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Education and Inclusion of Children with Special Educational Needs and Disabilities in Physical Education Classes

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18204976

This thesis is submitted to University College Dublin in fulfilment of the requirements for the degree of Doctor of Philosophy in the School of Public Health, Physiotherapy and Sports Science.

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September 2022

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Abstract

The inclusion of children with special educational needs and disabilities (SEND) in mainstream education has become a global priority over the past 40 years. The first public law – The Education for All Handicapped Children Act, published in 1975 in the United States, made an unequivocal case for the rights of children with disabilities to access education alongside their peers as equals. Since then, global awareness of the education of children with SEND has led to the development of national and international policies aimed to promote and support the education of such children in mainstream schools.

A subfield of education that has been consistently acknowledged as a primary opportunity for encouraging and promoting inclusion within schools is physical education (PE). PE not only provides opportunities for SEND children to be physically active, but it also provides meaningful engagement and interactions with other children that can benefit the psychosocial development of children with SEND profiles. Despite such opportunities, the research evidence has also consistently shown that children with SEND profiles are still not fully included in PE classes. As such, researchers have widely investigated the barriers and facilitators to the inclusion of SEND children in PE, reporting that teachers' attitudes are one of the most important barriers and proximal factors influencing inclusion. Research has also shown that other factors can also potentially affect teachers' likelihood of practising and implementing inclusive PE – such as teachers' perceived self-efficacy, and also the nature of the school context within which they work..

The aim of this thesis was threefold, to: (i) systematically review and synthesise the literature on PE teachers' attitudes towards inclusion the inclusion of SEND children within PE; (ii) investigate the factors influencing Irish PE teachers' attitudes and wider perceptions about the inclusion of SEND children in PE lessons; and (iii) test and confirm, for the first time, a structural model of inclusion in PE that brings together teachers' attitudes, self-efficacy, and perceptions about the school context within which teachers work.

The findings of this thesis indicated that teachers have largely favourable attitudes toward the inclusion of children with SEND in PE, and that experience working with children with SEND was positively associated with such favourable attitudes. The findings of this thesis also indicate that a wide range of different factors affect teachers' attitudes – including, knowledge and preparation, years of teaching experience, direct experience working with SEND children, type, and degree of SEND, and collaboration and teaching support. Within the Irish context, the findings this thesis revealed specifically that having different types of disabilities within the class positively influenced Irish PE teachers' attitudes toward inclusion. This suggests that exposing teachers to students with diverse profiles promotes favourable attitudes toward the inclusion of otherwise marginalised population groups within PE. The findings of this thesis also suggest that Irish secondary school PE teachers have higher perceived self-efficacy levels than their counterparts working in primary schools. This suggests that components of the secondary-level pre-service curricula may have a positive influence self-efficacy in delivering inclusive pedagogies (and that further promotion of such components is required in pre-service education for primary-level teachers). The findings of a structural model of inclusion reported in this thesis also showed positive and significant associations between Irish PE teachers' (i) attitudes toward the inclusion of SEND children, (ii) self-efficacy in delivering inclusive pedagogies, and (iii) perceptions about the school within which they worked. This suggests that the attitudes of Irish teachers towards the inclusion of children with SEND profiles in PE are embedded within wider initial education and professional learning and development needs, and also related closely to the norms that inclusion policy and practice at a wider school level.

Preface

Publications forming part of this thesis

Chapter 2: Tarantino, G., Makopoulou, K., and Neville, R. D. (2022). Inclusion of children with special educational needs and disabilities in physical education: A systematic review and meta-analysis of teachers' attitudes. *Educational Research Review*, 36(100456). doi:10.1016/j.edurev.2022.100456

Author	Contribution
Giampiero Tarantino	Study conception and design, study execution, data extraction, analyses, and interpretation; draft, write, review, and submission of the manuscript.
Kyriaki Makopoulou	Review of the manuscript.
Ross D Neville	Supervision of study conception and design, data interpretation; revision, and review of the manuscript.

Chapter 3: Tarantino, G., Makopoulou, K., and Neville, R. D. (2022). Teachers' Attitudes Towards Inclusion in Physical Education: Systematic Review and Meta-Analysis of Studies Conducted Before and After the Salamanca Statement. *International Journal of Inclusive Education.* ***Currently under review***

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Giampiero Tarantino	Study conception and design, study execution, data extraction, analyses, and interpretation, draft, write, review, and submission of the manuscript.
Kyriaki Makopoulou	Review of the manuscript.
Ross D Neville	Study conception and design, data analyses and interpretation, write, and review of the manuscript.

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Giampiero Tarantino	Study conception and design, study execution, data extraction, analyses, and interpretation, draft, write, review, and submission of the manuscript.
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Giampiero Tarantino	Study conception and design, study execution, data extraction, analyses, and interpretation, draft, write, review, and submission of the manuscript.
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Tarantino G, Neville R (2022). Associations between Physical Education Teachers' Attitudes towards Inclusion, Self-Efficacy to Deliver Inclusive Pedagogy, and Perception about the School Context within They Work: A Confirmatory Model. *International Association for Physical Education in Higher Education Conference*, Gold Coast, Australia, 15 – 18 June 2022 (online).

Tarantino G, Neville R (2022). Associations between Physical Education Teachers' Attitudes towards Inclusion, Self-Efficacy, and Perception about the School Context: A Confirmatory Model. *UCD CHAS Inaugural Graduate Research Student Symposium*, Dublin, 8th April 2022.

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Tarantino G, Neville R (2019). Teachers' attitudes toward inclusion of children with special educational needs and disabilities in physical education classes: findings from a systematic review. *Irish Disabilities Studies Association Seminar*, Trinity College Dublin, Dublin, 11th December 2019.

Tarantino G, Neville R (2019). Teachers' Attitudes towards the Inclusion of Children with Special Educational Needs and Disabilities in Physical Education Classes: Preliminary Findings from a Systematic Review. *British Educational Research Association Conference*, Manchester, 10 – 12 September 2019.

Tarantino G, Neville R (2019). What do teachers think about included children with special educational needs and disabilities in physical educational classes? Preliminary analysis based on a systematic review. *International Society of Behavioural Nutrition and Physical Activity Conference*, Prague, 4 – 7 June 2019.

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Neville RD, Lakes KD, Hopkins WG, **Tarantino G**, Draper C, Beck RM, Madigan S. Global Changes in Child and Adolescent Physical Activity During the COVID-19 Pandemic: A Systematic Review and Meta-analysis. *JAMA Pediatr.* Published online July 11, 2022. doi:10.1001/jamapediatrics.2022.2313

O'Brien, W., Khodaverdi, Z., Bolger, L., **Tarantino, G.**, Philpott, C., Neville RD. The Assessment of Functional Movement in Children and Adolescents: A Systematic Review and Meta-Analysis. *Sport Medicine* (2021). doi:10.1007/s40279-021-01529-3

Valli G, Minnock D, **Tarantino G**, Neville RD. Delayed effect of different exercise modalities on glycaemic control in type 1 diabetes mellitus: a systematic review and meta-analysis. *Nutrition, Metabolism and Cardiovascular Diseases* (2020). doi:10.1016/j.numecd.2020.12.006

Declaration

I hereby declare that I am the sole author of this thesis. The work herein is entirely my own unless otherwise clearly indicated and acknowledged. I can confirm that this thesis has been submitted for the degree of Doctor of Philosophy and no part of this work has been submitted for any other degree or professional qualification.

Giampiero Tarantino
September 2022

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List of Abbreviations

CFA: Confirmatory Factor Analysis

EPSEN: Education for Persons with Special Educational Needs

PA: Physical Activity

PE: Physical Education

SEND: Special Educational Needs and Disabilities

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Chapter 1: Theoretical Overview

1.1 Background

The global incidence of physical inactivity is substantial across the world (WHO, 2006), and its burden is considerable. It is the fifth leading cause of death worldwide and it is estimated to cost in the region $50 billion annually due to chronic disease and lost productivity (World Health Organization, WHO, 2003). In this context, promoting healthy active lifestyles has become a global health priority in need of interdisciplinary research. One area where research is lacking, however, is in relation to the physical activity needs and supports children with special educational needs and disabilities (SEND[1]). Research shows that SEND children are disproportionately negatively affected by health conditions related to physical inactivity (Collins and Staples, 2017; Pan, Liu, Chung, and Hsu, 2015; Rimmer and Rowland, 2008) and that children with SEND profiles are at considerable risk of failing to achieve the recommended levels of physical activity (PA) which would ensure good health (Stevens et al., 2010; Whitt-Glover et al., 2006).

[1] In the international literature, and also in educational policy and practice, slightly different terminology has been used to refer to children with special educational needs and disabilities. For example, the abbreviation SEN has been used to categorise children with special educational needs (which may or may not include a learning difficulty associated with a disability), and SEND, SEN-D, and SEN/D to categorise children with special educational needs and/or disabilities. In Ireland, the National Council for Special Education formally uses the abbreviation SEN, and the term SEN is used in the recently published Policy Framework for Children and Young People 2023-2028 (Herron, Fullerton, and McGrellis, 2022). The abbreviation SEN has also historically been used in the United Kingdom in local government documentation pertaining to Education, Health, and Care Plans for children with a formal statement of special educational needs (the statutory basis for such terminology being provided for under the Children and Families Act 2014). In more recent documentation – including substantial documentation of public consultation activities in this area, and a 2022 Office for Standards in Education framework and guidance handbook for inspecting schools in related to fulfilling their statutory obligations (which is available the main publicly-funded citizen information website in the UK [GOV.UK, 2022]) – the broader term SEND is consistently used. A less formal and more pragmatic rationale for using the broader term SEND was initially employed for this thesis: that is, whilst in other school subjects, having a disability might not necessarily be a barrier at all to learning and even high achievement (e.g., English or in Maths), in practice in PE, it is almost always the case that having a disability will much more directly (even if only initially) affect a child's engagement in planned learning activities and achievement of learning outcomes. As such incorporating the term disability into the framework of special educational needs that form the practice expectations and experiences of PE teachers seemed both natural and appropriate to the needs of this specific thesis.

The health benefits of PA are well documented among children with SEND. For this very reason, researchers, child health practitioners and advocates, and policymakers strongly recommend SEND children to be physically active and, more specifically, to meet the WHO guidelines of 60 minutes per day of moderate-to-vigorous PA across the week, with at least three days of vigorous-intensity aerobic activities per week (WHO, 2020). Such levels of PA have been reported as promoting physical health among children, regardless of their ability level, and it has also been consistently reported as having positive effects on their mental health (Ginis et al., 2021). Evidence has shown that participating in PA is positively associated with intrapersonal factors such self-perception, self-efficacy, self-esteem, and confidence (Ahn and Fedewa, 2011; Martin, 2013). Research has shown that these benefits can also equally occur among children with SEND – engaging in PA can increase affect (Jin et al., 2018; Palisano et al., 2011), self-concept and perceptions of self (Batey et al., 2014; Ng et al., 2014; Te Velde et al., 2018), as well as mental health and overall wellness (Brunes et al., 2015; Giese et al., 2017, Puce et al., 2019). More specifically, PA has also been shown to reduce SEND condition-related levels of anxiety and depression (Brunes et al., 2015; Fiorilli et al., 2016; Gaweilow et al., 2016; Whitney et al., 2019a; Whitney et al., 2019b), as well as condition-related fatigue (Maher et al., 2015). A recent meta-analysis has even reported substantial positive effects of PA on mental health in children and adolescents with intellectual disabilities – with moderate-sized effects on psychological health and large-sized effects on cognitive function (Yang, Liang, and Sit, 2022). Despite the well-documented benefits of PA for children with SEND children's health, their engagement in PA tends to be considerably and consistently lower than their so-called typically-developing peers (Corvey et al., 2016; McGarthy et al., 2018; Sit et al., 2020; Li et al., 2021).

