whole sample	Emotional inclusion	11.26	4.00	16.00	1.75	−0.14	1.03
	Social inclusion	11.15	6.00	16.00	1.86	−0.20	0.23
	Academic self-concept	10.67	4.00	16.00	1.96	−0.50	0.33
	Summary PIQ items	33.08	22.00	46.00	3.96	−0.19	0.13
Pupils	Emotional inclusion	11.30	4.00	15.00	1.85	−0.63	1.51
	Social inclusion	11.43	7.00	16.00	1.82	0.12	0.24
	Academic self-concept	10.58	4.00	14.00	1.68	−0.65	1.70
	Summary PIQ items	33.31	24.00	44.00	3.68	0.16	0.55
Parents or legal guardians	Emotional inclusion	11.13	5.00	16.00	2.09	0.01	0.25
	Social inclusion	11.21	6.00	16.00	2.03	−0.07	0.26
	Academic self-concept	11.03	5.00	16.00	2.06	−0.48	0.53
	Summary PIQ items	33.36	22.00	46.00	4.35	−0.18	0.63
Teachers	Emotional inclusion	11.21	8.00	16.00	1.44	0.28	1.20
	Social inclusion	11.01	6.00	16.00	1.91	−0.37	−0.13
	Academic self-concept	10.26	5.00	13.00	2.17	−0.45	−0.53
	Summary PIQ items	32.47	23.00	40.00	3.98	−0.31	−0.36
PE teachers	Emotional inclusion	11.42	8.00	16.00	1.53	0.21	0.72
	Social inclusion	10.97	7.00	14.00	1.64	−0.69	0.05
	Academic self-concept	10.80	5.00	15.00	1.82	−0.48	0.19
	Summary PIQ items	33.20	25.00	40.00	3.78	−0.39	−0.74

In the first step, confirmatory factor analysis (CFA) was performed to confirm the 3-factor structure of the PIQ questionnaire proposed by the authors of the PIQ. Items 1, 4(-), 7, and 10 belong to the Factor 1—‘emotional inclusion’, items 2, 5, 8(-), and 11 to the Factor 2—‘social inclusion’, and items 3, 6, 9 and 12(-) to the Factor 3—‘academic self-concept’. CFA is based on a strong theoretical foundation that allows the researcher to specify an exact model in advance [33]. The maximum likelihood (ML) method was used to estimate the parameters. The model is shown in Figure 1.

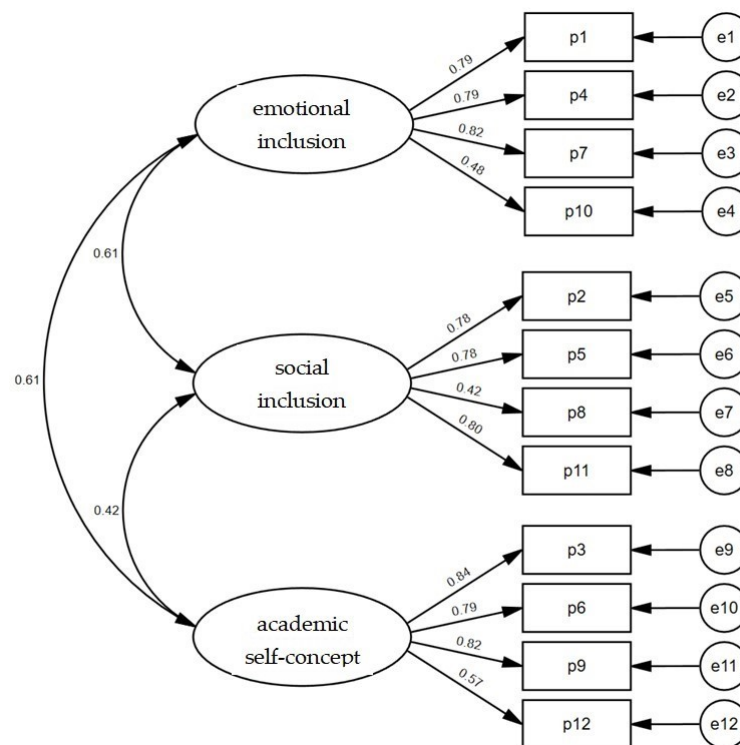


Figure 1. CFA for PIQ questionnaire.

