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Validation of the student version of the perceptions of inclusion questionnaire in Finland

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ABSTRACT

The Perceptions of Inclusion Questionnaire (PIQ; Venetz, M., Zurbriggen, C. L. A., Eckhart, M., Schwab, S., & Hessels, M. G. P. (2015). The Perceptions of Inclusion Questionnaire (PIQ). German Version. www.piqinfo.ch) was developed to analyse student's emotional well-being at school, social inclusion and academic self-concept. This threefold questionnaire includes versions for students, their parents and teachers. The current study aimed to validate the Finnish student version of the PIQ (PIQ-Fin) using primary school data. A total of 621 Finnish students aged 10–13 in mainstream classrooms participated in this study. The results suggest that the three-factor structure of emotional school well-being, social inclusion and academic self-concept fit the Finnish sample well across gender groups and all grade levels. However, one problematic item that loaded on all three dimensions requires further inspection in future studies. Despite this issue, the PIQ-Fin remains a valuable tool for assessing Finnish children's social, emotional and academic inclusion in school.

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Introduction

Inclusive and equitable education for all is internationally recognised as a goal in UNESCO's Agenda for Sustainable Development (Leading SDG4 Education, 2030; UNESCO, 2015). Although the number of students in inclusive school settings is increasing, significant variation remains in how all learners' right to inclusive education is upheld (Ramberg & Watkins, 2020). Inclusive education aims to achieve full participation of all students, involves them regardless of their differences and celebrates diversity (Ainscow, 2012; D'Alessio, 2013; Kiuppis & Sarromaa Hausstätter, 2014; Kozleski & Waitoller, 2010). Diversity is broadly defined as the various differences among students (Juvonen et al., 2019). In response, schools may depart from a unified curriculum and teaching methodology that fits most students to recognise the needs of each individual and enable them to achieve their full potential while learning to participate in a broad and diverse society (Curcic et al., 2011).

Although the need for inclusive education is recognised, the discussion grapples with determining who is included and within what parameters (e.g., Kiuppis & Sarromaa Hausstätter, 2014). Additionally, the broad spectrum of definitions of "inclusion" raises challenges at the research, policy and practical levels (Jahnukainen et al., 2023). Extensive research has investigated learning outcomes in inclusive education (e.g., Choi et al., 2017; Fruth & Woods, 2015) and the perspectives of teachers and administrators on inclusion (Van der Bij et al., 2016). However, the quality of inclusive

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education can also be assessed through children's own perceptions. This approach supports the development of more inclusive practices that do not solely depend on factors considered important by adults (Adderley et al., 2015; Messiou, 2019).

Children's experiences in inclusive education

Listening to children's voices acknowledges their right to be heard and to participate in decision-making, a right enshrined in the United Nations Convention on the Rights of the Child (United Nations, 1989). It also assures them that their views and experiences regarding matters that affect them will be taken seriously (Ianes et al., 2017). Student participation is important not only for the children themselves but also for educational institutions and policymakers (Nthontho, 2017). Rose and Shevlin (2004) stated that children can enlighten teachers and education policymakers about the steps that can be taken to thoughtfully address the inclusion agenda. Teachers require information from their students to improve and reflect on their professionalism (Flores, 2005).

To date, children's perspectives have been utilised in research to explore and develop further inclusive practices in schools (Adderley et al., 2015; Fielding, 2001; Messiou, 2019; Messiou & Ainscow, 2015). The results suggest that while children generally report positive experiences, certain problems linked to unfairness in interpersonal relationships with teachers and other children persist (Adderley et al., 2015). Additionally, female students often perceive the inclusion climate more positively than do male students (Schwab et al., 2018). Furthermore, students with special educational needs (SENs) report lower levels of social inclusion (Bossaert et al., 2013; Bossaert et al., 2015), emotional well-being (McCoy & Banks, 2012) and academic self-concept (DeVries et al., 2018) in inclusive settings compared to their peers without SENs.