An area that has been acknowledged to be a key setting for delivering and promoting high-quality PA is physical education (PE). PE is the most common method to deliver quality PA (Hills et al., 2015) and provides, at minimal costs (Erwin et al., 2014), opportunities for students to obtain knowledge and develop the abilities needed to establish and maintain active lifestyles during childhood,

adolescence, and into adulthood (Lee et al., 2007). Engagement in PE is known to strongly complement (as opposed to negatively interfere with) the academic performance of school students (Trudeau and Shephard, 2008), and it also has been shownd to increase students' daily PA participation and health (Morgan et al., 2007). It has been shown that school-based physical activity programmes, such as PE, can directly predict SEND children's health and their daily PA engagement (Jin et al., 2018). Morgan et al. (2007) have shown, specifically, that during the days in which students had PE classes, they accumulated more daily steps compared to those days in which they did not have PE lessons. Furthermore, PE has been also widely identified as a setting which provides a microcosm of the complex interactions and relationships that strengthens SEND students' interpersonal and social skills (Butler, 2006). Finally, PE has been described, by students with SEND, to be a pleasant, friendly, and respectful setting in which they can establish and nurture positive socially active relationships (Butler and Hodge, 2004; Goodwin, 2001; Seymour, Reid, and Bloom, 2009)

The inclusive setting that PE can provide, with emphasis on valuing and respecting diversities, encourage and promote students' engagement (Keddie 2012; Lingard 2005), and creates a 'meaningful and authentic learning experience' (Overton et al., 2017, p. 420). Despite the potential role of PE as a pivotal setting for providing key activity opportunities to students with SEND profiles, their inclusion in PE classes is still not effective (Sit et al., 2017). Despite the opportunities to be more engaged and physically and mentally healthy within PE exist, a recent qualitative review highlighted the fact that SEND students experience PE classes as unsuitable or inadequate to their needs (Rekka et al., 2019). Since one of the proffered benefits of PE is its pedagogical flexibility and the ability of teachers to adapt lessons to meet the activity preferences of a given class of pupils, in principle, PE has been recognised as an excellent setting for including children with so-called 'additional needs', including children with SEND profiles (Berg and Kokkonen, 2021). However, inclusion in PE is not still fully achieved (Sit et al., 2017) and SEND pupils' progression in PE is hampered by a lack of appropriateness in the design of the class activities which are seldom

based on their abilities or needs. Furthermore, pupils' dissatisfaction and disengagement from PE are associated with a consistent failure among practising teachers to remediate such design or tailor provision based on their abilities (Sit et al., 2017).

In the context of PE, barriers to inclusion have been widely investigated, with research drawing attention to the significance and the importance of teachers' attitudes (Elliot 2008). Teachers' attitudes were, in fact, initially identified by researchers as the key proximal factor affecting the inclusion of children with SEND (Patrick 1987; Rizzo 1984; Rizzo and Wright 1988; Rowe and Stutts 1987) and they are still deemed to be central and relevant nowadays (Robinson 2017; Sharma and Nuttal 2014). A large body of literature has investigated the impact of PE teachers' attitudes on the inclusion of students with SEND profiles, with findings reporting a wide range of factors affecting attitudes. Qualitative findings from these reviews reported that one of the main factors influencing attitudes was the pre- and in-service training, which was deemed to be ineffective, or not acknowledged to be as formative for teachers to impact their attitudes towards inclusion of their abilities vis-à-vis inclusive practice attitudes (Block and Obrusnikova 2007; Qi and Ha 2012; Tant and Watelain 2016). PE teachers' attitudes have historically been the focus of research within the Irish context. However, there is a lack up-to-date research evidence regarding whether the changes employed over the past decades by the Irish Educational system, following the global consensus toward inclusive education, have impacted teachers' attitudes.

1.2 Inclusive Education and the Irish Context

Researchers have proposed and used different definitions of inclusive education over the past five decades. For example, Goodall (2015) defined it as a means of providing every child with an equal opportunity to learn in a mainstream setting, regardless of their level of ability. Such a definition of inclusion involves adapting the classroom and the school environment to meet the needs of the child so that they can be educated alongside their typically-developing peers as equals. Earlier, DePauw and Doll-Tepper (2000, p. 139) defined inclusion as 'a systemic and philosophical approach for implementing

social justice in our schools and our society so that all persons are valued as unique contributing members of society and included'. Whilst there is much debate about how to define inclusion in the broad field of education, the discourse on defining inclusive PE is somewhat less contentious. Inclusion in PE classes has recently been comprehensively defined as a the 'construction of rich learning environments where all students, regardless of gender, (dis)ability, social class, and race/ethnicity, can experience agency, success, and joy through bodily movement' (Nabaskues-Lasheras et al., 2020, p. 866). According to Nabaskues-Lasheras and colleagues, inclusion in PE requires: (i) respecting and celebrating individual differences; (ii) fair and equitable distribution of the benefits of PE; and (iii) viewing each pupil as an individual, instead of seeing a class primarily as a collective group (Nabaskues-Lasheras et al, 2020, p. 866).

In the past, children with SEND profiles in Ireland were segregated in special schools or special classrooms and kept separated from their peers without SEND (McDonnell 2003). This categorical view – based on the view that 'normal' children attending mainstream schools and their SEND peers should be catered for in separate schools or classrooms – has been predominant in Ireland for decades (Shevlin et al., 2002). However, with the introduction of the Education for Persons with Special Educational Needs Act 2004, Ireland committed to pursuing an educational system that, whenever possible, supports an inclusive environment where pupils with SEND profiles are embraced within the mainstream school setting (Government of Ireland, 2004). The focus of the Irish educational system, therefore, shifted from segregated educational norms to a more inclusive educational approach (Drudy and Kinsella, 2009). However, in contrast with the objectives of the educational system and the definition of inclusive education, inclusion in Ireland still seems to be a considerable practical challenge. A potential signal of this challenge can be found by identifying and scrutinising the number of special classes in operation in Ireland. On the one hand, more than half a decade ago, McConkey et al. (2016) reported that between 2003 and 2013 a slow increment of students with intellectual disabilities in mainstream schools occurred in the Republic of Ireland. On the other hand, much more recently, Shevlin and Banks (2021) found that the number of special

classes in operation has increased from just over 700 classes to almost 1,800 classes over the past decade (Shevlin and Banks, 2021). Although these classes are primarily designed to accommodate students with autism spectrum disorders, this number raises concerns regarding the efficiency of the inclusive educational setting in Ireland.

Although it has been suggested that Ireland has a more developed framework for inclusive practice than in other European countries (Marron and Morris, 2018), research on the inclusion of SEND children in education in Ireland has been extremely limited. This lack is even more evident in relation to PE. The few studies that have been conducted and published in relation to the inclusion of SEND children in PE have focused primarily on either on pre- or in-service teachers' attitudes and self-efficacy, which still seem to be the main barriers to inclusion (Meegan and MacPhail, 2006; Tindall et al., 2016). However, characteristics of the PE setting also seem to provide challenges to the facilitation truly inclusive PE. In Ireland, PE activities remain primarily dominated by team sports, particularly invasion games (Woods et al., 2010). Research evidence shows that such activities lead to further marginalisation, indicating that an over-emphasis on competition in PE – i.e., on winning and losing, and critically, on winners and losers – further hampers the inclusion of students with SEND profiles (Hodge et al., 2004; Vickerman and Coates, 2009). For example, such an activity setting can inhibit SEND children from making progress in PE because athletic performance is taken as the main indicator of subject knowledge and learning.

Such a view falls within the broader picture that the school environment in which teachers work influences their practices vis-à-vis inclusion – and that previous research on inclusion in Ireland which focuses on attitudes and efficacy beliefs needs to be extended. Research has extensively shown that individuals belonging to the same school tend to have similar attributes and beliefs compared to teachers from different schools (Caprara et al., 2006). In this regard, the school context may also play an important role in shaping and influencing Irish teachers' attitudes and, ultimately, the inclusion of SEND students in PE. Inclusion requires attitudinal change among school staff and administrators also – i.e., commitment to a shared culture of inclusion. It requires innovative pedagogies that should be

used by teachers to foster open and inclusive activity environments in PE and school sports. Neither of these enablers of inclusion is currently the norm within schools, however, for several reasons. Despite the importance that the school environment has on inclusion, it has rarely been investigated internationally and (to the researchers' knowledge) never investigated before in the Irish context.

1.2.1 Becoming a PE teacher in Ireland

PE teachers are educators who specialise in the instruction and guidance within the subjects of physical health, development, proper nutrition and sports participation. PE teachers work closely with students of all ages and educate them in health and sports science topics in which functional movement and physical activities are nurtured, developed and assessed. Formally, becoming a 'PE teacher' in Ireland means becoming a secondary school teacher. The most direct route to become a PE teacher requires completion of a Bachelor in Physical Education, which, in Ireland, can be completed at higher education institutions, including Dublin City University, University of Limerick, University College Cork, Institute of Technology of Tralee, Athlone Institute of Technology, the Portobello Institute, and the Royal College of Surgeons in Ireland. As such, secondary school PE teachers are the only teachers who hold a formal qualification to teach PE in Ireland (this is also mostly the case in the UK). Professional Masters of Education courses also provide Teacher Council of Ireland-approved graduate-entry routes into teaching PE (i.e., where a person has a primary degree in an area other than Education that aligns with at least one curricular subject within the secondary school curriculum) (Teaching Council of Ireland, 2022). Indirect routes to becoming a PE teacher in Ireland also now include successful completion of a non-university course at a college of further education and subsequently applying for 'Access' route entry to one of the higher education institutions named above.

Whilst secondary school PE teachers obtain such formal qualifications to teach PE, primary school teachers are typically trained to be educational generalists, and, as such, PE represents only one among many subjects that they are expected to deliver (Makopoulou et al, 2021; Neville et al., 2020). For this

reason, while Irish secondary school teachers provide PE as an integral part of the post-primary education cycles, the provision of PE at a primary level is often managed by external service providers, a practice that has become a common in primary schools worldwide (Sperka and Enright, 2017a, 2017b; Williams and Macdonald, 2014). Within the Irish context, primary PE classes are commonly delivered by non-specialist classroom teachers, which commonly involves providers such as sports' coaches, parents, volunteers or, in some cases, secondary school PE teachers (Mangione et al., 2020).

1.3 Aims and objectives of this thesis.

The overall aim of this dissertation was to investigate the inclusion of students with SEND profiles in Irish PE classes. Although inclusive education has been conceptualised in many ways, as stated in the paragraphs, researchers are unanimous in their agreement with the definition provided by the UNESCO (2008) that highlight inclusive education as the promotion of student participation and reduction of exclusion from and for education, and as the presence, participation, and achievement of all students, especially of those who are excluded or at risk of marginalisation, including those with SEND (UNESCO, 2008). More broadly, inclusive education can be described as the promotion of the school and a principled approach to education and society for all (Amor et al., 2019). In this context, exploring inclusion in the Irish PE context from different points of view was necessary. The next sections briefly describe the aims of each chapter and the gaps in the literature addressed. A more exhaustive description of the aims and the gaps in the literature for each study are reported in the introductory section of each chapter.

The first objective, which embraces chapters two and three of this dissertation, was to review the literature regarding the teachers' attitudes vis-à-vis the inclusion of children with SEND in PE. As teachers' attitudes have been highlighted as one of the most important barriers to inclusion, one aim of this dissertation was to investigate the literature and assess the overall teachers' attitudes and the potential factors that influence them. Although a few reviews have been conducted in this context, there is a lack of quantitative evidence

synthesis. Recent reviews conducted in this field have primarily focused on discursively synthesising qualitative evidence (Rekaa et al., 2019), and even when quantitative approaches were used, only descriptive synthesis was provided. (Wilhelmsen and Sørensen, 2017). Quantitatively reviewing the literature was necessary for two reasons, to: (i) provide a and comprehensive assessment of the strength of association between teachers' attitudes and the factors that influence them; and (ii) investigate whether and the degree to which teachers' attitudes have changed over time.

The second chapter of this dissertation used a systematic review approach to investigate the current literature regarding PE teachers' attitudes towards inclusion. This approach was chosen because a clear and comprehensive overview of the available evidence on this topic was necessary. This systematic approach helped to identify the gaps in the literature and the methodological concerns in the current research studies, with the overall objective to identify questions and prompt future research. Given the disparate nature of the articles available in this field, a mixed-methods systematic review was employed. The objective was to include and synthesise research articles that employed both qualitative and quantitative research methods to explore teachers' attitudes. Preliminary exploratory analysis of the included studies revealed that several published articles used a validated questionnaire to investigate attitudes, which prompted the utilisation of a meta-analytic approach to quantitatively synthesised the findings. While meta-analyses on teachers' attitudes have been previously conducted in the general context of education, the meta-analyses provided in the second chapter contribute to the first quantitative evidence, which has never been conducted before, in the context of PE.