The analysis revealed a lack of fit of the model to the data as the normalized chi-square index (χ^2/df) was 7.73, the comparative fit index (CFI) was 0.855, the standardized root mean square residual (SRMR) was 0.103, and the Steiger–Lindt root mean square error of approximation (RMSEA) was 0.123. CFA was then performed by dividing into the four groups analyzed (Table 2).

Table 2. CFA model fit indices for PIQ in the study groups.

Group	χ^2/df	CFI	SRMR	RMSEA
Pupils	2.94	0.790	0.105	0.132
Parents or legal guardians	2.55	0.827	0.108	0.118
Teachers	4.04	0.824	0.130	0.166
PE teachers	3.33	0.865	0.085	0.145

As can be seen from the data in the table above, the analysis showed that the model was not well fitted to the data in any group. As the assumed PIQ structure was not confirmed, exploratory factor analysis using the principal component method with orthogonal Varimax rotation was conducted. Exploratory factor analysis and principal component analysis are two data analysis methods that are commonly used in psychological research [34]. When applying these techniques, it is important to determine how many factors to retain. This decision is sometimes based on a visual inspection of the scree plot [34]. The scree plot is one of the most common methods used for determining the number of components to

extract [33]. Taking into account the above-mentioned issues, the scree plot was made in the first step (Figure 2).

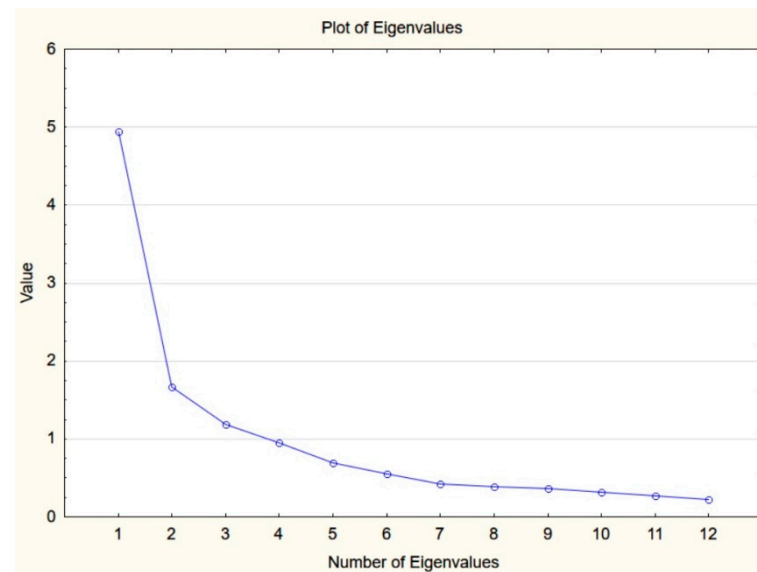


Figure 2. Scree plot.

As seen in the scree plot, the three-factor structure of the questionnaire was confirmed based on the Cattella criterion. The scree plot is a line graph showing the eigenvalues, the rate at which they decline, or the percentage of variance explained. Determining the number of principal components left is done by identifying the point of the smallest slope, and then, from that point rightwards, the eigenvalues are rejected as they represent a negligible portion of the variance. However, it should be emphasized that a major weakness of this procedure is that it relies on visual interpretation of the graph. Because of this, the scree plot has been accused of being subjective [33]. It is indicated that the scree plot not be used as a stand-alone procedure in determining the number of components to retain [33]. According to Kanyongo [33], researchers should therefore use it with other procedures, for example, the parallel analysis.

It is indicated that the concept of an eigenvalue is important in determining the number of components retained in principal component analysis [33]. This is why, in the next step, the eigenvalues were estimated based on the Kaiser criterion related to correlation matrix analysis (Table 3). Kaiser criterion considers only the components whose eigenvalue exceeds or is close to 1.

Table 3. Eigenvalues for the distinguished factors.

Value	Eigenvalue	% Total Variance	Cumulative Eigenvalue	Cumulative %
Factor 1	4.95	41.24	4.95	41.24
Factor 2	1.67	13.89	6.62	55.14
Factor 3	1.19	9.90	7.80	65.04

Factor 1—‘emotional inclusion’; Factor 2—‘social inclusion’; Factor 3—‘academic self-concept’.

The three-factor structure of the questionnaire was confirmed by the eigenvalues obtained for each extracted factor based on the Kaiser criterion (Table 3). The presented data imply that the cumulative percentage of explained variance of the three analyzed factors in total explains over 65% of the variance. Taking into account the scree plot and the eigenvalues, it was assumed that the most significant issue concerning the perception of inclusion is Factor 1, i.e., ‘emotional inclusion’.