Emotional school well-being, social inclusion, and academic self-concept

The Perceptions of Inclusion Questionnaire (PIQ; Venetz et al., 2015) was developed to analyse students' emotional well-being at school, social inclusion and academic self-concept, all of which are considered indicators and outcomes of high-quality inclusive education (Schwab & Alnahdi, 2020). The PIQ has its origins in a comprehensive 45-item questionnaire designed by Haeberlin's research group (Haeberlin et al., 1989). The original constructs employed in German by Venetz et al. (2014) were emotional integration (*Emotionale Integration*), social integration (*Soziale Integration*) and achievement motivational integration (*Leistungsmotivationale Integration*). Emotional integration has since evolved into emotional inclusion (e.g., DeVries et al., 2018; Zurbriggen et al., 2019) or emotional school well-being (e.g., Guillemot & Hessels, 2022; Kyttälä et al., 2025; Venetz et al., 2015), social integration into social inclusion (e.g., Venetz et al., 2015) and achievement motivational integration into academic self-concept (e.g., Venetz et al., 2015; Zurbriggen et al., 2019).

The three constructs measured by the PIQ are closely related to concepts such as school belongingness, school satisfaction and school engagement (see e.g., Kyttälä et al., 2025). Each includes emotional elements (positive feelings) and social elements (feelings of being accepted and valued by others), which have been linked to academic success in previous studies (see e.g., Braun, 2019; Bücker et al., 2018).

The perceived feeling of emotional well-being and social inclusion is essential for achieving a truly inclusive school environment (e.g., Guillemot & Hessels, 2022). Social inclusion prerequisites that students experience social interaction and relationships with schoolmates and feel accepted by them (Koster et al., 2009; Pozas et al., 2021). Thus, social competence is required of all parties. Social competence is a key determinant of children's ability to function in different settings. In a school environment, it reflects relationships with others, including peers and adult workers (e.g., Berkowitz & Baker, 2014). Social competence is also related to children's academic achievement (e.g., Brajša-Žganec et al., 2019; Simons-Morton & Crump, 2003). Similarly, emotional competence is important for children's ability to form relationships with others (Denham et al., 2003). Therefore, the

concepts of emotional and social competencies are related, despite being separable constructs (Rose-Krasnor, 1994). Emotional inclusion refers to perceived emotional well-being at school (Guillemot & Hessels, 2022) and correlates with academic performance (Gibbons & Silva, 2011). A child who experiences emotional inclusion enjoys and feels well in school (Venetz et al., 2014).

Furthermore, academic achievement is related to academic self-concept (Chen et al., 2013; Huang, 2011). Academic self-concept is based on a student's self-perception, which is shaped through interactions with the environment and significant others (Shavelson et al., 1976), and it evolves with age (Chen et al., 2013). Grading as feedback, for example, influences the formation of students' academic self-concept (Marsh et al., 2018). A strong academic self-concept has been found to predict good subsequent academic achievement (Marsh & Martin, 2011). Enhancing students' positive academic self-concepts is one of the aims of inclusive education (DeVries et al., 2022). Accordingly, teachers play a significant role in setting goals and supporting students in developing self-belief as learners (Woodcock, 2021). One of the main principles of inclusive education is to set high expectations for all students to reach their full potential (Woodcock, 2021). Students with SENs can achieve high academic learning outcomes in inclusive settings (e.g., de Graaf & van Hove, 2015; Dessemontet et al., 2012).

The PIQ has been validated in diverse linguistic and cultural contexts, including German-speaking Swiss students (Zurbriggen et al., 2019) and Austrian students (Knickenberg et al., 2022), French-speaking students in France (Guillemot & Hessels, 2022), Swedish-speaking students in Sweden (DeVries et al., 2022) in Spanish-speaking adolescents in Spain (Jairo et al., 2025). Typically, mean PIQ scores are relatively high, reflecting generally positive perceptions of inclusion (Alnahdia & Schwab, 2021; Venetz et al., 2019). The results also demonstrate that PIQ can be used to identify groups that require more attention in inclusive settings. For example, Zdoupas and Laubenstein (2023) compared children with behavioural, emotional and social difficulties (BESD) in inclusive and non-inclusive settings. Although students' perceptions of inclusion were positive in all three dimensions across the whole sample, in inclusive classrooms, children with BESDs reported lower scores (Zdoupas & Laubenstein, 2023). Additionally, their study highlighted the association between classroom teachers' caring behaviours and students' positive emotional and social inclusion, while "performance pressure" behaviours predicted students' poorer academic self-concept.

