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Research paper

Exploring the role of teachers' attitudes towards inclusive education, their self-efficacy, and collective efficacy in behaviour management in teacher behaviour



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HIGHLIGHTS

- The study investigated teachers' beliefs and behaviours.
- Teacher behaviour was predicted by self-efficacy and collective efficacy.
- The number of behaviourally challenged students influenced teacher behaviour via self-efficacy.

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ABSTRACT

Using a sample of 384 Finnish teachers, in this study we explored how teachers' attitudes towards inclusive education, self-efficacy, and collective efficacy in behaviour management affect their behaviours in teaching appropriate behaviours to students, and how teachers' attitudes, self-efficacy, and collective efficacy mediate the effect of background variables on teacher behaviour. The results revealed that teachers' self-efficacy and collective efficacy significantly predicted their behaviour. The number of students with attention or behavioural problems has an indirect negative effect on teacher behaviour, mediated by teacher self-efficacy.

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1. Introduction

Globally, the push to teach all students in inclusive education systems is one of the more significant educational reforms (Savolainen et al., 2022). According to Göransson and Nilholm (2014), the definition of the term "inclusion" ranges from the placement of student with special educational needs (SEN) in mainstream classrooms to creating communities which are welcoming to all learners regardless of their background and learning abilities. The beginning of this spectrum is often described as the narrow definition of inclusion, while the other end is aligned with the broad definition of inclusion that emphasises inclusion as a systematic approach to eliminating obstacles from the participation of all learners (Booth & Ainscow, 2002). While acknowledging the importance of conceptualising inclusion as building the school community, in the current study our analysis focuses more narrowly on one aspect of inclusive schools, namely teacher behaviour in teaching appropriate behaviour to students. In a range of empirical studies high-quality behavioural support by teachers

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has been identified as one key feature for promoting student learning in inclusive classrooms (Finkelstein et al., 2021).

In most European countries and around the world, the number of students with SEN enrolling in mainstream classrooms is growing (European Agency for Special Needs and Inclusive Education, 2017). Numerous international policy documents, including the Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994), the United Nations Convention on the Rights of Persons with Disabilities (United Nations, 2006), and the Sustainable Development Goals (United Nations, 2015) have endorsed this trend.

The development of inclusive education has raised the question of how inclusive education is successfully and effectively implemented by teachers in classrooms. Teacher perceptions have been identified as important factors determining their success in including students with SEN (de Boer et al., 2011; Schwab, 2018; Sharma et al., 2012). In this respect, teacher attitudes towards inclusive education (Avramidis & Kalyva, 2007; Moberg et al., 2020; Rakap & Kaczmarek, 2010; Zhang et al., 2022), teacher self-efficacy for inclusive practices (Alnahdi, 2020; Malinen et al., 2013; Yada et al., 2019), and collective teacher efficacy (Adams & Forsyth, 2006; Da'as et al., 2022; Mosoge et al., 2018) have been some of the extensively studied constructs. However, there are gaps in the literature on how these constructs affect the implementation of inclusive education. Recently, several researchers (Opoku et al., 2021a; Savolainen et al., 2022; Yada et al., 2022) have pointed out that the evidence on the effect of teacher attitudes, self-efficacy, and collective efficacy on their inclusive behaviours is still quite limited.

The aim of this study is to address a gap in the literature about the effects of teachers' attitudes, self-efficacy, and collective efficacy on their inclusive behaviour. Therefore, the main purpose of this study is to examine whether teachers' attitudes towards inclusive education, their self-efficacy in behaviour management, and their collective efficacy in student discipline predict their behaviours in teaching appropriate behaviours to their students. This is done with data from Finnish primary schools. This study will provide a new insight to explain teachers' behaviours in the context of inclusive education.

1.1. Inclusive education in Finland

The development of inclusive education in Finland can be traced back to the comprehensive school reform of the 1970s. This radical reform aimed to improve gender, geographical, and sociocultural equity (Kivirauma et al., 2006). As part of this reform, nine years of comprehensive schooling was established by combining two streams known as "theoretically gifted" and "practically gifted" (Kivirauma et al., 2006). One of the more important parts of this reform was the introduction of part-time special education in schools (Savolainen, 2009; Savolainen et al., 2012). Part-time special education was given the challenging pedagogical objective of maintaining all students in the basic education system (Committee deliberation, 1970). Since the implementation of the comprehensive basic education system, the number of students enrolled in part-time special education increased steadily (Kivirauma & Ruoho, 2007).

Since 2010, the educational support system in Finnish basic education has been following a three-tier support model. The new system of educational support was defined in the Special Education Strategy of 2007 (Ministry of Education and Culture, 2007), the Act of Basic Education (Parliament of Finland, 2010), and revised curriculum guidelines. This support system was not only designed to provide additional early support for all struggling students, but also to make general education more inclusive (Björn et al., 2016; Pesonen et al., 2015).

The three tiers of support in Finnish basic education are general or universal support, intensified support, and special support. The first tier, general support, is available to all learners when needed. It does not require any official documentation (Eklund et al., 2021). The second tier, intensified support, is provided when students require more support in school subjects as well as in cases of other support needs, such as the need for socio-emotional support or positive behaviour support. A learning plan and a pedagogical assessment are required when providing intensified support but it is not an administrative decision (Eklund et al., 2021). The third tier is special support provided to students when the support given in the previous tier has been insufficient and there is need for more individualised goals and support. This tier of support requires a full assessment and formal administrative decision. An Individualised Educational Plan is mandatory for all students identified as needing special support and it can be related to one or more school subjects (Eklund et al., 2021; Jahnukainen, 2011).

The tendency of the move of Finland's education system towards inclusion has changed since the reform in 2010. Before then, the number of students identified as having special needs had been increasing for many years. Prior to 2010, those students went to segregated special schools to study (Saloviita, 2018). However, the number of students in segregated special schools had been declining for more than ten years, probably due to the reform (Jahnukainen, 2011). Therefore, the Finnish education system has witnessed a long-lasting gradual trend away from segregated school learning environments to more inclusive learning environments (Lempinen, 2017; Saloviita, 2018; Savolainen et al., 2012).