Visual inspection of the data in Chapter 2 (i.e., the meta-analysis forest plots) prompted further consideration about whether and the degree to which teachers' attitudes towards inclusion had differed over time. As research in the field of inclusive education has been carried out for more than three decades, little is known about the influence of international consensuses on teachers' attitudes. The 'most important reference' (Ainscow et al., 2019, p. 674), towards which research is unanimous in acknowledging its influence on inclusive

education, is ‘The Salamanca Statement’ (Aniscow and César 2006; Magnùsson 2019; Pavone, Bellacicco, and Cinotti 2019; Aniscow, Slee, and Best 2019; Gachago 2018; De Meulder, Murray, and McKee 2019; Snoddon and Murray 2019). During a World Congress in Spain, in June 1994, more than 300 participants representing 92 nations and 25 international organisations met in Salamanca to develop and articulate policy changes to further promote inclusive education in mainstream settings. Since then, qualitative research has regularly reported the impact that the Salamanca Statement had on policy and practice in inclusive education. As such, Chapter 3 of this thesis provides the first quantitative evidence regarding the impact that the Salamanca Statement had on PE teachers’ attitudes towards the inclusion of students with SEND profiles – do PE teachers attitudes towards inclusion differ across time periods before and after the publication of the Salamanca Statement? As such the main objective of this chapter was to test and further support the view about change over time and the potential impact of such macro-level policies on teachers’ attitudes.

The second objective of this dissertation was to investigate Irish PE teachers’ attitudes. If the second chapter provides an overview of teachers’ attitudes and the variables that influence them, the fourth chapter specifically focuses on this in the context of Irish teachers. This study was necessary for two reasons. On the one hand, research on Irish PE teachers is scarce and the only study investigating Irish PE teachers was conducted almost two decades ago (Meegan and MacPhail, 2006). Since then, Ireland has employed changes to address education rights for students with SEND allocating funding and resources to schools (Kenny et al., 2020). Therefore, the main objective of this study was to explore whether Irish PE teachers’ attitudes have changed over time, and which factors influence them. On the other hand, the secondary objective of this study was to explore the similarities and differences between factors that influence Irish teachers’ attitudes compare to international evidence.

In this cross-sectional study, a questionnaire was sent out to Irish teachers. In this sense, the mixed-methods systematic review conducted in the second chapter provided a strong basis for developing the framework for this study. Our findings from the systematic review revealed a variety of factors

influencing teachers' attitudes, which enabled me to develop a more comprehensive questionnaire for teachers. The study conducted by Meegan and MacPhail (2006) only employed a questionnaire that included an attitudinal scale and a teachers' demographic section. To substantially develop on that methodology, the questionnaire utilised in this study comprised: (i) a scale to measure teachers' attitudes toward including children with SEND; (ii) a scale measuring teachers' self-efficacy in delivering inclusive pedagogies to SEND students; (iii) a scale developed to investigate the degree to which inclusion was supported within the school in which teachers worked; (iv) a demographic section exploring teachers' characteristics; and (v) a section exploring schools' characteristics. The utilisation of such a multi-faceted questionnaire enabled wider exploration of the influence that the teachers' and schools' characteristics have on Irish PE teachers' attitudes, self-efficacy, and perceptions about the school context. Given the theoretically justified known associations between these three main constructs (Caprara et al., 2006; Fischer et al., 2018, Bandura 1977, Bandura, 1993), employing such a methodology was necessary to comprehensively explore the factors that influenced Irish teachers.

The final objective of this dissertation was to explore the relationships between Irish PE teachers' attitudes and self-efficacy, and their perceptions of the school context in which they worked. Research has widely shown the influence that the school context has on teachers' attitudes and self-efficacy (Caprara et al., 2006; Fischer et al., 2018). Within the context of PE, researchers have also argued the importance that the school factors might have on teachers' behaviours towards inclusion (Morley et al. 2005). However, even though hypotheses have been made and theoretical models have been widely utilised in the field of inclusive PE (Hutzler et al., 2019), these relationships have never been empirically investigated. These models have never been fully tested with real-life data. As such, this thesis provides the first empirical test of such relationships between these constructs within PE. Moreover, this is the first study that investigates in such a manner the Irish context, providing a strong basis for future research on inclusive physical education in Ireland. Data gathered through the multi-scale questionnaire was used to for investigating the interactions between

Irish PE teachers': (i) attitudes towards the inclusion of children with SEND profiles; (ii) self-efficacy in providing inclusive pedagogies; and (iii) perceptions of the degree to which inclusion was supported within the school in which they worked.

1.3.1 Research Questions

The research questions addressed in each of the four empirical chapters of this thesis are as follows:

1: Do teachers hold mostly favourable or unfavourable attitudes towards the inclusion of SEND children in physical education? Which personal, professional, social, and practical factors can potentially affect teachers' attitudinal formation?

2: Are there differences in the direction and magnitude of PE teachers' attitudes towards the inclusion of children with SEND profiles for studies conducted before and after the publication of the Salamanca Statement?

3: Do demographic attributes and the characteristics of the school in which they work influence Irish PE teachers' (i) attitudes towards the inclusion of children with SEND profiles in mainstream PE classes; (ii) self-efficacy in delivering inclusive pedagogies; and (iii) perceptions of the given school within which they work?

4: Given the hypothesised model proposed, do the relationships between teachers' attitudes towards inclusion, self-efficacy to deliver inclusive pedagogy, and perceptions about whether and how inclusion was supported within their school covary at a significant level?

In summary, the overall aim of this dissertation was to investigate the inclusion of children with disabilities within PE classes in Ireland. As teachers have been identified as one of the most important enablers of inclusion, this thesis aimed to explore Irish PE teachers' attitudes and self-efficacy within the context of their school. This thesis updates previous evidence and provides new information that can be used to (i) implement future interventional studies; (ii) inform policy and stakeholders through research-driven evidence; and (iii) prompt schools and PE teachers to generate more awareness regarding the inclusive practices within the Irish schools.

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Chapter 2: Inclusion of children with special educational needs and disabilities in physical education: A systematic review and meta-analysis of teachers' attitudes.

This chapter is presented as the author-accepted manuscript of a peer-reviewed articles published in the *Educational Research Review* Journal (2022; 35, 100456)

2.1 Abstract

Research shows that teachers' attitudes toward physical education are associated with positive pupil outcomes. However, there is limited robust synthesis of evidence regarding teachers' attitudes toward working with vulnerable learners in physical education, particularly those with special educational needs and disabilities (SEND). This mixed methods systematic review and meta-analysis synthesizes the research evidence on teachers' attitudes towards the inclusion of children SEND children in physical education. Results indicated that teachers have largely favourable attitudes toward the inclusion of children with SEND in physical education, and that experience working with children with SEND was positively associated with such favourable attitudes. Further quantitative and qualitative synthesis also revealed that several different factors affect teachers' attitudes – namely, knowledge and preparation, years of teaching experience, direct experience working with SEND children, type, and degree of SEND, and collaboration and teaching support.

Keywords: physical education, inclusion, teachers' attitudes, children with disabilities, special educational needs

2.2 Introduction

There is widespread consensus that physical activity is beneficial for child development, including socialization and health (Janssen and LeBlanc, 2010), and international organizations now strongly advocate for engagement in regular physical activity as universally beneficial for all children regardless of ability status (World Health Organization, 2020). Despite the increased research emphasis on physical activity and its health- and development-related benefits for people and youth with disabilities (Kapsal et al., 2019; Hassan et al., 2019), young children and adolescents with special educational needs and disabilities (SEND) remain disproportionally negatively affected by health conditions relating to physical inactivity and sedentary time (Rimmer and Rowland, 2008; Collins and Staples, 2017, Pan et al., 2015). Of particular note within the existing research base is the extent to which SEND children remain excluded from structured physical education classes within schools (Maher, Williams, Olds, and Lane, 2007) or do not fully engage in PE activities (Sit et al., 2017), despite studies showing that SEND children often enjoy being physically active (Coates and Vickerman, 2010; Leo and Mourton, 2020; Rekaa, Hanisch, and Ytterhus, 2019). This evidence is particularly problematic since high-quality physical education has been highlighted as an important strategic area for both the promotion and facilitation of physically active lifestyles in childhood and adolescence (Murphy and Carbone, 2008).

Since the early 2000s, multiple studies have focused on synthesizing the research evidence on teachers' attitudes toward the inclusion of children with SEND in physical education (Block and Obrusnikova, 2007; Hutzler, Meier, Reuker, and Zitomer, 2019; Qi and Ha, 2012; Rekaa et al., 2019; Tant and Watelain, 2016; Wilhelmsen and Sørensen, 2017). As constructs that represent a person's (un)favorableness towards an object, action, or event (Doulkeridou et al., 2011), attitudes have been widely regarded by researchers as 'presage' factors (O'Brien, Kudláček, and Howe, 2009, p. 47) that signal the behavioural intentions of teachers vis-à-vis the inclusion of SEND children in physical education. As such, research on inclusive physical education has been linked primarily to Ajzen's (1991) theory of planned behaviour, within which an attitude

is defined as the psychological correlate of a person's intention to perform a certain behaviour. The original theory identified three components that converge to determine such an intention: (i) attitudes, which refer to the personal evaluation of the behaviour in question; (ii) subjective norms, which refers to perceptions of social pressures bearing on the behaviour in question; and (iii) perceived behavioural control, which refers to the factors that facilitate or inhibit the behaviour in question (Ajzen, 1991). In short, the theory of planned behaviour provided fertile ground with which to develop research on inclusion in physical education because teachers' attitudes were deemed to be the principal link between social pressures for greater inclusion and classroom-level behavioural change in schools.

Existing reviews of the evidence on inclusion in physical education reveal mixed outcomes (Wilhelmsen and Sørensen, 2017). For example, early reviews (Block and Obrusnikova, 2007) reaffirmed the 'disappointing, yet not surprising, finding' (ibid., p. 116) that teachers often have unfavourable attitudes towards the inclusion of SEND children. Later reviews signal something of a step-change from overtly unfavourable attitudes towards feelings of apprehension about working with SEND children (O'Brien et al., 2009), concerns about the adequacy of professional preparation and opportunities for collaboration (Tant and Watelain, 2016), and a general recognition that multiple factors and stakeholders can affect teachers' attitudes towards inclusion in physical education (Qi and Ha, 2012; Wilhelmsen and Sørensen, 2017). In the most-recently-published systematic review, Rekaa et al. (2019) concluded that, despite discrepancies between studies over time – and, crucially, despite some discrepancies between 'inclusive norms [yet to be] realized as inclusive practices' (p. 52) – at a macro level, 'change is taking place' (ibid., p. 53).

2.3 Aims

Despite the publication of these key studies, the research base still lacks robust synthesis. In particular, despite many strengths, previous attempts to systematically review the literature have largely focused on synthesizing qualitative research evidence in a discursive manner (Rekaa et al., 2019). And,

where quantitative research has been addressed, it has mostly been reviewed in the form of a 'descriptive synthesis' (Wilhelmsen and Sørensen, 2017, p. 329) as opposed to being robustly meta-analysed. Despite many published studies spanning numerous decades, the field is therefore still limited regarding what can be said about the strength of the evidence for (or indeed the relative weighting of factors affecting) teachers' attitudes towards inclusion. Against this backdrop, this paper presents the first mixed method systematic review and meta-analysis of the research evidence on teachers' attitudes towards the inclusion of SEND children in physical education. Two key objectives frame the following analysis: firstly, to assess and thereafter quantitatively estimate the extent to which teachers held mostly favourable or unfavourable attitudes towards the inclusion of SEND children in physical education; and, secondly, to identify the range of personal, professional, social, and practical factors that can potentially affect attitudinal formation.

2.4 Method

This mixed methods systematic review was conducted following the Preferred Reporting Items for Systematic Review and Meta-Analysis guidelines (Liberati et al., 2009). Both qualitative and quantitative studies were included in the review, and the process for selecting, searching, and synthesis is described in the following subsections.

2.4.1 Inclusion and Exclusion Criteria

The target population was in-service primary and secondary school physical education teachers. Studies were included if they were published: (1) in peer reviewed journals; (2) in English; and (3) between the 1st of January 1975[1] and the 31st of December 2018. Studies were excluded from consideration if: the target population were either pre-service physical education teachers or support teachers (e.g., Learning Support Assistants); or the setting was early years childcare, preschool, kindergarten, or at a university.