Inclusive education in Finland

Finland is an egalitarian society where equal opportunity in education is declared a human right; education is inclusive and free for all, including books, student welfare services and warm daily meals (Finnish Basic Education Act [FBEA], 1998, 2010; Koskela et al., 2021; Tomlinson, 2021). Teachers' work is autonomous, and local municipalities can create local solutions while adhering to the FBEA and the national core curriculum. According to this core curriculum, "the development of basic education is guided by the inclusion principle" (Finnish National Agency of Education [FNAE], 2016, p. 19). However, the national core curriculum does not specify what this inclusive principle entails, leading to several interpretations and diverse inclusive practices (Chong, 2018; Väyrynen & Paksuniemi, 2020).

In Finland, every student has the right to appropriate support when needed, primarily within their group (FNAE, 2016). Finnish basic education follows a three-tiered model: general support (tier 1) for all children, intensified support (tier 2) and special support (tier 3). Tiers 2 and 3 are used when children require additional individualised and intensive support (e.g., Björn et al., 2016; FNAE, 2016). A trend of a decreasing number of students requiring support has been reported (Official Statistics of Finland [OSF], 2021). Simultaneously, the diversity of students based on cultural, socio-economic and language backgrounds, as well as skill levels, is widening (Repo, 2020; Sinkkonen & Kyttälä, 2014). In 2020, 9% of Finnish students received special support (tier 3). Approximately 34% of these students attended full-time special education in separate

classes, while one-third (32%) received part-time special education, mainly within general education groups. The remaining third (34%) split their education between general and special education groups (OSF, 2021).

Current study

The current study investigated the psychometric properties of the PIQ student version with a Finnish primary school sample. Previous studies have shown that the PIQ is a reliable and valid tool for measuring student's emotional well-being at school, social inclusion and academic self-concept in inclusive settings (DeVries et al., 2022; Guillemot & Hessels, 2022; Zurbriggen et al., 2019). Nevertheless, it is necessary to investigate its properties in different cultural and lingual contexts. This Finnish version of the PIQ was recently used in lower secondary schools to compare students from monolingual (Finnish) and multilingual backgrounds and was deemed suitable for measuring these students' perceptions of inclusion in Finnish (Kyttälä et al., 2025). However, it is important to further investigate the validity of the instrument in primary schools, as the teaching arrangements differ between primary and lower secondary schools, with primary schools offering more stable environments with less variation in teachers and group composition (see e.g., FNAE, 2022).

Since previous studies have revealed differences in student perceptions based on age (Kyttälä et al., 2025), gender (Schmidt et al., 2021; Schwab et al., 2018) and need for support (Bossaert et al., 2015; DeVries et al., 2018; Kyttälä et al., 2025; McCoy & Banks, 2012), these aspects were investigated in the current study as well.

In this context, we asked the following research questions (RQ):

RQ1: How does the three-factor structure (emotional school well-being, social inclusion and academic self-concept) of the PIQ fit the current Finnish primary school sample of children?

RQ2: How does the three-factor structure of the PIQ fit the female and male samples in the Finnish data?

RQ3: How does the three-factor structure of the PIQ fit all grade-level samples in the Finnish data?

RQ4: How does the three-factor structure of the PIQ fit the samples receiving different levels of support (general support vs. intensified/special support)?

RQ5: How do the dimensions of the PIQ differ in terms of gender, grade level and need for support?

Method

Participants and procedure

A total of 621 Finnish third–sixth graders (10–13-year-old students) in mainstream classrooms participated in the current study. The distribution of the participants across different grades was as follows: third graders (n = 139; 22.4%), fourth graders (n = 216; 34.8%), fifth graders (n = 166; 26.7%) and sixth graders (n = 100; 16.1%). There were 343 female participants (55.2%; six participants did not prefer to provide their gender identity). The gender distribution across all grade levels was equal ($\chi 2[3] = 0.99$; $p = 0.803$). The participants represented nine Finnish comprehensive schools from five different provinces. Two of the schools were small (< 200 students); four were middle-sized ($200 \leq x < 500$ students); and three were large ($\geq$ 500 students). Most participants received tier 1 support (n = 503, 81.0%). The others received tier 2 support (n = 37, 6.0%) and tier 3 support (n = 28, 4.5%), with no information available for the remaining participants (n = 53, 8.5%). The distribution of students receiving different levels of support across grade levels was not equal ($\chi 2[6] = 13.53$; $p < 0.05$), with 75.7% of those receiving intensified support being fourth and fifth graders and only 10.8% being third graders. Regarding general support, the percentages of third, fourth, fifth and sixth graders receiving this support were 90.2%, 89.2%, 88.2% and 85.6%, respectively.