In the next step, Horn’s parallel analysis was used (Figure 3) based on Kanyongo’s [33] suggestions.

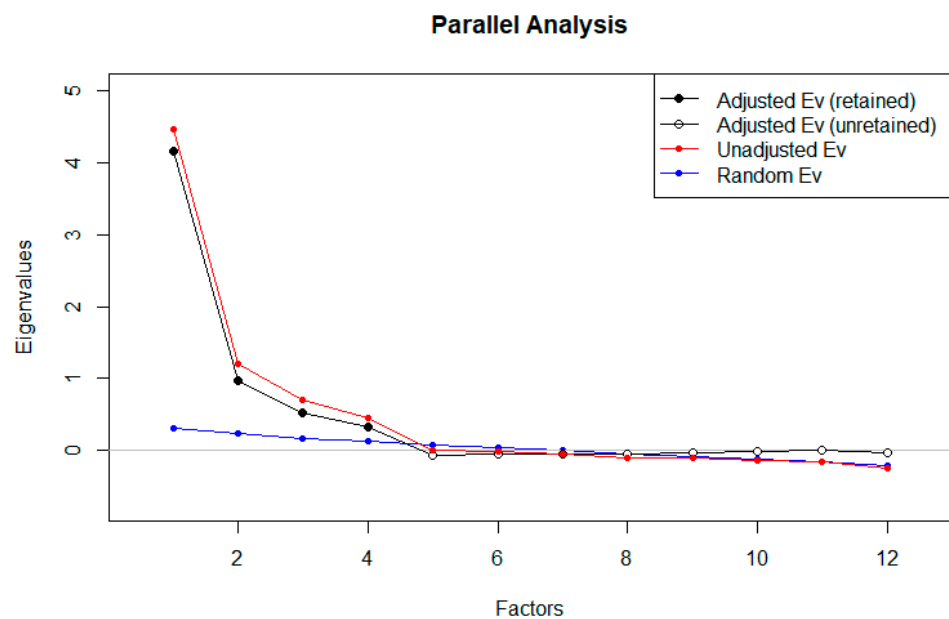


Figure 3. Horn’s parallel analysis.

As can be seen in the chart above, the analysis showed that the optimal number of factors is 4.

Since the original version of the questionnaire consists of three factors, the 3-factor solution was adopted. The values of the factor loadings are presented in Table 4.

Table 4. Exploratory factor analysis.

	PIQ Item:	Factor 1	Factor 2	Factor 3
Emotional inclusion Factor 1	Item 1: I like going to school.	0.80 *	0.22	0.27
	Item 4: I have no desire to go to school.	−0.06	0.36	0.66
	Item 7: I like it in school.	0.72 *	0.34	0.27
	Item 10: School is fun.	0.27	0.49	0.21
Social inclusion Factor 2	Item 1: I like going to school.	0.80 *	0.22	0.27
	Item 5: I get along very well with my classmates.	0.19	0.80 *	0.06
	Item 8: I feel alone in my class.	−0.39	0.58	0.50
	Item 11: I have very good relationships with my classmates.	0.29	0.77 *	0.09
Academic self-concept Factor 3	Item 1: I like going to school.	0.80 *	0.22	0.27
	Item 6: I am able to solve very difficult exercises.	0.16	0.04	0.80 *
	Item 9: I do well in my schoolwork.	0.36	0.15	0.74 *
	Item 12: Many things in school are too difficult for me.	0.19	0.19	0.66
% total variance		41.24	13.89	9.90
Reliability		0.82	0.77	0.83

* indicates significant factor loadings ($p < 0.05$). Factor 1—‘emotional inclusion’; Factor 2—‘social inclusion’; Factor 3—‘academic self-concept’.

All three factors showed satisfactory levels of reliability (Cronbach's alpha > 0.7). In the original version of the questionnaire, items 4 and 10 belonged to the 'emotional inclusion' factor. In the current version, item 4 belongs to 'academic self-concept' and item 10 to 'social inclusion'.

Cronbach's alpha coefficient was calculated to test the reliability of all three factors in each of the four study groups (Table 5).

Table 5. Analysis of the reliability of scales for groups of pupils, parents, teachers, and PE teachers.