1.2. Teachers' attitudes towards inclusive education

Teachers' attitudes towards inclusive education are defined as their beliefs and feelings towards the inclusion of students with SEN in mainstream classrooms (Avramidis & Norwich, 2002; Forlin et al., 2011). It is critical to focus on teachers' attitudes towards inclusive education to create an inclusive culture (Emmers et al., 2020). A large number of studies (e.g., Avramidis & Norwich, 2002; de Boer et al., 2011; Schwab, 2018) have attempted to examine teachers' attitudes towards inclusive education, based on the idea that teachers' positive attitudes play a crucial role in the successful implementation of inclusive education. Teachers' negative attitudes towards inclusive education can lead to unsuccessful attempts to include students with SEN (Lombardi et al., 2015), whereas teachers' positive attitudes towards inclusive education can contribute to the creation of more inclusive learning environments as well as the use of more effective teaching strategies (Wang et al., 2015; Wilson et al., 2022).

Some researchers (Lewin, 1951; McGuire, 1976; Wallace et al., 2005) have questioned the effect of attitudes on behaviour. They said that attitudes do not always predict behaviour. Even when individuals have positive attitudes towards a behaviour, they rarely act on them (Ajzen & Fishbein, 1977, 1980). Wicker (1969) reviewed 42 experimental studies and discovered a small association between attitudes and behaviour (rarely more than $r = 0.30$). He concluded that attitudes had little or no relationship with behaviour. Similarly, Sharma and Mannan (2015) concluded that teachers' attitudes towards inclusive education account for a relatively small variance in inclusive teaching behaviour, hence whether teachers would exhibit behaviour that is congruent with their attitudes cannot be predicted. According to Ajzen and Fishbein (1977),

attitudes predict behaviour better when it is measured at a level that is closer to the behaviour to be predicted. In other words, if the behaviour is specific, it is preferable to measure the attitude at a specific level as well.

1.3. Teacher self-efficacy

Bandura (1977) introduced the term "self-efficacy" to describe an individual's belief in their ability or competence to be successful in a particular situation. The concept of self-efficacy was founded on the principles of social cognitive theory, which focus on the evolution and exercise of human agency, or the belief that people can exert some control over their actions (Bandura, 2006a). Researchers (e.g., Klassen et al., 2011; Tschannen-Moran & Hoy, 2001) define teachers' self-efficacy as their belief in their ability to positively affect students' outcomes. According to social cognitive theory, self-efficacy not only influences an individual's goals and behaviours, but environmental factors also affect it (Schunk & Meece, 2006).

Higher self-efficacy beliefs are considered essential for teaching, since teachers with confidence in their ability to accommodate all students are more likely to take on their inclusive roles and find solutions to challenges in this setting (Woodcock et al., 2022). Therefore, it is expected that teachers with higher self-efficacy will exhibit more effective teaching behaviours (Holzberger et al., 2013; Klassen & Tze, 2014; Tschannen-Moran & Barr, 2004). The findings of previous studies support this assumption. For example, teachers with higher self-efficacy beliefs were more likely to show higher instructional quality (Holzberger et al., 2013; Künsting et al., 2016), and higher job performance (Olayiwola, 2011; Soodmand Afshar & Hosseini Yar, 2019). These findings are supported by Klassen and Tze's (2014) systematic meta-analysis, which revealed a strong association between teachers' self-efficacy and their teaching behaviours.

1.4. Teachers' self-efficacy for inclusive practices

Within the context of inclusive education, some studies (Knauder & Koschmieder, 2019; Schwab & Alnahdi, 2020; Wilson et al., 2016) have investigated how teachers' self-efficacy influences their inclusive classroom behaviour. These studies reported that a teacher's sense of self-efficacy is a strong predictor of how they teach in an inclusive manner. These results show that teachers act more inclusively in the classroom the more they believe in their own ability to teach everyone.

Since self-efficacy is thought to have domain-specific characteristics (Pajares, 1997), in this study, we focus on a specific domain of self-efficacy, namely teacher self-efficacy in behaviour management. It has been defined by Malinen and Savolainen (2016, p. 146) as "teachers' individual beliefs in their capabilities to prevent and manage disruptive student behaviour in their school and classroom". Previous studies have established a link between teacher self-efficacy in managing disruptive student behaviour and teacher behaviour. For example, Emmer and Hickman (1991) found that teachers with high self-efficacy in behaviour management used more positive strategies, such as modifying instructional techniques and rewarding effort, while teachers with low self-efficacy employed reductive strategies, such as time out and warnings. This finding was supported by a study by Adjei (2018), who found a statistically significant positive relationship between teachers' self-efficacy and classroom behaviour management practices. Considering all this evidence, it appears that teachers' self-efficacy in behaviour management is an important prerequisite for teacher behaviour.

Previous literature has identified demographic variables as playing an essential influence in teachers' attitudes towards inclusive education (de Boer et al., 2011) and their efficacy for inclusive practices (Wray et al., 2022). Teaching experience was identified as a variable that impacts these factors in studies. For example, previous studies found that teachers with less teaching experience had more positive attitudes towards inclusive education than teachers with more experience (Savolainen et al., 2012; Yada et al., 2018). On the other hand, teachers with more years of teaching experience showed a higher sense of self-efficacy for inclusive practices (e.g., Knauder & Koschmieder, 2019; Subban et al., 2021). The number of students in the class, is another variable that influences these factors. According to Kim's (2018) literature review, the number of students in the class, is a factor that determines the successful implementation of inclusive education. This review found that teachers feel less confident in including students when there are too many in a classroom. Based on this finding, we assume that an increase in the number of students with attention or behavioural problems reduces teachers' efficacy for inclusive practices, which in turn has a negative indirect effect on teacher behaviour.