School authorities in all regions were initially approached for permission to conduct the study; schools' and teachers' interest in participation was the primary selection criterion. Student participation was voluntary and required informed parental consent. Teachers distributed informed consent documents, research instructions, background questionnaires and the PIQ to the students. The students filled out the informed consent documents, background questionnaire and the PIQ at home. They were instructed to complete the informed consent documents and background questionnaire with their parents and the PIQ with the help of an adult, if needed. They then submitted all the documents in sealed envelopes to the teachers, who delivered them to the researchers. Background information included gender, year of birth and tier of support. This procedure adhered to the instructions of the Finnish National Board on Research Integrity. Based on these guidelines, ethical approval is not required in Finland (TENK, 2019).

Instrument

The Finnish version of the PIQ (Venetz et al., 2015) was used. The questionnaire consisted of 12 items with four Likert-type response categories (1 = not at all true, 2 = somewhat not true, 3 = somewhat true and 4 = certainly true). The questionnaire measured three dimensions of inclusion: emotional well-being (e.g., "I like it in school"), social inclusion (e.g., "I get along very well with my classmates') and academic self-concept (e.g., "I am able to solve very difficult exercises'). Every dimension consisted of four short and simple items, one of which was negatively formulated.

Analysis

The data analysis was performed using IBM SPSS Statistics 27 and Mplus version 8.0 (Muthén & Muthén, 2017). The fit of the three-factor structure (emotional school well-being, social inclusion and academic self-concept) of the PIQ to the current Finnish sample of children was investigated. Initially, the factorial structure of the PIQ was tested using exploratory factor analysis (EFA) employing principal axis factoring and Promax rotation with Kaiser normalisation. Subsequently, the three-factor structure was tested using confirmatory factor analysis (CFA). To evaluate the model fit, the root mean square error of approximation (RMSEA), comparative fit index (CFI) and standardised root mean square residual (SRMR) were utilised. An RMSEA value below 0.08 (MacCallum et al., 1996), a CFI value above 0.90 (Cheung & Rensvold, 2002) and an SRMR value below 0.08 (Hu & Bentler, 1999) indicate a sufficient fit. Subsequently, Cronbach's α were calculated to assess reliability of the scales. Next, the three-factor structure of the PIQ was tested separately for female and male samples to examine the fit. Furthermore, this structure was tested separately across different grade levels, and for support groups receiving general vs. intensified/special support. Before exploring group mean differences, configural, metric, and scalar measurement invariance for the three PIQ dimensions across these groups (females vs. males; all four grade levels; students receiving general vs. intensified/special support) was tested using $\chi 2$ tests, and $\chi 2$ difference tests. Given the sensitivity of $\chi 2$ tests to sample size (e.g., Marsh et al., 1988), additional goodness-of-fit indices independent of sample size were employed to estimate measurement invariance: a change of $< -.010$ in CFI combined with changes in RMSEA of < 0.015 and SRMR of < 0.030 for metric or 0.010 for scalar invariance (Chen, 2007).

After that, differences in the PIQ dimensions in terms of gender and grade were explored using an independent samples t-test and a one-way MANOVA using the PIQ dimension composite scores as dependent variables, respectively. Moreover, the gender * grade–level interaction was examined using a two-way MANOVA. Finally, the PIQ dimension differences between students receiving general (tier 1), and intensified or special support (tier 2 or 3) were assessed using an independent samples t-test. A two-way MANOVA was also utilised to inspect the tier level * gender, and tier level * grade level interactions.

Results

The EFA results showed that the three factors explained 63.3% of the variance (KMO = 0.851; $\chi 2[66] = 2739.34$; $p < 0.001$; Table 1). Table 2 indicates that item 9 presents a somewhat problematic pattern, loading on all three factors.

The CFA lends acceptable support to the original three-factor structure of (1) emotional school well-being (α = 0.96; 4 items), (2) social inclusion (α = 0.89; 4 items) and (3) academic self-concept (α = 0.86; 4 items; CFI = 0.93; RMSEA = 0.08; SRMR = 0.06) (Cheung & Rensvold, 2002; Hu & Bentler, 1999; MacCallum et al., 1996). The model fit improved after introducing error covariances between items based on the modification indices (CFI = 0.95; RMSEA = 0.07; SRMR = 0.05; Figure 1). All three factors correlated significantly and moderately with each other. However, our data suggested that item 9 loaded problematically on several factors. Thus, we also tested a three-factor structure excluding this particular item. The fit of this refined model was slightly better (CFI = 0.96; RMSEA = 0.06; SRMR = 0.04). After certain error covariances between items were added according to the modification indices, the fit of this modified model improved (CFI = 0.98; RMSEA = 0.05; SRMR = 0.04). Despite the slight improvement exhibited by this modified model (excluding item 9) over the original model, the original model was retained as the baseline for further analysis in this study. Moreover, the reliabilities for both emotional school well-being (α = .96), social inclusion (α = .88), and academic self-concept (α = .86) were appropriate.