	Factor 1		Factor 2		Factor 3	
	Cronbach's Alpha	Number of Items	Cronbach's Alpha	Number of Items	Cronbach's Alpha	Number of Items
Pupils	0.82	2	0.74	5	0.80	5
Parents or legal guardians	0.80	2	0.59	5	0.76	5
Teachers	0.84	2	0.81	5	0.89	5
PE teachers	0.85	2	0.88	5	0.85	5

The results of the analysis indicate that for Factor 2 in the groups of parents, the reliability was found to be poor ($0.5 \leq \alpha < 0.6$), whereas other factors in each group showed at least satisfactory levels of reliability ($\alpha > 0.7$).

Convergent and discriminant validity for PIQ was estimated using the procedure proposed by Fornell and Larcker [35] (Table 6).

Table 6. Summary of convergent and differential validity analysis for PIQ.

	CR	AVE	MSV	Factor 1	Factor 2	Factor 3
Factor 1	0.82	0.70	0.32	0.837		
Factor 2	0.80	0.45	0.32	0.569 ***	0.673	
Factor 3	0.84	0.53	0.31	0.559 ***	0.457 ***	0.725

Factor 1—'emotional inclusion'; Factor 2—'social inclusion'; Factor 3—'academic self-concept'. ***— $p < 0.001$.

As can be seen from the data in the table above, discriminant validity was confirmed for all factors as AVE (average variance extracted) > MSV (maximum shared variance). Furthermore, convergent validity for Factor 1 and Factor 3 was also confirmed. The AVE value was higher than 0.5 and at the same time lower than composite reliability (CR). For Factor 2, the AVE value was less than 0.5, as it was 0.45. According to the theory proposed by Fornell and Larcker [35], this AVE value is acceptable if the CR value is greater than 0.6. Therefore, it can be assumed that the conditions of convergent and discriminant validity for the construct were confirmed.

4. Discussion

Most countries now have policies and/or legislation suggesting the need to include all learners (e.g., United Nations [4]. However, Schwab, Sharma, and Loreman [7] indicated that it remains unclear if schools truly include all learners and provide them with best developmental possibilities instead of simply physically placing different pupils in the same classrooms. There is no doubt that asking pupils to report how they feel about being included provides a new and innovative way to examine how well the inclusive education policies are implemented. Equally important is the information from people who are directly involved in the school inclusion process i.e., parents and teachers [36]. Therefore, the popularization of a tool such as PIQ (<https://piqinfo.ch/>) (accessed on 12 January 2022) allows for a unified assessment of the perceptions of inclusion in the school education. The development of the tool which could provide an easy-to-use screening instrument for school practice and support the early identification of insufficient school inclusion is a very important issue. In order for this to be possible, it is necessary to validate the tool by taking into account a country's systemic conditions and the cultural and linguistic context [8,18,37,38]. In response to the above challenge, our research team made the first

attempt to validate the Polish version of the PIQ. An innovative solution used by our team of researchers was to address the PIQ questionnaire to PE teachers, i.e., to introduce an additional fourth perspective of the assessment of the pupils' perception of inclusion in school education. The additional assessment form for PE teachers is intended to collect and verify the information about their role in developing the perception of school inclusion juxtaposed with the opinions of the teachers, parents, and pupils [21–23,39,40].

The confirmatory factor analysis performed in the present study showed the lack of fit of the data to the model proposed by the authors of the PIQ both for the entire sample and with the inclusion of specific groups, i.e., pupils, parents, teachers, and PE teachers. The results partly correspond to those presented in a study by Guillemot and Hessels [18], but are not consistent with the results of other authors [8,41]. Therefore, we used the exploratory factor analysis using the principal component method with orthogonal Varimax rotation. In our research, the three-factor structure of the PIQ proposed by the authors of the PIQ [8] was confirmed based on both the Cattella and Kaiser criteria. At the same time, it turned out that factor loadings for item 4, item 8, item 10, item 12 were insignificant because $p > 0.05$. Furthermore, in the original version of the PIQ questionnaire, items 4 and 10 belonged to the 'emotional inclusion' factor [8]. In our study, item 4 belonged to 'academic self-concept' and item 10 to 'social inclusion'. The results clearly support the observations of the tool's authors regarding the need for linguistic verification of the PIQ's statements, which should be culturally consistent [8,16–19].