1.5. Collective teacher efficacy

The construct of collective teacher efficacy was first articulated by Bandura in 1993 and derived from self-efficacy theory. According to Goddard and Goddard (2001), collective teacher efficacy is understood as "the perceptions of teachers in a school that the faculty as a whole can organise and execute the courses of action required to have a positive effect on students" (p. 809). To date, studies which have investigated the relationship between collective teacher efficacy and student achievement have confirmed a strong relationship between collective teacher efficacy and student achievement (Eells, 2011; Hattie, 2015).

According to Bandura (1997), teachers with higher collective efficacy exhibit characteristics such as setting high goals for students, promoting learner autonomy, reducing inappropriate behaviour, and enhancing parental participation, which results in better teaching performance. A recent systematic literature review by Moosa (2021) focused on studies on collective teacher efficacy. This review reported that collective teacher efficacy is associated with some aspects of teachers' behaviour, including "teaching strategies and classroom management" (Moosa, 2021, p. 68).

Collective teacher efficacy has an impact on how teachers collectively react to inappropriate behaviour (Hoogsteen, 2020). Teachers with high collective efficacy are more likely to prevent and manage inappropriate student behaviour (Tschannen-Moran & Barr, 2004). Teachers achieve this by supporting, recognising, and rewarding proper student behaviour rather than punishing students' inappropriate behaviour (Bandura, 1997). Additionally, these teachers experience less stress and discouragement caused by students' inappropriate behaviour (Donohoo, 2017).

The existing literature shows the important role of self- and collective efficacy in affecting teacher behaviour in isolation. However, it remains unclear what role collective efficacy plays in conjunction with self-efficacy. The effect of collective efficacy on teacher behaviour is accompanied by teachers' perceptions of self-efficacy (Bandura, 1993). Consequently, teachers with a strong sense of self and organisational efficacy are assumed to achieve the desired behaviour in the classroom or school setting.

1.6. Teacher behaviour in supporting positive student behaviour

In the context of inclusive education, teacher behaviour is defined as the inclusive teaching practice of mainstream classroom teachers (Hellmich et al., 2019; Schwab & Alnahdi, 2020; Schwab

et al., 2022b). The foundations of inclusive teaching practices are successful cooperation, the ability to differentiate between learning based on frequent formative assessment, the use of interdependent learning practices, and the implementation of positive behaviour support in the classroom (Sharma et al., 2012; Sharma & George, 2016). The focus of this study is positive behaviour supports (PBS) in the classroom, that is, teachers' behaviours in teaching appropriate behaviours to students.

Gartin and Murdick (2001) defined PBS as "a problem solving approach to managing problem behaviours by matching supportive strategies to the needs of the students to reduce or eliminate the behaviour being targeted (as cited in Chitiyo et al., 2011, p. 171)". The emphasis on reducing disruptive behaviour is on addressing problems in the context, rather than trying to fix the challenging student behaviour directly (Karhu et al., 2018; Warger, 1999). Teacher behaviours based on this approach include the reorganisation of the environment and curriculum, as well as the elimination of rewards that unintentionally promote problematic behaviour (Sugai et al., 1999).

Recent research has demonstrated that PBS supports the successful inclusion of all students, even those exhibiting severe inappropriate behaviour (Karhu et al., 2018), boosts students' social skills and significantly reduces problem behaviours (Robbins et al., 2022). Likewise, Reveley (2016) concluded in a systematic literature review that PBS positively influences student achievement, behaviour, and school outcomes.

1.7. Theory of planned behaviour

The current study is informed by Ajzen's (1991) Theory of Planned Behaviour (TPB), which provides a useful framework for explaining and predicting human behaviour. The TPB is an extension of the Theory of Reasoned Action (Fishbein & Ajzen, 1975), which postulates that behaviour is predicted by intentions, which are influenced by attitudes towards the behaviour and subjective norm. Subjective norm refers to the perceived social pressure to perform the behaviour (Ajzen, 2011, 2020). Ajzen (1991) extended the theory by adding the third factor: perceived behavioural control. This construct corresponds to Bandura's (1997) definition of self-efficacy. According to Ajzen (1991), intention to perform a behaviour is influenced by three factors: attitudes towards the behaviour, subjective norm, and perceived behavioural control. It is hypothesised that intention and perceived behavioural control determine behaviour.

Several researchers (e.g., Opoku et al., 2021a; Yan & Sin, 2014) have concluded that the TPB is a valid framework for comprehending and explaining teachers' intention to implement inclusive practices and their behaviour in the context of inclusive education. Previous studies that used the TPB in the context of inclusive education conceptualised attitudes and perceived behavioural control TPB factors as teachers' attitudes towards inclusive education (Emmers et al., 2020; Schwab et al., 2022a) and their self-efficacy for inclusive practices (MacFarlane & Woolfson, 2013; Sharma et al., 2018). However, subjective norm is conceptualised in several ways. Some researchers (e.g., Ahmmed et al., 2014; Opoku et al., 2021b) interpreted this factor as perceived school support for inclusive practices, while others interpreted it as principals' expectations of teachers (Kuyini & Desai, 2007).

The current study does not fully emulate the TPB, as the constructs in our model include teachers' attitudes towards inclusive education and their self-efficacy for inclusive practices, but not their intentions or subjective norms. The current study also diverges from the TPB by investigating the direct effects of teacher background variables on behaviours, whereas in the TPB, those variables are considered to influence intention and behaviour only indirectly (Ajzen, 2020).

1.8. Research questions

Teachers are an important stakeholder in successful inclusion in schools (Carew et al., 2019; Smith & Smith, 2000). They are crucial for transforming inclusive policies into classroom practices (Ainscow & Sandill, 2010). Although several previous studies have investigated teachers' attitudes towards inclusive education, self-efficacy for inclusive practices, and collective efficacy, few (Hellmich et al., 2019; MacFarlane & Woolfson, 2013) have examined the effect of these teacher variables on teacher behaviours. Considering that self-efficacy and collective teacher efficacy are assumed to affect teachers' effective teaching performances (Donohoo, 2018; Klassen & Tze, 2014), this study also contributes to the existing literature by exploring how both dimensions together affect teacher behaviour.