2.4.2 Databases and Search Strategy

A search of eight electronic databases was conducted between September 2018 and March 2019 to identify the relevant studies in the systematic review. The final search was conducted in March 2019, the databases, and precise key terms for which are available in Appendix 1. The studies yielded by the search strategy were imported into RAYYAN (Ouzzani, Hammady, Fedorowicz, and Elmagarmid, 2016). After removing duplicates, two authors independently screened the title and the abstract of each study against the inclusion/exclusion criteria. Differences in the authors' lists of included studies were resolved via consensus. In the final step of the search strategy, the reference lists of the included studies were checked to ensure saturation.

2.4.3 Risk of bias

Study quality was independently evaluated by two authors. Qualitative studies were assessed using the Critical Appraisal Skills Programme Qualitative Checklist (CASP, 2019). Quantitative studies were assessed using a checklist for studies using a questionnaire (Boynton and Greenhalgh, 2004). The criteria for both checklists were either coded as yes (✓) if they were explicitly presented and described, no (✗) if they were absent, or unclear (?) if they were not defined. Differences in the risk of bias assessment were resolved via consensus. The outcomes of the risk of bias assessments are summarized in Tables 2.1 and 2.2.

Table 2.1. *Risk of Bias Assessment for the Qualitative Studies.*

Authors, Year	Valid results	Qualitative methodology	Research design	Recruitment strategy	Data collected	Relationship researcher & participant	Ethical issues	Data analysis	Clear findings	Overall quality
Ammah & Hodge 2006	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Casebolt & Hodge 2010	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Combs et al. 2010	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Elliott 2008	✓	✓	?	✓	✓	✗	✗	✓	✓	M
Hardin 2005	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Hersman & Hodge 2010	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Hodge et al. 2004	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Hodge et al. 2009	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
LaMaster et al. 1998	?	✓	✓	✓	✓	✗	✗	✓	✓	M
Lienert et al. 2012	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Morley et al. 2005	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Qi et al. 2017	✓	✓	✓	✓	✓	✗	✓	✓	✓	H

Sato & Hodge 2009	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Sato et al. 2007	✓	✓	✓	✓	✓	✗	✗	✓	✓	H
Tanure Alves et al. 2017	✓	✓	✓	✓	✓	✗	✓	✓	✓	H
Townsend 2017	✓	✓	✓	✓	✓	✗	✓	?	✓	H
Vickerman & Coates 2009	✓	✓	✓	✓	✓	✗	✓	✓	✓	H
Zitomer 2016	✓	✓	✓	✓	✓	✗	✗	✓	✓	H

H = High, M = Moderate, L = Low. ✓ = Explicitly present, ✗ = Absent, ? = Unclear.

Table 2.2. *Risk of Bias Assessment for the Quantitative Studies.*

Authors, Year	Validated questionnaire	Example question	Adequate sample	Adequate demographic data	Distribution & administration	Adequate response rate	Appropriate analysis	Relevant data	Link between data & conclusion	Overall quality
Arab & Lytle 2002	✓	✓	✗	✗	✓	✓	✓	✓	✓	H
Beamer & Yun 2014	✓	✓	✓	✓	✓	✗	✓	✓	✓	H
Block & Rizzo 1995	✓	✓	✗	✓	✓	✓	✓	✓	✓	H
Dordic et al. 2014	✓	✓	✗	✗	✗	?	✗	✓	✓	M
Doulkeridou et al. 2010	✓	✓	✓	✓	✗	?	✓	✓	✗	M
Doulkeridou et al. 2011	✓	✓	✓	✓	✓	?	✓	✓	✓	H
Fornidou et al. 2001	✓	✓	✓	✓	✓	?	✓	✓	✓	H
Heikinaro & Sherrill 1994	✓	✗	✓	✓	✗	✓	✗	✓	✓	M
Hersman & Hodge 2010	✓	✗	✗	✓	✓	✗	✓	✓	✓	M
Hodge et al. 2009	✓	✗	✗	✓	✓	✗	✓	✓	✓	M
Hutzler & Barak 2017	✗	✓	✓	✓	✓	✗	✓	✗	✓	M

Jarvis Chaput & French 1990	✗	✗	✗	✗	✓	?	✓	✗	✓	L
Jeong & Block 2011	✓	✓	✓	✓	✓	✓	✓	✓	✓	H
Jerlinder et al. 2010	✗	✓	✓	✓	✓	✗	✓	✗	✓	M
Li et al. 2012	✓	✓	✗	✗	✓	✓	✓	✓	✓	H
Maeda et al. 1997	✓	✗	✗	✗	✓	✓	✓	✓	✓	M
Mauerberg-DeCastro et al. 2013	✗	✗	✗	✓	✗	?	✓	✓	✓	M
Meegan & McPhail 2006	✗	✓	?	✗	✓	✗	✓	✓	✓	M
Obrusnikova 2008	✓	✗	✓	✓	✓	✓	✓	✓	✓	H
Ogu et al. 2017	✓	✓	✗	✗	✗	?	✓	✓	✓	M
Ozer et al. 2013	✓	✗	✓	✗	✗	✓	✓	✓	✓	M
Papadopoulou et al. 2004	✓	✓	✗	✓	✓	?	✓	✓	✓	H
Rizzo 1985	✗	✗	✓	✓	✓	✓	✓	✗	✓	M
Rizzo & Wright 1987	✓	✓	✓	✗	✓	✓	✓	✓	✓	H
Rizzo & Vispoel 1991	✓	✓	✗	✓	✓	✓	✓	✓	✓	H
Rizzo 1984	✓	✓	✓	✗	✓	✓	✓	✓	✓	H

Sideridis & Chandler 1996	✗	✓	✗	✗	✗	?	✗	✓	✓	L
Wang et al.2005	✓	✓	✓	✓	✓	✓	✓	✓	✓	H

H = High, M = Moderate, L = Low. ✓ = Explicitly present, ✗ = Absent, ? = Unclear.

2.4.4 Data Extraction, Synthesis, and Analysis

Quantitative data were synthesized in two ways. First, data that were collected using the same validated measures were meta-analysed to estimate the extent to which teachers hold favourable, neutral, or unfavourable attitudes towards the inclusion of SEND children in physical education. See section 3.5 for a description of how the meta-analyses were conducted. The remaining data from quantitative studies were extracted and translated into standardized effect sizes (e.g., Cohen's *d* for evaluating mean differences between groups) by the authors to facilitate a robust narrative synthesis and interpretation.

Qualitative data were synthesized into themes using the following process: two authors independently (i) read the qualitative studies; (ii) identified the themes that were initially generated within each study by the original authors; (iii) categorized these within-study themes into higher-order themes based on whether or not they had been reported across multiples studies; (iv) resolved discrepancies in the two lists of higher-order cross-study themes through consensus. Data from studies that reported these higher-order themes were subsequentially narratively synthesized.

2.4.5 Meta-Analysis of Cross-Sectional Studies

Following Hopkins's (2018) suggestion to standardize data before use in a meta-analysis, data extracted from studies using validated attitudinal questionnaires were rescaled to a minimum and maximum possible value of 0 and 100, respectively. Once rescaled, data from individual studies were centred on a mean of zero. This facilitated an estimate (against the null) of the extent to which studies showed favourable or unfavourable attitudes towards the inclusion of children with SEND. This centring also had the added benefit of facilitating the production of a forest plot against which we could assess study attitudes against a neutral value of 0.

The Hartung-Knapp-Sidik-Jonkman method for estimating continuous random effects was used to meta-analyse these data (Inthout, Ioannidis, & Borm, 2014). The extent of between-study variability was calculated as a standard deviation (*Tau*). Uncertainty in the meta-analysed effect is presented as a 95%

confidence interval (CI). The meta-analysed mean was evaluated using the following scale of magnitudes: <10, trivial; 10-30, small; 30-50, moderate; 50-70, large; >70, very large (Hopkins et al., 2009). This scale was halved for evaluating the between-study standard deviation, or *Tau* (Hopkins, 2015). Data were meta-analysed in R Studio using the metagen package (Harrer, Cuijpers, Furukawa, and Ebert, 2019).

2.5 Results

The search strategy yielded 1,385 studies, of which 448 were excluded because they did not meet the inclusion criteria. Of the 937 remaining articles, 291 duplicates were removed. After title and abstract screening, a further 610 articles were excluded, and a total of 36 articles were deemed eligible for the systematic review. One author (anonymized) screened the references of previously published systematic reviews and found eight additional articles that were eligible for inclusion. Therefore, the total number of articles included in this study was 44 (Fig. 2.1). In total, 28 studies reported quantitative data gathered using either a questionnaire or a survey. Eighteen studies reported qualitative data obtained via either interviews or open-ended questioning. A further two mixed-methods studies were included both in the qualitative and quantitative syntheses.

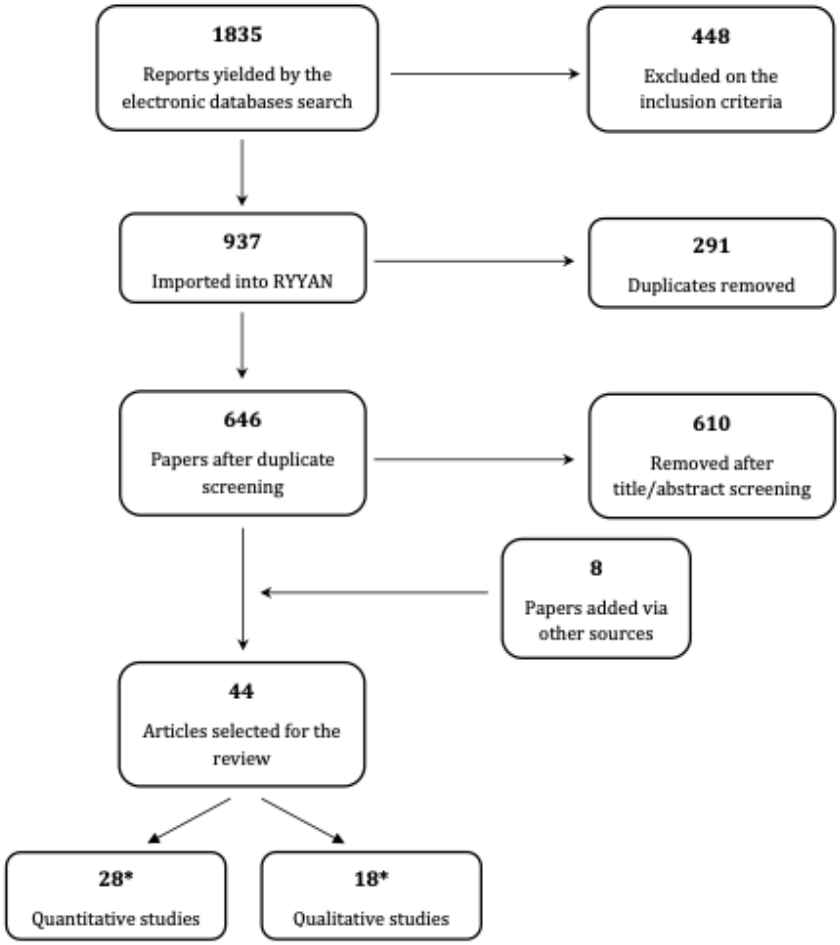


Figure 2.1: *Flow diagram of the studies included in the systematic review.*

2.5.1 Quantitative Studies

Twenty-six of the 28 studies reported quantitative data from a cross-sectional design (Table 2.3). Two studies reported the outcomes of a controlled trial of interventions affecting teachers' attitudes. As such, the baseline assessments served as cross-sectional data. Twelve studies were conducted in the USA, three in Greece, and one each in Nigeria, Serbia, Cyprus, Finland, Israel, Canada, Korea, Sweden, Hong Kong, Brazil, Ireland, Turkey, and China. Twenty-five articles used a validated questionnaire. Three studies used a bespoke survey.

As for the population of interest, nine studies investigated both primary *and* secondary school teachers, five studies investigated primary school teachers only, seven studies surveyed secondary school physical education teachers, and seven studies did not report any descriptive data that enabled us to assess the type of school or school level being investigated. Fourteen studies used a sample greater than or equal to 100, thirteen used a sample smaller than 100, and one study did not report the sample size (and it was subsequently excluded from the meta-analysis). Two articles with a sample size of five and 29 participants respectively used both a validated questionnaire and face-to-face focused interviews to collect data regarding teachers' attitudes.