The fit of the original three-factor model (with error covariance adjustments) was acceptable in both the female (CFI = 0.96; RMSEA = 0.06; SRMR = 0.05) and male (CFI = 0.96; RMSEA = 0.06; SRMR = 0.05) samples. The original model also demonstrated acceptable fits across all grade levels: third graders (CFI = 0.95; RMSEA = 0.07; SRMR = 0.05), fourth graders (CFI = 0.95; RMSEA = 0.06; SRMR = 0.06), fifth graders (CFI = 0.96; RMSEA = 0.07; SRMR = 0.05) and sixth graders (CFI = 0.92; RMSEA = 0.09; SRMR = 0.09). Based on the fit indices, the fit of the original model was better in younger age groups in lower grades and weaker among sixth graders. The fit of the original model was also acceptable in both the tier 1 group (general support; CFI = 0.96; RMSEA = 0.06; SRMR = 0.05), and the tier 2/tier 3 group (intensified/special support; CFI = 0.94; RMSEA = .09; SRMR = .08).

Table 1. Factorial structure of PIQ in the Finnish sample.

	Initial eigenvalues			Extraction sums of squared loadings		
PIQ dimension	Eigenvalues	% of variance	Cumulative %	Total	% of variance	Cumulative %
Emotional well-being	4.509	37.57	37.57	4.065	33.88	33.88
Social inclusion	1.626	13.55	51.12	1.167	9.72	43.60
Academic self-concept	1.464	12.20	63.32	1.025	8.54	52.14

Table 2. Item loadings in EFA.

Item	Factor 1	Factor 2	Factor 3
PIQ item 1	.89		
PIQ item 4	.70		
PIQ item 7	.75		
PIQ item 10	.80		
PIQ item 2		.70	
PIQ item 5		.72	
PIQ item 8		.47	
PIQ item 11		.83	
PIQ item 3			.77
PIQ item 6			.79
PIQ item 9	.27	.16	.30
PIQ item 12			.59

Note. Factor 1 = Emotional well-being; Factor 2 = Social inclusion; Factor 3 = Academic self-concept.

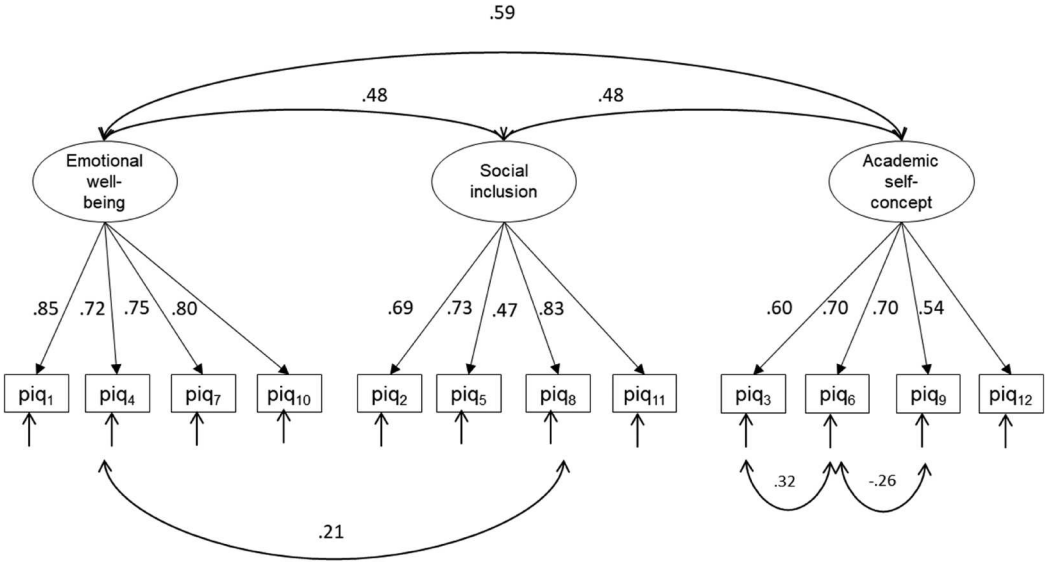

Figure 1. CFA for PIQ dimensions.