The primary purpose of this study is to investigate whether teachers' attitudes towards inclusive education, their self-efficacy in managing behaviour, and collective efficacy in student discipline have a direct impact on their behaviours (teaching appropriate behaviours to students). Another goal of this study is to determine whether teachers' attitudes towards inclusive education, their self-efficacy in managing behaviour, and collective efficacy in student discipline mediate the effect of background variables (years of working in the current school, years of teaching experience, number of students with attention or behavioural problems, and number of students in the class) on teacher behaviours. The study explores the following research questions.

(1) Do attitudes towards inclusive education, teacher self-efficacy in managing behaviour, and collective efficacy in student discipline predict teachers' behaviour of teaching appropriate behaviours to their students?
(2) Is the effect of background factors on teacher behaviour mediated by teachers' attitudes towards inclusive education, their self-efficacy in behaviour management, and collective efficacy in student discipline?

2. Methodology and methods

2.1. Participants

The participants in the study consisted of 384 in-service teachers working in 57 primary schools in the eastern part of Finland. Table 1 displays demographic background information on the participants. Participating teachers were mostly female (75.5%), with an average age of 43 years ($SD = 9.21$) ranging from 22 to 62. They had between 0 and 37 years of experience working at the current school ($M = 9.15$, $SD = 8.80$). In addition, they had between 0 and 39 years of teaching experience ($M = 16.95$, $SD = 9.77$). The classes contained between 0 and 10 students with attention or behavioural problems ($M = 2.57$, $SD = 1.94$). The number of students in the class ($M = 19.29$, $SD = 4.74$) ranged between 5 and 34. We expect that the students in the data represent rather well general population of Finnish comprehensive school students.

The cross-sectional data used in this study were collected with an online survey in Spring 2014 as a part of "ProSchool Finland" project ("ProKoulu" in Finnish) that was implemented in 2013–2016 with the aim of developing a model of school-wide positive behaviour support in the participating schools. The results regarding the effectiveness of the positive behaviour support model will be reported in other publications. Before the data

Table 1
Demographic background information on the participants.

Variable		Percentages (%)	*M*	*SD*	Range
Gender	Female	75.5			
	Male	24.5			
Age in years			43	9.21	22–62
Years of working in the current school			9.15	8.80	0–37
Years of teaching experience			16.95	9.77	0–39
Number of students with attention or behavioural problem in the class			2.57	1.94	0–10
Number of students in the class			19.29	4.74	5–34

collection, the ProSchool Finland project was reviewed by the Committee of Research Ethics of the University of Eastern Finland. The committee stated that the project and its data collection were designed according to the ethical principles of research in humanities and social sciences (Finnish Advisory Board on Research Integrity TENK, 2009). Demographic background information on the participants is presented in Table 1.

2.2. Measures

The data used in this study originated from two parts of the electronic survey. The first part contains demographic information, and the second part has four scales evaluating teachers' attitudes towards inclusive education, their self-efficacy in managing behaviour, collective efficacy in student discipline, and their behaviour in teaching appropriate behaviours to students. Table 2 provides a description of the measurement scales used in this study.

Participants were asked for information on their background characteristics: gender, year of birth, years of working in the current school, and years of overall teaching experience. We also asked them to evaluate how many students with attention or behavioural problems they currently had in their class, and the total number of students in their class.

Teachers' attitudes towards inclusive education was measured using the Attitudes subscale of the Sentiments Attitudes and Concerns about Inclusive Education (SACIE) scale (Loreman et al., 2007; Savolainen et al., 2012). The Attitudes subscale contains five items related to attitudes towards inclusive education and teaching children with SEN in mainstream classrooms (e.g., “Students who need an individualised academic program should be in regular classes.“). SACIE scale items were scored on a four-point Likert scale (1 = strongly disagree, 4 = strongly agree). Higher scores on the scale represent more positive attitudes towards inclusive education. In the current sample, the reliability of the “Attitudes” subscale was determined to be .71 using Cronbach's alpha.

The efficacy in managing behaviour subscale of the Teacher Efficacy for Inclusive Practices (TEIP) scale was used to measure teachers' self-efficacy in behaviour management (Savolainen et al., 2012; Sharma et al., 2012). The efficacy in managing behaviour subscale contains six items that assess teachers' perceived capability to handle and prevent disruptive student behaviours (e.g., “I can control disruptive behaviour in the classroom”). This study utilised a nine-point Likert scale (1 = none at all, 9 = a great deal) to adhere to Bandura's (2006b) recommendation to avoid having too few answer alternatives in self-efficacy scales. In this study, Cronbach's alpha of the sub-scale of “Efficacy in managing behaviour” was .82. In general, the higher the TEIP score, the greater the efficacy beliefs of teachers about managing behaviour in their class.

Collective teacher efficacy was assessed with the Student Discipline sub-scale of the Collective Teacher Beliefs Scale (Malinen & Savolainen, 2016; Tschannen-Moran & Barr, 2004). The sub-scale includes six items that assess the respondent's perception of the school personnel's shared ability to maintain positive student behaviour (e.g., “How much can school personnel in your school do to control disruptive behaviour?“). The scale has a nine-point rating scale, ranging from “1 = none at all” to “9 = a great deal”. In this sample, the Cronbach's alpha coefficient for the “Student discipline” subscale was calculated to be .88.

A five-item scale was used to assess teacher behaviour in teaching appropriate behaviours to students in various school settings (e.g., cafeteria, recess, classroom). The items of the scale (e.g., “I have taught students how to behave in a classroom situation”) were developed for the purposes of the ProSchool Finland project to assess the extent to which teachers engage in acting in accordance with the school-wide positive behaviour support model in their schools. The scale features a six-point rating scale, ranging from “1 = completely disagree to 6 = completely agree”. Thus, the higher the score, the more the teacher has taught appropriate behaviours to students. The reliability of this scale was determined to be .81 using Cronbach's alpha.