Table 2.3. *Studies Included in the Quantitative Synthesis.*

Study	Country	Design	Sample characteristics				Questionnaire used
			Size	mean Age (SD)	Women	Men	
Arab & Lyttle 2002	USA	Cross-sectional	60	N/A	30	30	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III
Beamer & Yun 2014	USA	Cross-sectional	142	46.0(9.2)	90(63%)	52(37%)	Teachers' Beliefs and Intentions toward Teaching Students with Disabilities
Block & Rizzo 1995	USA	Cross-sectional	91	39.0(9.1)	57	34	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III
Dorđic et al. 2014	Serbia	Cross-sectional	84	N/A	80	4	Attitude Toward Inclusive Physical Education
Doulkeridou et al. 2010	Greece	Cross-sectional	155	37.7()	85	70	Attitudes toward Inclusion of Children with Physical Disabilities in Physical Education - for Greece
Doulkeridou et al. 2011	Greece	Cross-sectional	410	33.6(5.9)	210	200	Attitudes toward Inclusion of Children with Physical Disabilities in Physical Education - for Greece
Fournidou et al. 2011	Cyprus	Cross-sectional	100	47.2()	47	53	Attitudes toward Inclusion of Children with Physical Disabilities in Physical Education - for Greece
Heikinaro-Johansson & Sherrill 1994	Finland	Cross-sectional	307	39.2()	161	146	Teacher Beliefs About Physical Education Integration Scale

Hersman & Hodge 2010[1]	USA	Cross-sectional	5	40.0(4.3)	3	2	Physical Educators' Judgments About Inclusion
Hodge et al. 2009[1]	USA	Cross-sectional	29	41.0(9.8)	11	18	Physical Educators' Judgments About Inclusion
Hutzler & Barak 2017	Israel	Cross-sectional	121	41.0(9.3)	75	46	N/A
Jarvis & French 1990	Canada	RCT	14/14	N/A	N/A	N/A	Learning Handicapped Integration Inventory
Jeong & Block 2011	Korea	Cross-sectional	220	37.1(7.5)	42(19%)	178(81%)	Teachers' Beliefs and Intentions toward Teaching Students with Disabilities
Jerlinder et al. 2010	Sweden	Cross-sectional	221	35.5()	106(48%)	115(52%)	N/A
Li et al. 2012	Hong Kong	Cross-sectional	83	N/A	31	52	Integrated Physical Education Service Delivery Questionnaire
Maeda et al. 1997	USA	Cross-sectional	26	N/A	15	11	Physical Educators' Perceptions of Inclusion Inventory
Mauerberg-DeCastro et al. 2013	Brazil	Non-RCT	47/28	38.4(8.2)	70	5	N/A
Meegan & MacPhail 2006	Ireland	Cross-sectional	N/A	N/A	N/A	N/A	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III
Obrusnikova 2008	USA	Cross-sectional	168	44.0(10.0)	89	79	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III
Ogu et al. 2017	Nigeria	Cross-sectional	66	N/A	33	33	Physical Educators Attitude Toward the Teaching of Handicapped

Ozer et al. 2013	Turkey	Cross-sectional	729	N/A	214	515	Teachers' Attitude toward Children with Intellectual Disability Scale
Papadopoulou et al. 2004	Greece	Cross-sectional	93	37.0()	37	56	Teacher Integration Attitudes Questionnaire
Rizzo 1984	USA	Cross-sectional	210	N/A	N/A	N/A	Physical Educators Attitude Toward the Teaching of Handicapped
Rizzo 1985	USA	Cross-sectional	194	40.0(8.2)	74	120	N/A
Rizzo & Vispoel 1991	USA	Cross-sectional	94	38.0(7.4)	46	48	Physical Educators Attitude Toward the Teaching of Handicapped-II
Rizzo & Wright 1987	USA	Cross-sectional	136	N/A	59	77	Physical Educators Attitude Toward the Teaching of Handicapped
Sideridis & Chandler 1996	USA	Cross-sectional	56	36.0()	N/A	N/A	Teacher Integration Attitudes Questionnaire
Wang et al. 2015	China	Cross-sectional	195	33.0(6.7)	71	124	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III

1. Hersman & Hodge 2010 and Hodge et al. 2009 were included both in quantitative and qualitative syntheses. RCT: Randomized Controlled Trial.

Meta-Analyses

Of the 25 studies that used a validated questionnaire, 15 were eligible for inclusion in the meta-analysis to assess the extent to which physical education teachers hold favourable, unfavourable, or neutral attitudes towards the inclusion of SEND children. Fig. 2.2 provides the descriptive statistics and weighted standardized mean differences from zero for each of the individual studies (left). These weighted mean differences and their respective 95% CIs are also plotted on a forest plot (right) alongside the pooled meta-analytic mean (diamond). The forest plot shows that the meta-analytic mean was positive (mean = 8.47) and that the data were compatible with a trivial-to-small effect size (95%CI = 2.92 to 14.01). Heterogeneity in the data was small, but still substantial, as demonstrated by the between-study standard deviation (*Tau* = 9.68).

Six studies were included in a meta-analysis to explore gender differences in teachers' attitudes. The forest plot (Fig. 2.3) shows that there was substantial heterogeneity in the data. Males had more favourable attitudes in one study, whereas females had more favourable attitudes in three. Perhaps unsurprisingly, therefore, the meta-analytic mean difference in attitudes between the genders was non-significant. Three studies were included in a meta-analysis to assess the association between teachers' attitudes and experience working with SEND children. The forest plot (Fig. 2.4) shows that there was a small positive association and also that there was limited heterogeneity in the association between experience and teacher attitudes.

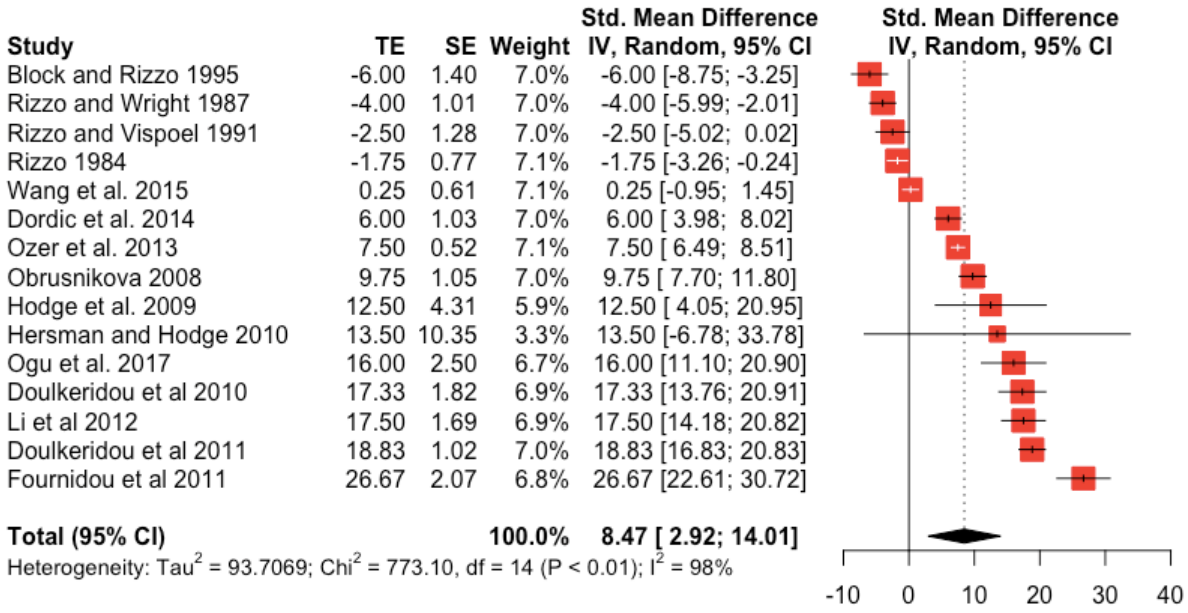


Figure 2.2: *Meta-analysis of the weighted standardized mean differences across studies. The vertical line represents the overall mean (zero). CI, confidence interval*.

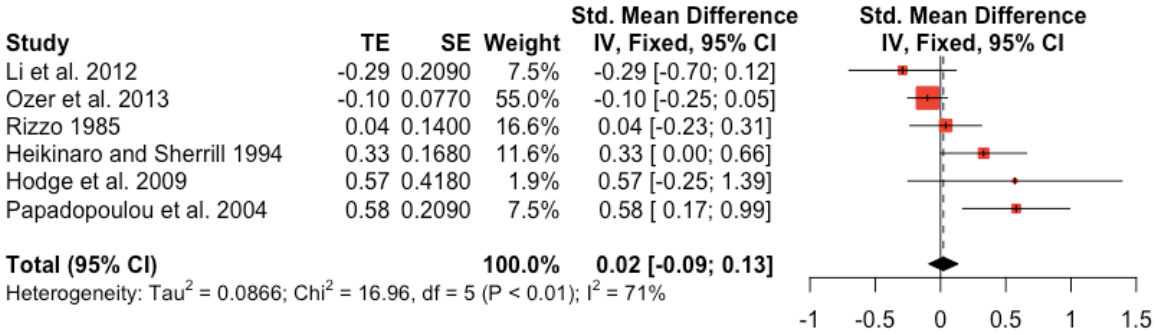


Figure 2.3: *Meta-analysis of the weighted standardized mean differences between males and females. The vertical line represents no differences between the compared groups. CI, confidence interval*.

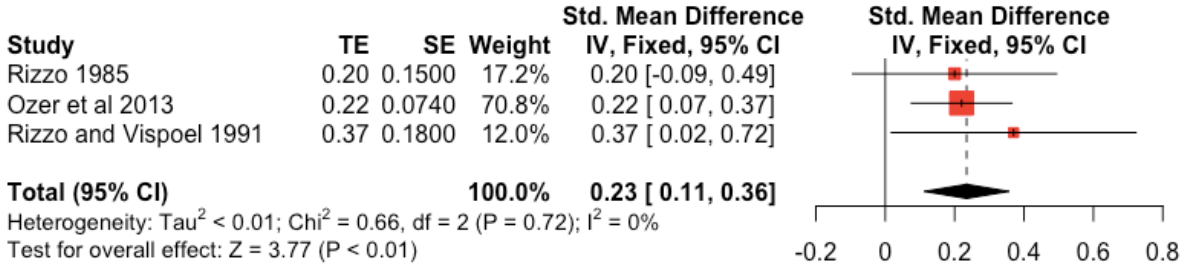


Figure 2.4: *Meta-analysis of the weighted standardized mean differences between teachers with and without direct experience working with SEND children. The vertical line represents no differences between the compared groups. CI, confidence interval.*

Narrative Synthesis of Quantitative Studies

Six studies provided data showing that teachers' attitudes towards the inclusion of SEND children in physical education differed based on the type of SEND. The standardized effect sizes from these studies are summarized in Table 2.4.

Table 2.4. *Summary of the effect sizes reported in the studies that investigated the association between teachers' attitudes towards based on type of SEND.*

Study	Results	Effect size[a]	CIs	*p* value
Hutzler & Barack, 2017	More favourable toward children independently mobile	0.90	0.40 to 1.50	<.001
Block & Rizzo, 1995	Less favourable toward children with profound disabilities	-0.64	-0.91 to -0.37	<.001
	Less favourable toward children with more severe intellectual disabilities	0.52	0.24 to 0.80	<.001
Rizzo & Vispoel, 1991	Less favourable toward children with behavioural disorders	0.64	0.36 to 0.92	<.001
Obrusnikova, 2008	Less favourable toward children with emotional and behavioural disorders	-0.60	-0.86 to -0.34	<.001
Rizzo & Wright, 1987	More favourable towards children with learning disabilities	0.22	0.09 to 0.35	<.001
Ogu et al, 2017	More favourable towards children with learning disabilities	0.003	-0.08 to 0.9	.94

[a] Effects represent standardised mean differences in the teachers' attitudes between groups (e.g., differences in teachers' attitudes towards teaching children with and without a learning disability). The magnitude of the effect sizes was evaluated according to the following (i.e., Cohen's) scale: < 0.20, trivial; 0.20 to < 0.50, small; 0.50 to < 1.00, moderate; > 1.00, large.