Based on χ2 difference tests, the PIQ showed metric measurement invariance across gender ($\chi2(9) = 16.792$, $p = 0.052$). Although the inclusion of restrictions for the scalar invariance model led to a positive χ2 difference test, changes in fit indices were acceptable from configural model to metric and scalar model (CFI 0.962 –> 0.959–> 0.952; RMSEA 0.059 –> 0.059 –> 0.061; SRMR .049 –> .063 –> .071) indicating that the scalar invariance is sufficient to explore gender differences. The results of the independent samples t-test indicated no gender differences in the PIQ dimensions (Table 3). Both female and male students responded similarly in terms of emotional school well-being, social inclusion and academic self-concept.

Based on changes in fit indices from configural to metric and scalar model, The PIQ showed sufficient measurement invariance across grade levels (CFI 0.913 –> 0.905 –> 0.897; RMSEA 0.088 –> 0.086 –> 0.085; SRMR 0.076 –> 0.118 –> 0.129) indicating that the measurement invariance is sufficient to explore grade-level differences. The one-way MANOVA results showed significant grade-level differences in the PIQ dimensions (Pillai's trace = 0.05; F(9, 1827) = 3.33; $p < 0.001$; $\eta_p^2 = 0.02$; Table 3). Post hoc pairwise tests revealed that third graders scored significantly higher in emotional well-being than fourth, fifth and sixth graders. Both third and sixth graders scored significantly higher in social inclusion than fourth and fifth graders. No other significant group differences were observed. Additionally, no gender * grade level interaction was detected in the PIQ dimensions (Pillai's trace = 0.02; F(9, 1800) = 1.26; $p = 0.255$; $\eta_p^2 = 0.01$).

Based on χ2 difference tests, the PIQ showed metric measurement invariance across support levels ($\chi2(9) = 8.720$, $p = 0.464$). Although the inclusion of restrictions for the scalar invariance model led to a positive χ2 difference test, changes in fit indices were acceptable from configural model to metric and scalar model (CFI 0.953–> 0.953 –> 0.948; RMSEA 0.066 –> 0.063 –> 0.063; SMRM 0.050 –> 0.059 –> 0.060) indicating that scalar invariance is sufficient to explore

Table 3. Descriptive statistics for gender and grade levels.

	All		Females		Males				3rd grade		4th grade		5th grade		6th grade			
Item	M	Sd	M	Sd	M	Sd	t	d	M	Sd	M	Sd	M	Sd	M	Sd	F	ηp2
Emotional well-being	3.28	0.64	3.34	0.55	3.26	0.65	1.56ns	.13	3.50	0.52	3.26	0.64	3.21	0.60	3.25	0.56	7.18***	.03
Social inclusion	3.60	0.61	3.65	0.49	3.62	0.56	.82ns	.07	3.71	0.41	3.60	0.51	3.56	0.62	3.71	0.50	3.17*	.02
Academic self-concept	3.22	0.65	3.27	0.53	3.26	0.51	.18ns	.01	3.30	0.53	3.24	0.56	3.24	0.51	3.32	0.45	0.69ns	.00

differences between support levels (tier 1 vs. tier 2 or tier 3). For emotional well-being, students receiving intensified or special support (tier 2 or 3; M = 3.03; SD = 0.94) scored significantly lower than those receiving general support (tier 1; M = 3.33; SD = 0.56; t = 2.49, $p < .001$, d = .48). In terms of social inclusion, students receiving intensified or special support (M = 3.33; SD = 0.93) scored significantly lower than those receiving general support (M = 3.64; SD = 0.54; t = 2.61, $p < .05$, d = .51). For academic self-concept, students receiving intensified or special support (M = 2.82; SD = 0.85) also scored significantly lower than those receiving general support (M = 3.28; SD = 0.60; t = 4.22, $p < .001$, d = .72). No significant tier level * gender (Pillai's trace = 0.01; F(3, 560) = 2.44; $p = 0.063$; $\eta_p^2 = 0.01$) effects were observed. There was a significant tier level * grade level effect in social inclusion (F(3, 562) = 4.47; $p < .01$; ηp2 = 0.02). After the fourth grade, the perception of social inclusion among children receiving intensive or special support declined, while the perception of social inclusion among children receiving general support increased. The difference was greatest in the oldest age group (grade level 6: M(general) = 3.78, SD = 0.60; M(intensified/special) = 2.94; SD = 1.37).