Table 2
Descriptive of the measurement scales.

Scale	*N*	*M*	*SD*	Skewness	Kurtosis
1. Attitudes	372	2.75	.53	−.04	−.16
2. Managing behaviour	377	7.38	.91	−.40	.06
3. Student discipline	372	7.20	.94	−.44	−.19
4. Teaching appropriate behaviours	371	5.40	.61	−1.70	6.83

2.3. Data analyses

The two main analysis methods used in this study were confirmatory factor analysis (CFA) used to test the validity of the measurement model and structural equation modelling (SEM) used with latent and background variables. Mplus, version 8.7, was used to conduct both analyses (Muthén & Muthén, 1998-2017). The model was estimated using the full information maximum likelihood (FIML) approach, which allows for maximising the use of all available information when dealing with missing data (Muthén & Muthén, 1998-2017). Because the maximum likelihood estimation with robust standards (MLR) method is more resilient to non-normality issues than other estimators, such as regular maximum likelihood (ML), it was used to estimate the CFA and SEM models (Muthén & Muthén, 1998-2017).

The following fit indices were used to evaluate the goodness of fit of the CFA and SEM models: Comparative Fit Index (CFI) Tucker Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). We chose a cut-off value close to .95 as a threshold for a good fit for the CFI and TLI, suggesting that the model fitted the data quite well (Hu & Bentler, 1999). We determined cut-off values for RMSEA of .06 and SRMR of .08, suggesting a good fit to the data (Hu & Bentler, 1999).

The first step in this study was to assess the validity of each

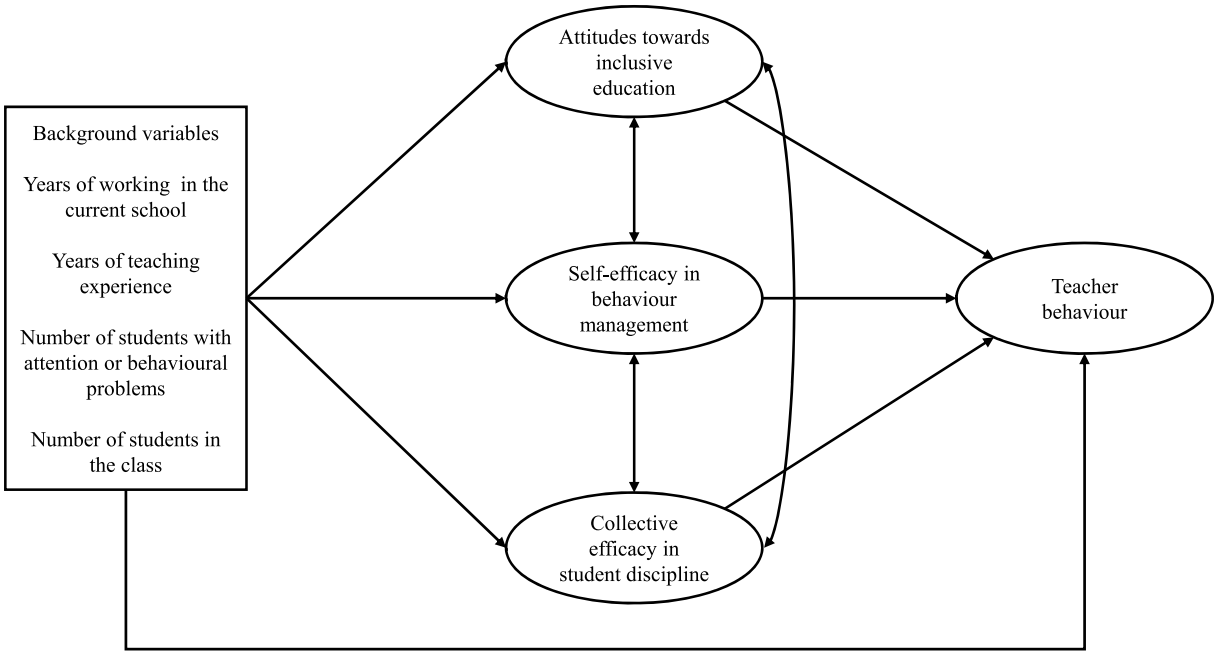


Fig. 1. Hypothetical model.

measurement model using CFA. In the second step, the results were tested using a CFA model that incorporated each CFA model and correlations between the latent variables. In the third step of the data analysis, a hypothetical predictive model (see Fig. 1.) explaining teachers' attitudes towards inclusive education, self-efficacy in managing behaviour, collective efficacy in student discipline, and their behaviours of teaching appropriate behaviours was tested. Four background variables were used as predictors: (1) years of working in the current school; (2) years of teaching experience; (3) number of students with attention or behavioural problems; (4) number of students in the class. These variables were included in a factor model to examine whether they could predict teachers' attitudes towards inclusive education, self-efficacy in managing behaviour, collective efficacy in student discipline, and their behaviours of teaching appropriate behaviours. Indirect and direct effects were tested in this model. Therefore, a mediation analysis (Sobel, 1982) was performed to test the indirect effect of four background variables on their behaviours. That is, whether four background variables result in changes in attitudes towards inclusive education, self-efficacy in managing behaviour, and collective efficacy in student discipline, which in turn influence teachers' behaviours of teaching appropriate behaviours was explored. There was also a correlation between the constructs in the hypothetical model.

3. Results

Firstly, we used the CFA to check the validity of each measurement model across all constructs before doing the SEM. The results of the CFA for each construct can be found in Appendix A.