In terms of physical disabilities, Hutzler and Barak (2017) reported that teachers had more favourable attitudes toward working with independently mobile children – i.e., did not require assistive devices. Block and Rizzo (1995) reported a moderate-sized difference in teachers' attitudes based on the degree of severity of SEND. Teachers were less favourable towards working with children with profound disabilities. Rizzo and Vispoel (1991) found a difference in teachers' attitudes based on whether they were dealing with learning disabilities or more severe intellectual disabilities and behavioural disorders. Later research by Obrusnikova (2008) also reported that teachers had less favourable attitudes towards working with children with emotional and behavioural disorders than with other types of SEND (i.e., physical, intellectual, sensory, and learning disabilities).

Two studies (Ogu, Umunnah, Nwosu, and Gloria, 2017; Rizzo and Wright, 1987) provided mixed results about teachers' attitudes towards inclusion of children with learning or physical disabilities. Rizzo and Wright (1987) found that teachers had more favourable attitudes towards working with children with learning disabilities, whereas a follow-up study by Ogu et al. (2017) found no significant difference. A final two studies (Arab and Lytle, 2002; Meegan and MacPhail, 2006) reported data that suggested differences in teachers' attitudes according to four different types of SEND. However, there was insufficient data provided in these papers to calculate their corresponding standardized effects.

The remaining results that were extracted from the quantitative studies are displayed in Table 2.5. Noteworthy is the extent to which engaging in professional learning activities, such as undertaking inclusion-specific courses, was associated with teachers' attitudes toward inclusion. Three of four studies reported large effect sizes (Hodge et al., 2009; Jerlinder, Danermark, and Gill, 2010; Maeda, Murata, and Hodge, 1997), suggesting that high-quality professional development experiences could have a positive impact on teachers' attitudes.

Table 2.5. *Summary of the Quantitative Studies Results.*

Theme	Study	Effect size[a]	CIs	*p* value
Class size	Li et al., 2012	-0.20	-0.65 to 0.24	.38
	Hodge et al., 2009	0.79	0.08 to 1.50	.030
Region (Urban and Rural)	Dorđic et al., 2014	0.40	-0.02 to 0.82	.06
Teachers' age	Jerlinder et al., 2010	-0.28	-0.54 to -0.02	.035
	Rizzo, 1985	-0.45	-0.9 to -0.002	.049
	Heikinaro-Johansson & Sherrill, 1994[b]	0.13	0.03 to 0.23	.009
	Özer et al., 2013[c]	-0.06	-0.29 to 0.16	.29
	Li et al., 2012[d]	0.46	-0.06 to 0.96	.084
Years' teaching experience	Rizzo, 1985	-0.18	-0.23 to 0.10	.21
	Beamer & Yun, 2014	0.16	-0.18 to 0.48	.34
	Özer et al., 2013	0.37	0.16 to 0.70	.007
Professional courses (CPD)	Hodge et al., 2009	0.57	-1.04 to 2.18	.43
	Rizzo, 1985	0.28	-0.002 to .57	.06
Academic courses	Hodge et al., 2009	0.64	-0.02 to 1.29	.06
	Jerlinder et al., 2010	0.98	0.44 to 1.52	<.001
	Maeda et al., 1997	0.90	-0.30 to 2.10	.14
	Rizzo & Vispoel, 1991	0.22	-0.18 to 0.65	.30

[a] Effects represent standardised mean differences in attitudes between teachers with below (mean -1SD) and above (mean +1SD) values on the predictors (e.g., differences in attitudes for teachers with below and above average years of experience). The magnitude of the effect sizes was evaluated according to the following (i.e., Cohen's) scale: < 0.20, trivial; 0.20 to < 0.50, small; 0.50 to < 1.00, moderate; > 1.00, large.

[b] Attitudinal were estimated between pre-specified age categories: teachers aged between 22-31 and teachers aged between 46-63.

[c] Attitudinal were estimated between pre-specified age categories: teachers aged between 21-30 and teachers aged between 40-60.

[d] Attitudinal differences were estimated between teachers with fewer and more than six years of experience.

2.5.2 Qualitative Studies

Eighteen studies were included in the qualitative synthesis. Eleven studies were conducted in the US, two in the UK and Japan, and one in Hong Kong, Brazil, and Canada respectively. Each study used interviewing as the primary research method: including open-ended questions, focused interviews, and semi-structured interviews. In two studies (Ammah and Hodge, 2006; Hodge, Ammah, Casebolt, Lamaster, and O'Sullivan, 2004), data were also collected using non-participant observation. Seven studies investigated teachers' 'beliefs' about inclusion. Four studies investigated teachers' 'attitudes' and 'perceptions' about inclusion. Two studies investigated teachers' 'viewpoints', and one study investigated teachers' explicit 'concerns' about including SEND children in their classes. As for the populations of interest, five studies focused on primary school teachers, eight studies focused on secondary school physical education teachers, and four studies did not report data about the type of school within which the teachers worked. Only one study investigated both primary and secondary school teachers (Townsend, 2017).

A list of the themes that emerged from the qualitative synthesis is presented alongside their corresponding studies in Table 2.6. Eight higher-order cross-study themes were identified, the evidence for which is discussed in each of the following subsections. It is noteworthy that four of these eight themes were also reported in the sections above, in the quantitative synthesis. Therefore, we have used a Venn Diagram (Fig. 2.5) to illustrate the factors associated with teachers' attitudes towards the inclusion of SEND children in physical education for which we have quantitative and qualitative evidence (i.e., the *union* of the Venn Diagram), and for which we have corroborating mixed-methods evidence (i.e., the *intersection*). The following qualitative synthesis begins with a discussion of the four factors located at the intersection, which might otherwise be regarded as those factors for which we have the strongest empirical evidence – i.e., empirical evidence that was reported across multiple qualitative studies of primary *and* secondary school teachers.

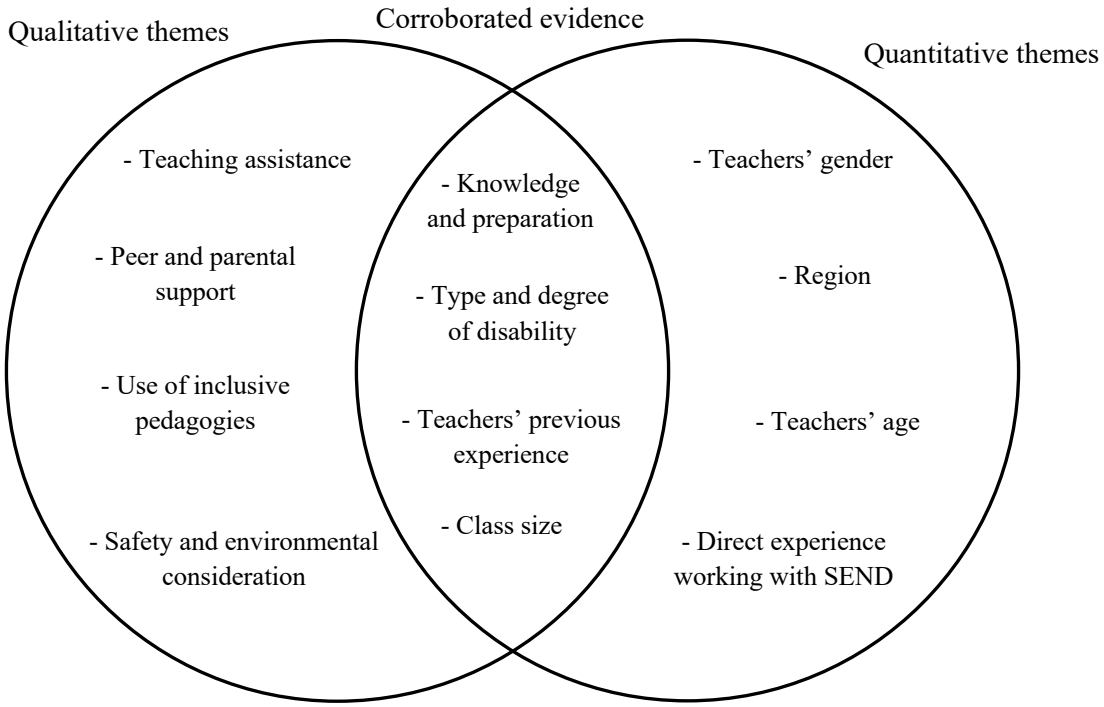


Figure 2.5: *Venn Diagram of the themes emerged from the qualitative and the quantitative syntheses.*

Table 2.6. *Summary of the Themes Emerged from the Analysis of the Qualitative Studies.*

Theme	Studies in which the theme was reported
Knowledge and preparation	Ammah & Hodge 2006; Casebolt & Hodge 2010; Combs et al. 2010; Hersman & Hodge 2010; Hodge et al. 2004; Hodge et al. 2009; LaMaster et al. 1998; Lienert et al. 2001; Morley et al. 2005; Qi et al. 2017; Sato et al. 2007; Sato & Hodge 2009; Tanure Alves et al. 2017; Townsend 2017; Vickerman & Coates 2009
Teachers' previous experience	Casebolt & Hodge 2010; Hardin 2005; Hersman & Hodge 2010; Hodge et al. 2009; Morley et al. 2005; Sato et al. 2007; Sato & Hodge 2009; Tanure Alves et al. 2017; Townsend 2017; Vickerman & Coates 2009.
Type and degree of disability	Casebolt & Hodge 2010; Hersman & Hodge 2010; Hodge et al. 2004; Morley et al. 2005; Sato et al. 2007; Sato & Hodge 2009
Teacher collaboration and teaching assistance	Ammah & Hodge 2006; Hersman & Hodge 2010; Hodge et al. 2004; Hodge et al. 2009; Lienert et al. 2001; Morley et al. 2005; Qi et al. 2017; Sato et al. 2007; Sato & Hodge 2009; Tanure Alves et al. 2017
Peer and parental support	Ammah & Hodge, 2006; Hodge et al., 2004; Hodge et al., 2009; LaMaster et al., 1998; Lienert et al., 2001; Qi et al., 2017; Sato et al., 2007; Zitomer, 2016
Class size	Ammah & Hodge, 2006; Hodge et al. 2004; Hodge et al. 2009; Lienert et al., 2001; Qi et al., 2017; Sato et al. 2007; Sato & Hodge 2009; Tanure Alves et al. 2017
Use of inclusive pedagogies	Ammah & Hodge, 2006; Combs et al., 2010; LaMaster et al., 1998; Zitomer, 2016
Safety and environmental considerations	Hodge et al., 2004; LaMaster et al., 1998; Qi et al., 2017; Sato & Hodge, 2009; Vickerman & Coates, 2009;

Theme 1. Knowledge and Preparation

A prominent theme for both primary and secondary school teachers in the qualitative synthesis was the background knowledge and the additional preparations that teachers perceived as being necessary to work with children with SEND. Lack of knowledge about different types of disabilities and impairments was also reported by teachers as a particular concern. (Tanure Alves et al., 2017). Teachers in 15 studies reported a lack of knowledge, which they perceived as being due to shortfalls in pre-service training. The general sense from physical education teachers being interviewed across studies was that they did not have adequate preparation for inclusive physical education during their initial teacher training (Ammah and Hodge, 2006; Vickerman and Coates, 2009). Whilst this lack of preparation was a source of concern and frustration, studies also showed that teachers were willing to be proactive and seek out new knowledge to support their practice (Sato, Hodge, Murata, and Maeda, 2007; Townsend, 2017).

Where academic preparation was perceived as inadequate, physical education teachers reported that they needed to learn formally (e.g., attend CPD workshops or conferences about inclusion) or informally (e.g., independently research pedagogical strategies). Obtaining more knowledge about how to plan for and support pupils with different types of disabilities was important (Hodge et al., 2004; LaMaster, Gall, Kinchin, and Siedentop, 1998). Evidence suggests that PE teachers value opportunities to learn about inclusive pedagogical strategies and to obtain concrete examples of activities for use in their own classroom (Hersman and Hodge, 2010; Qi, Wang, and Ha, 2017; Sato and Hodge, 2009) – what some studies referred to as ‘coping strategies’ or ‘solutions’ (Lienert, Sherrill, and Myers, 2001) to the challenge of inclusion.