Discussion

First, our results confirmed that the three-factor structure (emotional school well-being, social inclusion and academic self-concept) of the PIQ (Venetz et al., 2015) fits the Finnish sample of 10–13-year-old children across female and male groups, all four grade levels, and groups receiving different levels of support. These findings are in line with those observed in Finnish secondary school data (Kyttälä et al., 2025), although gender differences were not examined in this dataset. Our results also align with those from other cultural and linguistic contexts (DeVries et al., 2022; Guillemot & Hessels, 2022; Zurbriggen et al., 2019).

However, item 9, "I do well in my schoolwork", exhibited a somewhat problematic pattern, loading on all three dimensions. Different wordings for this item were tested with another primary school dataset (Koskela et al., 2018), but the problem persisted, suggesting that context-specific aspects may explain this phenomenon. Since 2020, children in Finland have received their first numerical grades in the fourth grade at the latest (FNAE, 2020). However, during the data collection, the policy was more flexible, and the starting point for numerical assessment varied from fourth to eighth grade across municipalities. This extremely low–stakes and dialogue-based assessment culture may relate to a perception of "doing well in schoolwork" that is less achievement-oriented and more focused on interaction and emotional aspects than in other European countries. This interpretation is also supported by Finnish secondary school data (Kyttälä et al., 2025), where no similar problem was observed.

In addition, other factors related to the classroom or learning environment may explain the challenges associated with this particular item. For example, Zdoupas and Laubenstein (2023) suggested that performance-oriented practices in the classroom can influence academic self-concept, which, in turn, could lead to different interpretations of the item "doing well in schoolwork" by respondents studying in different classrooms. The assumption that "doing well in schoolwork" is a positive indicator of inclusion should also be critically scrutinised. The experience of doing well in schoolwork may only be a possibility for a limited number of students. For example, a normal distribution of grades could create a situation where only a limited number of students receive good grades (see e.g., Marsh et al., 2018). Furhermore, negatively worded items have previously been shown to present challenges for students in certain data sets (Alnahdia & Schwab, 2021; Schmidt et al., 2021), indicating that contextual and cultural factors may influence PIQ responses. It is therefore important to be aware of national sensitivities when using the measure to explore perceptions of inclusion.

Second, our results indicate no gender differences in the PIQ dimensions, aligning with findings from other cultural and linguistic contexts. Similar to a recent Swedish study (DeVries et al., 2022), our results showed that both females and males feel equally included socially and emotionally and

display similar levels of academic self-concept. However, in samples from France (Guillemot & Hessels, 2022) and Slovenia (Schmidt et al., 2021), a small but significant gender difference in emotional school well-being was observed, with males showing lower levels than females.

Third, significant grade-level differences were observed. The youngest group scored higher in emotional school well-being than students at higher grade levels, consistent with Finnish studies indicating lower school well-being in older age groups (Konu et al., 2015). Interestingly, in the Finnish lower secondary school data, emotional well-being remained stable across all grades (Kyttälä et al., 2025), suggesting no further decline during those years. Additionally, third and sixth graders scored higher in social inclusion than students from other grade levels. The data did not provide a convincing explanation for this pattern. However, it should be noted that at higher grade levels, perceptions of social inclusion were stronger among students receiving general support and weaker among those receiving intensified or special support. This finding suggests the need for focused efforts to strengthen social inclusion for all students in the final years of Finnish primary school. Previous data from Finnish lower secondary schools showed that feelings of social inclusion and academic self-concept decreased in the final year of lower secondary school (Kyttälä et al., 2025). Together with our results, this may suggest that upcoming transition phases – whether from primary to lower secondary school or from lower secondary school to upper secondary school – represent critical periods for social inclusion, particularly for students receiving intensified or special support.

Fourth, our results indicated differences in all PIQ dimensions among students receiving different levels of support. Students receiving intensified or special support (tier 2 or 3) exhibited lower levels of emotional well-being, social inclusion and academic self-concept compared to those receiving general support. These results align with previous studies, indicating that students with SENs experience lower levels of social inclusion (Bossaert et al., 2013 Kyttälä et al., 2025), emotional well-being (McCoy & Banks, 2012) and academic self-concept (DeVries et al., 2018; Kyttälä et al., 2025) in inclusive classes compared to their peers without SEN. Our findings also suggest that Finnish schools are not equally inclusive of all students. Considering the demonstrated relationship between academic self-concept and academic achievement (Huang, 2011), the highest levels of self-concept were observed among students receiving the lowest level of support.