Secondly, a CFA model that comprised all individual CFA models was tested. To increase the model fit, two residual covariances between items of the Student Discipline sub-scale and one residual covariance between items of the scale measuring teacher behaviour in teaching appropriate behaviours to students were freely estimated. After these modifications, the model fitted the data quite well (x^2= 370.918, df = 200, x^2/df= 1.854, p <.001, CFI = .94, TLI = .93, RMSEA = .05, SRMR = .05). Table 3 indicates the correlations between latent variables.

Table 3
Correlations between latent variables.

Latent variables	1.	2.	3.	4.
1. Attitudes	–	.08	.23***	.00
2. SE in managing behaviour		–	.47***	.27***
3. CTE in student discipline			–	.31***
4. Teaching appropriate behaviours				–

Note. ***p <.001; SE = Self-efficacy; CTE = Collective teacher efficacy.

Finally, a structural model was made with latent and background variables. Two residual covariances between items of the Student Discipline sub-scale and the scale measuring teacher behaviour in teaching appropriate behaviours to students were added to increase the model fit based on modification indices. Following these modifications, the final model (Fig. 2) had acceptable fit to the data (x^2 = 461.818, df= 263, x^2/df= 1.75, p <.001, CFI = .94, TLI = .94, RMSEA = .04, SRMR = .06).

3.1. Predicting teachers' behaviour

The results indicated that teacher behaviour was positively and significantly predicted by self-efficacy in behaviour management (β = .16, p <.05) and collective teacher efficacy in student discipline (β =.18, p<.05). Among four background variables, only years of working in the current school positively and significantly predicted teacher behaviour (β= .15, p <.05).

3.2. Mediating effects of background variables on teacher behaviour

Years of teaching experience significantly predicted teachers' self-efficacy in behaviour management in a positive direction (β = .16, p <.05), but it significantly predicted teachers' attitudes towards inclusive education in a negative direction (β= −.27, p <.05). The number of students with attention or behavioural

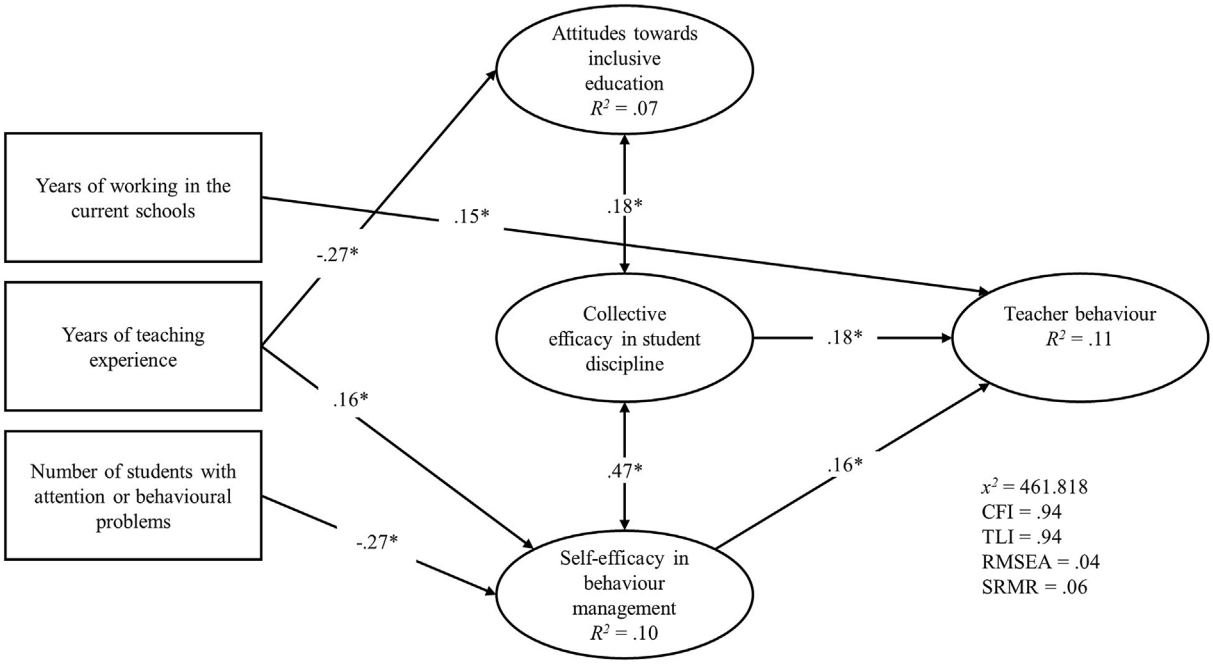


Fig. 2. Structural model.

problems has a negative significant effect on self-efficacy in behaviour management ($\beta = -.27$, $p < .05$).

Only the mediating effect of self-efficacy in behaviour management was investigated further because attitudes towards inclusive education did not predict teacher behaviour significantly. Furthermore, because there were no background variables that predicted collective teacher efficacy in student discipline, the mediating effect of collective teacher efficacy was not examined. The significance of the indirect effects of years of teaching experience and the number of students with attention or behavioural problems on teacher behaviour via self-efficacy in behaviour management was calculated using bootstrapping with 1000 draws.

The analysis indicated that the indirect path from years of teaching experience to teacher behaviour via self-efficacy in behaviour management was insignificant ($\beta = .025$, $p = .08$ with 95% CI ranging from 0.005 to 0.067). This result indicated that there was a statistically indicative ($p = .08$) effect, but we should interpret this result cautiously and recommend further research using a larger sample. On the other hand, the number of students with attention or behavioural problems has a significant negative indirect effect ($\beta = -.043$, $p = .04$ with 95% CI ranging from $-.094$ to $-.010$) on teacher behaviour via self-efficacy in behaviour management. These results indicated that teacher self-efficacy in behaviour management functions as a mediator between the number of students with attention or behavioural problems and teacher behaviour in teaching appropriate behaviours to students. In other words, the more the teacher has students with attention or behavioural problems, the lower the teacher self-efficacy in behaviour management, which in turn leads to reduced teaching of appropriate behaviours to students. Collective teacher efficacy in student discipline correlated moderately and significantly ($r = .47$, $p < .05$) with self-efficacy in behaviour management. Attitudes towards inclusive education correlated weakly and significantly with collective teacher efficacy in student discipline ($r = .18$, $p < .05$).