Theme 2. Teachers’ Previous Experience

A second theme that emerged was the importance of teachers’ experience working directly with SEND children. This theme was clearly evident amongst secondary school teachers (five studies). This theme was also evident in a study that combined the perspectives of both primary *and* secondary school teachers,

as well as in four studies that did not report the details of the study setting. Such experience, teachers reported, was an essential aspect of developing their working knowledge of inclusive practice, and, subsequently, building confidence (Hardin, 2005). It was acknowledged that more years of experience teaching SEND led to more favourable attitudes (Casebolt and Hodge, 2010; Hersman and Hodge, 2010; Hodge et al., 2009; Morley, Bailey, Tan, and Cooke, 2005). There was also evidence of a connection between teachers' attitudes and the degree to which teachers found working with SEND children satisfying or rewarding. The evidence suggests that experience overcoming (perceived or actual) barriers to working directly with SEND children (and subsequently seeing them progress) can be a strong attitudinal reinforcer for teachers. In other words, teachers' experiences of working *effectively* with SEND children in physical education built confidence and thereafter positively affected attitudinal judgments (Sato and Hodge, 2009; Sato et al., 2007).

Theme 3. Type and Degree of Disability

The qualitative data corroborates the findings presented in section 4.1.2 about the association between the degree of disability and teachers' attitudes – however, for secondary school teachers only. Studies in the qualitative synthesis also suggested that secondary school teachers were more favourable toward working with mild and moderate as opposed to severe disabilities (Casebolt and Hodge, 2010; Hersman and Hodge, 2010; Hodge et al., 2004; Morley et al., 2005; Sato and Hodge, 2009; Sato et al., 2007). Teachers reported finding it especially difficult to work with children with Emotional and Behavioural Disorders, such as Attention Deficit and Hyperactivity Disorder or Autism Spectrum Disorder. They reported feeling more competent working with 'less disruptive' disabilities (Casebolt and Hodge, 2010; Hersman and Hodge, 2010; Hodge et al., 2004), such as Learning Disabilities or Physical Disabilities (Morley et al., 2005). There was a general sense across studies that teaching students with mild disabilities was easier because it required fewer adaptations to lesson planning and individual in-class activities. Children with mild disabilities were also perceived by

teachers as requiring less one-to-one time than students with severe disabilities (Casebolt and Hodge, 2010; Morley et al., 2005; Sato and Hodge, 2009).

Theme 4. Class Size

Eight studies, of which five samples were collected across secondary school teachers, and one from primary school teachers (samples were not reported in two studies) reported that larger class sizes negatively influenced teachers' beliefs about the feasibility of including SEND children (Ammah and Hodge, 2006; Hodge et al., 2009, 2004; Lienert et al., 2001; Qi et al., 2017; Sato and Hodge, 2009; Sato et al., 2007; Tanure Alves et al., 2017). Teachers were concerned about both the safety of lessons for SEND children, and also the quality of teaching being delivered to support individual SEND learners. Teachers were inclined to feel more confident and competent teaching SEND children in smaller groups, where more individual attention could be given and where safety concerns could be closely and directly monitored (Lienert et al., 2001; Qi et al., 2017; Tanure Alves et al., 2017).

Theme 5. Teacher Collaboration and Teaching Assistance

Ten studies, of which 6 samples were from secondary school teachers and one sample from both primary *and* secondary school teachers (samples not reported in three studies) reported that the degree of support teachers perceived they had influenced (either positively or negatively) their attitudes. In general, the more support the teachers received, the more favourable their attitudes and perceived efficacy (Hodge et al., 2004; Sato and Hodge, 2009). Supporting behaviours between teachers were also widely reported. Teachers were keen to share information and knowledge about effective inclusive practice with their colleagues (Hersman and Hodge, 2010; Lienert et al., 2001; Qi et al., 2017). Many studies show that collaboration helped teachers to 'achieve' greater inclusion of SEND children (Qi et al., 2017; Sato et al., 2007).

Collegiality only goes so far, however. The following additional supports were also perceived by teachers as necessary: requiring in-class teaching assistants, buy-in from peers without disabilities during class time, and

collaboration with and reinforcing behaviours by parents outside of schools. Practically speaking, the lack of availability of teaching assistants and administrative support was raised as one of the major concerns. Clearly, there was a perception that having SEND children in one's class requires 'more work' (Ammah and Hodge, 2006; Hersman and Hodge, 2010; Hodge et al., 2009; Morley et al., 2005; Qi et al., 2017; Sato et al., 2007). Particularly noteworthy was the finding that teachers perceived physical education as receiving less support in the form of teacher assistance than other school subjects (Morley et al., 2005), even though it was widely acknowledged that having assistance during physical education lessons was a major facilitator of inclusion (Morley et al., 2005; Tanure Alves et al., 2017; Townsend, 2017).

Theme 6. Peer and Parental Support

Students without SEND were seen as a crucial factor impacting teachers' attitudes about the degree of inclusion feasible within a given class. This theme was reported across samples of primary *and* secondary school teachers. The acceptance of and expression of prosocial behaviours toward SEND children were seen as direct enablers of inclusion (Ammah and Hodge, 2006). In fact, helping behaviours from children without SEND were perceived as a useful teaching strategy in themselves (Hodge et al., 2004; LaMaster et al., 1998; Zitomer, 2016). The opposite was also the case, however. Unfavourable attitudes amongst classmates – especially during competitive activities – raised concerns among teachers and affected the degree to which inclusion could be achieved within a given class session (Lienert et al., 2001; Qi et al., 2017).

Outside of the classroom, it was also clear from qualitative studies that support from parents was an important factor affecting inclusion. Teachers reported that collaborating with SEND children's parents was a fundamental aspect of inclusion (Qi et al., 2017; Sato et al., 2007). However, this was not always achievable. For example, qualitative studies show that parents often have very different views about inclusive practices (Hodge et al., 2009). Some parents simply do not want their child to be in class with children without SEND (Qi et al., 2017). Such a view, quite clearly, can directly affect a teacher's attitude about

their role as a facilitator of inclusion, and about their responsibility to actively promote and even prompt the inclusion of a given child in physical education whilst at school.

Theme 7. Use of Inclusive Pedagogy

The importance of planning for and using an inclusive pedagogy was also a recurring theme within qualitative studies, primarily from primary school teachers (three from primary school teachers and one from secondary school teachers). Combs et al. (2010), for example, found that teachers with favourable attitudes were also teachers who developed written plans for their classes – including considerations about how to differentiate one's teaching strategy to proactively enable inclusion. Thinking about modifications that would be required in a lesson plan – and making sure that one had the necessary equipment to support these modifications – were reported by teachers as strategies that were necessary for including SEND children. Despite the commitment to and known benefits of pursuing an inclusive pedagogy, teachers also reported challenges making this a reality in the classroom. For example, teachers reported experiencing difficulties managing their time properly when pursuing a more inclusive pedagogy – i.e., managing the optimal balance of their time between working with SEND children and working with the rest of the class (Ammah and Hodge, 2006; LaMaster et al., 1998).

Theme 8. Safety and Environmental Considerations

A final theme that emerged across the qualitative literature was the need for teachers, both from primary *and* secondary schools, to consider safety and broader environmental factors affecting SEND children's engagement in physical education. For example, teachers found that it was easier to be inclusive during indoor activities. This is because they had more control over the range of possible environmental factors (e.g., easier to keep an eye on the group; access through the changing rooms for wheelchairs) affecting SEND children. Regardless of environmental conditions, however, teachers reported concerns about the increased likelihood of injury for SEND children (Hodge et al., 2004; Qi et al.,

2017; Sato and Hodge, 2009). This was due not only to the nature of the activity (Hodge et al., 2004; Sato and Hodge, 2009), but also to unexpected behaviours of students with SEND, which were perceived by teachers as unduly risky, or not worth the risk (Qi et al., 2017). Crucially, team-based activities were perceived as being much more problematic for SEND children (Vickerman and Coates, 2009). Data reported in Hodge et al. (Hodge et al., 2004), for example, showed clearly that teachers were particularly fearful for SEND children during competitive team-based activities, particularly as the tempo and the stakes of the game increased. Such competitive contexts – namely, games and activities where ability levels are clearly apparent and/or where there are clear winners and losers – raise the question about the appropriateness of certain activities for SEND children. In such contexts, Sato and Hodge (2009) acknowledge that there are often clear physical risks to SEND children. However, far from simply being a matter of physical risk, the qualitative evidence also suggests that psychological, or psychosocial, risks can arise when activities are inappropriately designed. Sato and Hodge (2009) interviewed teachers who were concerned about the 'psychological safety' (ibid., p. 166) of SEND children and the risk of students feeling a sense of inferiority or alienation from the norms of their peer group. In the worst-case scenario even reported having a fear of SEND children experiencing verbal and physical abuse from their peers if the entire class was not constantly supervised (LaMaster et al., 1998).

2.6 Discussion

2.6.1 Reflections on the Evidence

The purpose of this mixed-methods systematic review and meta-analysis was to evaluate the available research evidence on teachers' attitudes toward the inclusion of children with SEND in physical education classes. The results indicated that teachers' attitudes were positive overall, with only a small degree of between-study heterogeneity. In contrast with some findings from previously published reviews in the domain of general education (Scruggs and Mastropieri, 1996; Avramidis and Norwich, 2002; de Boer, Pijl and Minnaert, 2010; cf. Russell,

Scrinney and Smyth, 2022), this is both a significant and promising new finding. The finding is significant because teachers' attitudes are consistently reported in the research evidence as key proximal factors affecting the inclusion of students with SEND (Lautenbach and Heyder, 2019; Robinson, 2017; Wilson et al., 2016). The finding is promising because, in the most comprehensive meta-analysis available to date on attitudes towards inclusion – which includes data from over 10,000 general education teachers published in 1996 – Scruggs and Mastropieri (1996) reported that, in over 37 years of studies between 1958 and 1995, few positive changes had occurred.

On the face of it, data from the quantitative meta-analysis suggest that, in the field of physical education at least, attitudes towards inclusion are positive and have potentially even shifted over time (though, a longitudinal analysis would be required to address this latter point more directly). Data from our qualitative synthesis revealed that perceived shortcomings in the institutional support mechanism that can lead to the development of inclusive attitudes among teachers in physical education still clearly exist. Most prominent among these shortcomings were teachers, both primary *and* secondary, reporting having inadequate preparation to practice inclusive physical education. This is unsurprising. There is a large body of international consensus and empirical evidence signalling that initial teacher education still does not have enough of an impact on teachers' preparedness for delivering inclusive education (European Commission, 2018; European Agency for Development in Special Needs Education, 2012; OECD, 2009). We would caution that this is not primarily a quantitative issue of having sufficient knowledge about inclusion (cf. Cochran-Smith and Dudley-Marling, 2012). It is not simply about 'infusing' initial teacher education with more knowledge about inclusion (see e.g., DePauw and Goc Karp, 1994; Kowalski, 1995; Tripp and Rizzo, 2006), Rather, according to Florian and colleagues (Florian et al., 2009; Florian and Camedda, 2020), the problem of inclusion continues to persist because trainee teachers still have limited opportunities to *both* understand the guiding principles of effective inclusive pedagogies whilst also reflecting upon their own personal beliefs and values

which (if even only unconsciously) shape how they organize the learning environment (Oyler, 2006; Rouse and Florian, 2012).

Beyond the initial teacher training phase of career development, our results also suggest that participation in in-service training (also referred to as continuing professional development, or CPD) can be linked to the formation and development of attitudes. The results of this study also draw attention to the importance of informal – i.e., 'on the job' or 'on site' – learning. For example, our results showed that teachers highly valued collegial interactions about inclusion, which is a potentially valuable mechanism for contextualizing inclusion within the broader educational setting and curriculum framework that teachers must apply (or even adhere to) in their specific school (Florian and Camedda, 2020). We say 'potential' because there is growing international research on teacher professional learning cautioning that such informal learning is not a panacea (see e.g., Makopoulou, 2018). For example, collegial interactions about inclusive practice are grounded in misunderstandings about what constitutes good inclusive practice – or is over-reliant on sharing anecdotal evidence, without reflection – they can provide the 'right' context for the 'wrong' type of information to be disseminated. Reviews by both Waitoller and Artiles (2013) and more recently by Van Mieghem et al. (2020) have both reflected on the opportunities that still exist for such workplace learning to support inclusion. However, both caution that the reality of workplace learning continues to be mired by inadequate theorization and/or remains insufficiently underpinned by a strong empirical evidence base. We agree with this and would add (in the vein of O'Connor et al., 2016) that additional attention needs to be given to whether and how theories of and empirical evidence about inclusion can be used (both formally in CPD settings and informally by communities of practice of teachers in schools) to directly scrutinise the stereotypical attitudes that risk long term reproduction of exclusionary pedagogical practices.