In the present study, based on the theory of Fornell and Larcker (1981), the conditions of convergent and discriminant validity for the construct analyzed were confirmed. At the same time, all three identified factors, i.e., 'emotional inclusion', 'social inclusion', and 'academic self-concept', had satisfactory levels of reliability (Cronbach's alpha > 0.7). It should be emphasized that in our study, the reliability analysis taking into account the division into groups showed that in the case of PE teachers, Cronbach's alpha had the highest values both for Factor 1 ('emotional inclusion') and Factor 2 ('social inclusion'), and very high for Factor 3 ('academic self-concept') compared to the results obtained by pupils, parents/legal guardians, and teachers. It seems that for the assessment of inclusion in various Polish education systems (mass, inclusive, or segregating system), the use of feedback from four perspectives, i.e., pupils, parents/legal guardians, teachers, and PE teachers, may contribute significantly to the science in the field of the theory of adapted physical activity and thus the health sciences, especially taking into account the aspect of the pupils' mental health. This thesis corresponds with findings from research on the effectiveness of integrative and inclusive activities of PE teachers in the teaching process [21,23,39].

5. The Limitations of the Study

There is no doubt that the results presented in the study have several limitations. It should be noted that the perceptions of inclusion are not constant but characterized by certain dynamics and changeability over a lifetime. The awareness of these phenomena makes one approach any results obtained in a given moment with considerable caution. The findings of the present study cannot be considered fully conclusive. Moreover, because of the sample size, the research presented here should be viewed as a starting point for further analyses. Among the possible areas of expanding this research project, longitudinal studies with the application of a cross-sectional and sequential analysis design seem justified. This would allow the stability of the tool to be assessed. It also seems that it is advisable to perform parallel analyses in other areas of Poland. Furthermore, taking into account the respondents' education and place of residence (by city and country) would contribute to a more expanded analysis. In this way, the exploration of the subject area and the conclusions could become more comprehensive and more valuable. The conclusions from the study show that despite social, civilizational, and legislative evolution oriented towards inclusion, the problem remains to be worth exploring in order to find the means of effective integration of pupils in school education based on PIQ results.

6. Conclusions

In light of the extension of inclusive practices in education, evaluating the usefulness of the PIQ for pupils is of special interest. It should be underlined that the PIQ provides an economical screening instrument for three central dimensions of school inclusion and can be used in both research and practice. The combined linguistic simplicity and shortness make it an attractive tool for school inclusion studies. With only 12 items, it can also be used in studies in which pupils' self-perceptions of inclusion are not the central object, but considered in conjunction with other variables, such as self-esteem, positive orientation, and emotional intelligence.

Based on the findings of other authors and our analyses, it can be stated that the PIQ's psychometric properties cannot be considered universally valid. This is why it is very important to scrutinize the instrument's characteristics in other cultural and linguistic zones in which it is applied. In our study, all three factors, i.e., 'emotional inclusion', 'social inclusion', and 'academic self-concept' were characterized by a satisfactory level of reliability (Cronbach's alpha > 0.7). Our study showed that factor loadings for item 4, item 8, item 10, and item 12 should be corrected. It seems that making the required corrections and putting the new Polish version of the PIQ on <https://piqinfo.ch/> (accessed on 12 January 2022) will allow for further research on inclusion in school education. It should be added that a team of researchers undertook extensive discussions, and consequently, semantic changes resulting directly from the cultural and Polish understanding of the language were proposed.

Furthermore, it must be underlined that the reliability analysis for PE teachers was the highest for 'emotional inclusion' and 'social inclusion' and very high for 'academic self-concept' when compared to pupils', parents', and teachers' scores, which justifies the introduction of PE teachers' opinions to the assessment of pupils' inclusion. Therefore, we recommend that research teams should conduct further scientific exploration of the PIQ tool in four perspectives, i.e., taking into account the opinions of PE teachers.

Author Contributions: Conceptualization, A.Z., B.R. and E.T.-C.; methodology, A.Z. and K.K.; formal analysis, B.R. and E.T.-C.; resources, A.Z. and K.K.; data curation, B.R. and E.T.-C.; writing—original draft preparation, A.Z. and K.K.; writing—review and editing, A.Z., K.K. and B.R.; supervision, A.Z. and K.K. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by The Jerzy Kukuczka Academy of Physical Education in Katowice, grant number AWF/INS/ZB2/2022.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki. Approval was obtained from the Bioethics Committee of the Academy of Physical Education in Katowice (Resolution No. 2/2018 as of 21 June 2018).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to they are collected, processed and calculated by the author.

Conflicts of Interest: The authors declare no conflict of interest.

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