4. Discussion

The first aim of this study was to test empirically the direct effect of teachers' attitudes towards inclusive education, their self-efficacy in behaviour management, and their collective efficacy in student discipline on their behaviour in teaching appropriate behaviours to students. The second aim was to investigate how the effect of background variables (years of working in the current school, years of teaching experience, number of students with attention or behavioural problems and number of students in the class) on teacher behaviour is mediated by teacher attitudes towards inclusive education, self-efficacy in behaviour management and collective efficacy in student discipline. A structural model based on cross-sectional data collected from Finnish primary school teachers was evaluated to achieve these aims.

The results from this study indicate that teacher self-efficacy in behaviour management and collective efficacy in student discipline had a positive effect on teacher behaviour. These findings are in accord with those of Kiel et al. (2020) and Lyons et al. (2016). These can indicate that teachers are more likely to perform effectively when teaching appropriate behaviour to their students, the higher their collective and individual beliefs are in their ability to manage disruptive student behaviour. Consistent with some previous studies (e.g., MacFarlane & Woolfson, 2013; Schüle et al., 2016), this study found that teacher attitudes towards inclusive education did not significantly predict teacher behaviour. Comparing our findings about the effect of teacher attitudes on their behaviour with earlier findings (e.g., Hellmich et al., 2019; Kuyini & Desai, 2007; Schwab et al., 2022b), it seems that they are in contrast. An explanation for this might be that general attitudes cannot predict specific behaviour (Ajzen, 1982; Ajzen & Fishbein, 1977). Because we examined the effect of teachers' general attitudes towards inclusive education on their specific behaviour (teaching appropriate behaviours to students), attitudes and behaviour were not measured

with the same level of specificity in this study, resulting in a non-significant prediction of teachers' attitudes towards inclusive education on their behaviour in teaching appropriate behaviours to students. Thus, further work is required to assess whether teachers' attitudes towards students with attention or behavioural problems predicts their actual behaviour in teaching appropriate behaviours.

The current study found that years of working in the current school were a significant predictor of teacher behaviour. This finding may be explained by the fact that teachers who have worked longer in their schools have a better understanding of the resources in the school. Also, a study under review (Savolainen et al., submitted) suggested that the number of years teachers have worked in a specific school was related to the classroom behavioural climate assessed by students. This study suggests that the better climate might result at least partially from increased teaching of behaviours related to experience in the specific school.

Another important finding was that years of teaching experience positively predicted teacher self-efficacy in behaviour management, while it negatively predicted teachers' attitudes towards inclusive education. This reflects Bandura's (1997) view, about emphasising the importance of mastery experiences in enhancing self-efficacy. He maintains that successful classroom teaching experiences might be a potent approach to enhancing teacher self-efficacy in dealing with disruptive student behaviours. Thus, it seems that teachers who have more years of successful teaching experience have a higher sense of self-efficacy in behaviour management. This finding also accords with previous studies indicating that teachers with more teaching experience showed fewer positive attitudes towards inclusive education than those with less teaching experience (e.g., Bhatnagar & Das, 2014; Savolainen et al., 2012; Yada et al., 2018). A possible explanation for this might be that young teachers may have more first-hand experience of inclusive education from their own school years as a student in school than old teachers, and therefore they might be more open to the idea of inclusive education than old teachers.

In this study, the number of students with attention or behavioural problems was found to have an indirect negative effect on teacher behaviour, mediated by teacher self-efficacy. This finding shows that the number of students with attention or behavioural problems has a negative impact on self-efficacy, undermining the positive effect of self-efficacy on teacher behaviour. This result may be explained by Bandura's (1997) self-efficacy theory. According to this theory, mastery experiences or prior performance are the most significant sources of efficacy. A positive mastery experience enhances one's sense of self-efficacy, while a negative experience diminishes it. Consequently, as the number of students with attention or behavioural problems rises, teachers may have a negative mastery experience that negatively affects their self-efficacy in managing disruptive student behaviours. This finding is in line with that of Alnahdi et al. (2019) and Moberg et al. (2020). Finnish teachers were found to be less willing to accept students with behavioural problems in their classroom (Alnahdi et al., 2019). They were also found to be more worried about their self-efficacy when teaching students with behavioural problems (Moberg et al., 2020). Another possible explanation for this is that teachers are less confident in their ability to manage disruptive student behaviour because inappropriate student behaviour can disrupt classroom activities (Rakap & Kaczmarek, 2010), which has a negative effect on their behaviour when teaching appropriate behaviours to students.

In contrast to earlier findings, however, no evidence of the effect of the number of students in the class on teacher behaviour was found. Previous studies found a negative link between the number of students in the class and classroom performance (e.g., Blatchford et al., 2009; Brühwiler & Blatchford, 2011). These studies showed that teachers working in classes with a small number of students were more likely to provide personal attention to students, control and manage the classroom efficiently, and create stronger ties with students. This inconsistency may be due to the small number of students in classes in Finland. Finland has engaged in lowering the number of students in classes in basic education. The average number of students in grades 1 through 6 in basic education was around 20, while the average number of students in grades 7 through 9 was around 17 (Kumpulainen, 2014). In this study, the number of students in the class (19.29) was close to the national average. The differences in the number of students between classes are small and have no effect on teacher behaviour.

Comparing the results with those from earlier studies (e.g., Calik et al., 2012; Skaalvik & Skaalvik, 2019; Stephanou & Oikonomou, 2018), our study demonstrates a positive and significant relationship between teachers' self-efficacy and collective efficacy. Bandura (1997) introduced the idea of reciprocal causality to describe a two-way link between teachers' self-efficacy and collective efficacy. In other words, when teachers increase their confidence in their ability to manage disruptive student behaviours, they also increase their confidence in their ability to provide student discipline as a whole school, and vice versa. This link may also be used to explain the finding of our study.