The diversity of students (Juvonen et al., 2019) places demands on schools and teachers to meet the needs of all students and ensure their emotional, social and academic well-being. The PIQ provides a tool for assessing these indicators of high-quality inclusive education (Schwab & Alnahdi, 2020). Listening to children's voices (e.g., Ianes et al., 2017; Messiou, 2019; Messiou & Ainscow, 2015) typically involves a dialogue between the teacher and the child. However, this approach may not capture the perspectives of students who are overlooked or unable to open up to adults about their feelings and experiences regarding their school attendance.

The student version of the PIQ empowers children by acknowledging their right to be heard and participate (United Nations, 1989) and generates data for decision-making at the teacher, school, community and national levels. This information can be used to support cooperation between teachers and parents when individual support for students is needed. Furthermore, in school cultures that lack dialogical practices, a school-wide assessment using the PIQ may help start a joint discussion. Children's perceptions support the development of more inclusive practices that are not solely based on factors that adults consider important (Adderley et al., 2015; Messiou, 2019). Choices made with the full engagement of children are considered more sustainable, relevant and effective (Cook-Sather, 2020; UNESCO, 2017). However, it should be noted that the PIQ (Venetz et al., 2015) only covers a limited part of inclusion perceptions, summarising inclusion in terms of emotional well-being at school, social inclusion and academic self-concept. As such, it may be better regarded as a screening instrument, that provides a general overview of students' perceived inclusion at school. Further quantitative and qualitative examination is needed to identify at-risk groups and main challenges to inclusion.

Implications

This research provides new insights into the usability of the PIQ-survey in Finnish primary schools. It shows that the PIQ can serve as an easy, quick and affordable tool for school leaders, teachers, parents and students to assess students' perceptions of inclusion at school and identify those at risk of feeling excluded. The findings underscore significant group differences in the PIQ dimensions among students receiving general and intensified or special support, indicating that Finnish schools do not yet provide equal inclusivity for all students. Additionally, a more systematic assessment of all students' perceptions of experienced inclusion and the use of assessment data as a basis for decision-making are needed to strengthen inclusion in schools. Further research is also required to clarify the factors that produce these differences in experienced inclusion. Finally, additional investigations using data collected from students' parents and teachers are necessary to generate a holistic view of how inclusion is implemented and fulfilled in schools.

Limitations

Recognising the limitations of this research is important. First, although the three-factor structure of the PIQ (Venetz et al., 2015) fit the Finnish data well based on the fit indices and reliability coefficients, item 9 demonstrated problematic patterns and requires further investigation in future studies. Second, this dataset is based on the Finnish version of the PIQ, which does not necessarily encompass all foreign-speaking students in Finnish schools. Future research must include a wider range of languages to conduct truly inclusive research and assess all students' perceptions of experienced inclusion. Previous studies suggest that belonging to a cultural and linguistic minority group is associated with various forms of exclusion (Mäkelä, 2019; Riitaoja, 2013). Third, the participants completed the PIQ at home, which poses at least two potential risks to data integrity. Although all the respondents were instructed to fill out the questionnaire with the help of an adult if needed, because young students with learning difficulties may struggle with written texts, this assistance may have distorted the answers. Furthermore, not all students who needed adult support may have received it. Future studies must address these challenges to ensure that all students can participate in PIQ studies, as inclusive education concerns every student.

Conclusion

In conclusion, this study has demonstrated that the three-factor structure of the PIQ (Venetz et al., 2015) fits the Finnish sample of 10–13-year-old children across female and male groups and at all grade levels. It also provides a tool for assessing the social, emotional and academic inclusion of Finnish children in schools. These results complement previous studies in the Finnish lower secondary school context and in other cultural and linguistic contexts, reinforcing the utility of the PIQ for assessing these indicators in various contexts. Our results also revealed differences in emotional school well-being, social inclusion and academic self-concept among students receiving diverse levels of support. These findings underline the importance of assessing students' own perceptions of their emotional, social and academic inclusion in Finnish schools and beyond to accurately measure the quality of inclusive education.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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