Finally, another interesting finding is a positive and significant relationship between teachers' attitudes towards inclusive education and collective efficacy. This result appears congruent with a review study by Donohoo (2018), who reported that teachers with a higher sense of collective efficacy had more positive attitudes towards teaching students with SEN. It is difficult to explain this result given the paucity of research on this link (e.g., Urton et al., 2014). However, this might be explained by the view of Bandura (2000) that there is a reciprocal relationship between people's perspectives on a specific behaviour and their collective efficacy beliefs. Using this explanation in this study, it is possible that when teachers have confidence in the school's collective efficacy in providing student discipline, they support the inclusion of students with SEN, or vice versa.

The findings from this study must be interpreted with caution because they are based on cross-sectional data. Because cross-sectional studies do not allow us to investigate causes and effects, a further study could assess the long-term cause and effect processes of our results. Another limitation of this study is the use of self-reported data, which might increase the risk of social desirability bias. However, we believe that we minimised social desirability bias by ensuring the confidentiality of the participants' responses (Grimm, 2010). In future studies, it might be possible to use classroom observations to control and validate teachers' self-reported behaviours.

An additional limitation of our study is the way we measured how many students in the class have attention or behavioural problems. As this data was based on teacher self-reporting, there is a possibility of reverse causal relationship i.e., some teachers who have problems in classroom management overestimate the number of students with behavioural problems. However, this issue may be mitigated by the fact that our sample consists of rather experienced teachers, with on the average 17 years of teaching experience. When estimating the number of students with behaviour problems in their current class, they had possibility to use other classes they've taught as a reference point. Still, we acknowledge this does to fully prevent the possible issues with the way we measured the number of students with attention or behavioural problems. Despite the above-mentioned limitations, we believe that the findings of this study have significant implications for our understanding of the factors that determine teacher behaviour in classroom.

5. Conclusion and implications

In line with the literature, this study highlights the role of teachers' self-efficacy and collective teacher efficacy in behaviour management for teaching appropriate behaviours to students. In general, research indicates that a sense of individual self-efficacy and collective efficacy in managing disruptive student behaviour is linked with self-reported teacher behaviour in teaching appropriate behaviours to students. This implies that teacher development programmes should be made to help teachers improve their own and the group's ability to manage disruptive student behaviour during both pre- and in-service training.

The current data emphasise the importance of collective teacher efficacy since it is connected to whole-school approaches and professional development for inclusion. Consequently, it plays a crucial role in mitigating issues such as more experienced teachers' negative attitudes towards inclusive education and young teachers' lack of confidence in behaviour management.

The evidence from this study suggests that when the number of students with attention or behavioural problems increases, their self-efficacy declines, weakening the positive effect of self-efficacy on teacher behaviour. The implication of this result is that we should provide teachers with more direct and positive mastery experiences via pre- and in-service training to increase their self-efficacy, particularly in managing challenging student behaviour, as according to Bandura (1997) and some recent empirical findings (van Rooij et al., 2019; Yada et al., 2019), mastery experiences are a strong source of self-efficacy among both pre- and in-service teachers. Thus, while it is known that challenging behaviours are often mentioned as one major obstacle to inclusive education, if we want teachers to have resilient self-efficacy in addressing these student behaviours, we should provide them with enough opportunities to experience and overcome barriers in addressing these student behaviours already in teacher education (Bandura, 2012).

A recent study (Närhi et al., 2022), however, showed that Finnish teacher education programmes largely lack this type of training. One possible approach that could be adopted by schools is School-Wide Positive Behaviour Support (SWPBS), which, in addition to focusing on teacher skills in behaviour management, attempts to change the overall working culture in schools to be more supportive towards preventing behaviour problems. There is a Finnish adaptation of SWPBS being implemented by more than hundred schools already with good fidelity and positive outcomes.

Finally, the indirect effects of background factors on teacher behaviour, together with the direct effects of attitudes and self-efficacy, are some of the aspects in which the current study is related to Ajzen' (1991) Theory of Planned Behaviour. However, because only some constructs of the TPB were used in this study (attitudes and self-efficacy), it does not exactly match the TPB. We suggest that other constructs of the TPB (examined subjective norms and intentions) should also be included in future studies. There are very few studies in this kind of educational domain that would take into account all the constructs of the TPB, as seen by this study and previous studies on inclusive behaviours. Thus, new studies are needed to fully understand the inter-relationships of attitudes, subjective norms, and self-efficacy and how they affect teachers' intentions and behaviours. In particular research on inclusive education need this type of studies that would extend our understanding of how more positive inclusive education practices could be created in our schools. Probably, as suggested already by this study, a process of increasing individual skills of teachers, but also whole school's collective supportive efforts, will be needed.

Aside from practical and theoretical implications, this study has research implication as well. Further research into the role of multiple dimensions of attitudes to inclusive education, as well as their self-efficacy for inclusive practices and collective teacher efficacy on teacher behaviour, could be conducted.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

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Appendix A. The results of the CFA for each construct

	x^2	*df*	CFI	TLI	RMSEA	SRMR
Teachers' attitudes towards inclusive education[a]	8.52	4	0.98	0.95	0.05	0.02
Teacher self-efficacy in managing behaviour	17.92	9	0.99	0.98	0.05	0.02
Collective teacher efficacy in student discipline[b]	13.67	7	0.99	0.98	0.05	0.02
Teachers' behaviours of teaching appropriate behaviours[c]	1.34	3	1.00	1.00	0.00	0.01

[a] One residual covariance between items of the SACIE Scale was added.
[b] Two residual covariances between items of the Student Discipline sub-scale were added.
[c] Two residual covariances between items of the scale measuring teacher behaviour in teaching appropriate behaviours to students were added.

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