Scrutinising the evidence from this review, it could be argued that a subtle discourse of 'exclusion' still subtends teachers' attitudes and is also still latent in their self-reported experiences of including SEND pupils in PE lessons. This is evident in this review (and other studies, such as Center and Ward, 1987;

Scruggs and Mastropieri, 1996; Avramidis and Norwich, 2002; de Boer, Pijl and Minnaert, 2010) in the extent to which the type and the degree of disability were associated with differences in teacher attitudes. Naturally enough, if teachers report feeling inadequately prepared for inclusion in a general sense, then it stands to reason these perceptions and their attitudinal consequences would be exacerbated in the context of more challenging or unpredictable behaviours. However, teachers also consistently raise concerns about the additional time that is required to effectively include students with SEND – if this is not fully exclusionary, then it is at the very least a persisting 'burden of inclusion' mentality. Such a mentality can often be interpreted to mean "…time spent away from other, 'normal' learners", and worse yet "…time not well spent", or "…a waste of my time". In this context, many teachers will earnestly report wanting or needing to learn more about specific disabilities. However well-intentioned, such yearning for more knowledge about different disabilities has been argued by some educationalists as simply drawing attention away from the true central tenet of and starting point for learning about inclusion – i.e., every child is different.

2.6.2 Implications of the Evidence

The evidence available for review and synthesis in this paper suggests that how teachers (and potentially even researchers) think about SEND children still largely reflects a 'categorical' understanding of inclusion (Hauerwas and Mahon, 2018; Messiou, 2017). For advocates of this way of thinking about inclusion, the use of such categories is helpful to identify needs and access additional supports for individual learners. Reflecting on this categorical understanding, it is little wonder that teachers have historically had unfavorable attitudes and continue to have reservations about the feasibility of inclusive practice. When inclusive pedagogy is grounded in a tacit assumption about the need to access additional (and potentially scarce) resources – which increases workload – it stands to reason that teachers would report being under-resourced to make inclusion a reality in their individual classroom.

Such a categorical approach has, for a long time, also been recognized (and widely criticized) as the 'deficits' approach. In the context of the learner, this

deficits approach views work to accommodate SEND children's needs as disrupting the normal flow of learning – a flow that is often high-energy and high-paced in a physical education lesson, and can even be high-stakes when competitive, games-based, models of practice are being employed to facilitate learning. In the context of the teacher, such a deficits approach can be a constant reminder of shortfalls in one's knowledge about this or that category of learner and their complex individual needs, and ultimately shortfalls in one's professional competence. Once again on the side of the learning, practising the deficits approach also ultimately risks heightened exposure to stigmatization in physical education for SEND children – even the most well-intentioned and well-prepared teachers can end up drawing direct attention to the physical limitations of SEND learners, rather than using the classroom to identify, showcase, and celebrate the many different ways in which achievement in physical education can be manifested (cf., Makopoulou et al., 2019). Inclusion, Blanco (2009) writes, is not simply about carrying out 'individualized actions to respond to the needs of specific students' (p. 14). Rather, Florian and Black-Hawkins (2011) contend, that effective inclusive practice should actually reduce rather than increase teachers' perceived need to mark some learners as different.

2.6.3 Strengths and Limitations

The meta-analysis of quantitative data was a particular strength of this study, particularly when compared to previous reviews that relied solely on narrative synthesis. The mixed-methods data reported in this review now gives a much clearer sense of the strength of the evidence on teachers' attitudes towards inclusion, as well as a more comprehensive basis from which to discuss the magnitudes of the associations between different factors affecting teachers' attitudes. This mixed-methods data is also now useful for practical purposes, such as resource allocation to develop new interventions to promote inclusion in physical education in schools. We would argue that such intervention should be based on factors for which we have *both* supporting quantitative and qualitative evidence – i.e., factors located at the intersection of the Venn Diagram in Fig. 5.

Continuity in the instrumentation used to assess teachers' attitudes across quantitative studies represents a limitation of this review. The lack of consistent instrumentation across all quantitative studies precluded a more comprehensive meta-analysis of the factors predicting teachers' attitudes in cases where we found unclear effects (e.g., gender, years of experience as a teacher). Simply stated, had instrumentation been consistent across studies, we would have been able to include more studies (and therefore more effect sizes) in our meta-analyses.

A related limitation that pertains to instrumentation is the persistent use of single construct measures. Despite being framed within the context of Ajzen's Theory of Planned Behavior, many studies included in this review investigated attitudes alone as a single component of this multifactorial theory (cf., Jeong and Block 2011; McFarlane and Woolfson 2013). Such a univariate approach to simply 'surveying' teachers' attitudes overlooks the degree of shared variance that is known to exist between aspects of such a multifactorial theory (or any multifactorial, for that matter). For example, we know little about the degree to which attitudes towards inclusion are moderated or mediated by other teacher-related and broader school factors, such as teacher's sense of self-efficacy and perceptions about the nature of their role (e.g., role boundaries, or perceptions about aspects of their role that teachers believe to be within their behavioural control), or prevailing norms about inclusion within a given school (e.g., such expectations of about what can and should be achieved by children with SEND).

Of course, pupil-level outcomes need to be prioritised (cf. Van Mieghem et al., 2020). The lack of data on the association between teachers' attitudes, classroom-level consequences, and pupil-level outcomes is also a limitation of the review. For example, there was very limited quantitative evidence on the association between teachers' attitudes – including interventions to address attitudinal change (see e.g., Jarvis Chaput and French, 1990; and Mauerberg-deCastro et al., 2013) – and SEND children's level of engagement in, enjoyment of, and progression in actual physical education lessons. Nested experimental designs, where the effectiveness of teachers' exposure to professional learning (for inclusion) interventions can be demonstrated in the context of pupil-level

changes in biopsychosocial outcomes need to be prioritized in future research. Cascade models – which are used in developmental psychopathology to test multi-level directional associations between individual (i.e., child) outcomes and broader social factors (i.e., parents, siblings, home, community, school) – also represent a fruitful avenue for pursuing this line of research non-experimentally.

2.7 Conclusion

This mixed-method systematic review and meta-analysis found that teachers have, on average, favorable attitudes towards the inclusion of SEND children in physical education lessons. Uncertainty in the quantitative estimate of teachers' attitudes showed that attitudes are still highly variable, and the qualitative synthesis indicates that teachers still feel inadequately prepared and supported for practising inclusion. The evidence reported in this review suggests that a combination of both formal and informal professional learning has the potential to underpin attitudinal and behavioral change. However, the content (i.e., pedagogy of inclusion) and quality of delivery (i.e., pedagogy of facilitation) of professional learning require further scrutiny and a more robust evidence base to make inclusion a much more central pillar of high-quality teacher education.

2.8 Notes

1. The year 1975 was chosen because it marks the year of the first public law (in the United States) regarding the rights of children with disabilities to access education alongside their peers as equals – namely, The Education for All Handicapped Children Act (United States Congress, 1975).

2.9 References

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Chapter 3: Teachers Attitudes' Towards Inclusion in Physical Education: Systematic Review and Meta-Analysis of Studies Conducted Before and After the Salamanca Statement

This chapter is presented as the author-submitted manuscript of a peer-reviewed journal: *International Journal of Inclusive Education (Currently under review)*

3.1 Abstract

The case for inclusion of students with disabilities and special educational needs (SEND) in mainstream physical education (PE) classes has increased over the last four decades. This is because PE has been consistently reported as a key whole-child context for promoting the inclusion of SEND students; though, research still shows that teachers' attitudes are still proximal factors constraining inclusion the achievement of inclusion goals. The aim of this study is to quantitatively investigate the association between macro-level policy intervention, the Salamanca Statement, and teachers' attitudes. A systematic search of the literature was conducted in April 2022, and 2,120 records were retrieved. Sixteen articles that surveyed teachers' attitudes using validated instruments were included in the meta-analysis. Results showed that the cross-study means for teachers' attitudes in studies published after the Salamanca Statement were more positive than the corresponding means from studies published before the publication of the Salamanca Statement. The findings provided in this study are also framed within *micro*- and *macro*-level changes, and implications for future research and practices are further discussed.

Keywords: Inclusion; students with disabilities; physical education; Salamanca Statement; teachers' attitudes; systematic review

3.2 Introduction

In June 1994, a World Congress on Special Needs Education was organised by the Government of Spain in collaboration with the United Nations Educational, Scientific and Cultural Organization (UNESCO). At this Congress, more than 300 participants representing 92 nations and 25 international organisations met in Salamanca, Spain. The aim was to strengthen 'Education for All' on an international scale by articulating the policy changes that were needed to further promote inclusive education – particularly for students with special educational needs and disabilities (SEND). The *Salamanca Statement and Framework for Action* – or 'Salamanca Statement', for short (UNESCO 1994) – has since been widely recognised as one of the most important documents supporting the notion of inclusive education (Aniscow and César 2006), and, as such, it has been widely used as a basis for developing and inclusion policy (Magnùsson 2019). Following the publication of the Salamanca Statement, it has been widely agreed that there has been a clear change mindset, and in expectations, about the requirement for including students with SEND in mainstream settings. Stating firmly that national governments ought to prioritize inclusive education for all, the Salamanca Statement generated a shift in educational discourse, which is now firmly grounded in the language of equality, diversity, and inclusion.

Despite the development of a broad and ambitious discourse on inclusion following the publication of the Salamanca Statement (Aniscow, Slee, and Best 2019), research suggest that the awareness and acceptance of such a discourse has still failed in part to translate into systematic educational reform (Graham et al. 2020). This failure is highly evident and widely recognised within the field of physical education (PE). Despite the fact that PE has been constantly reported as a key educational context for promoting the inclusion of children with disabilities in schools (Qi and Ha 2012; Rekaa et al. 2019; Tant and Watelain 2016; Wilhelmsen and Sørensen 2017) – and despite compelling research evidence that children with SEND enjoy being physically active (Coates and Vickerman 2010; Leo and Mourton 2020; Rekaa et al. 2019) – studies still

consistently report that children with SEND profiles remain functionally excluded from PE classes (Makopoulou et al. 2019; Rimmer and Rowland 2008).

Teachers' attitudes are widely recognised as proximal factor influencing the inclusion of students with SEND profiles in PE (Rekaa et al. 2019; Hutzler et al. 2019). Existing reviews of the literature on attitudes towards inclusion among teachers reveal mixed outcomes, however. For example, early reviews concluded with the "disappointing, yet not surprising, finding" (Block and Obrusnikova 2007, 116) that teachers still often have unfavourable attitudes towards the inclusion. In a more recent systematic review, however, Rekaa et al. (2019, 52) concluded that, even though some "inclusive norms [are yet to be] realized as inclusive practices", at a macro level, "change is taking place" (ibid., 53).

This is a bold claim, and we believe that further, robust, evidence of such macro level change is still needed. Empirical research studies are needed that can provide evidence of attitudinal change between time periods where there has also been macro-level policy intervention and change, such as the *Salamanca Statement and Framework for Action*. To that end, the aim of this paper is to estimate the differences in the direction and magnitude of PE teachers' attitudes towards the inclusion of children with SEND profiles for studies conducted before and after the publication of the Salamanca Statement. Our initial guiding hypothesis was that studies conducted after the publication of the of the Salamanca Statement in 1994 would report more positive outcomes representing teachers' attitudes towards the inclusion of children with SEND profile.

3.3 Materials and Methods

This study used a systematic review and meta-analysis design, which was conducted following the PRISMA (Preferred Reporting Items for Systematic Review and Meta-analysis) guidelines (Liberati et al. 2009).

3.3.1 Search strategy

Eight electronic databases (CINAHL Plus, SPORTDiscus, Medline, PsycINFO, Embase, PubMed, ERIC, and Web of Science) were searched in April

2022. The search terms were based on seven concepts and their synonyms: (1) professionals involved (teacher* OR assistant* OR coach* OR educator* OR trainer* OR instructor* OR tutor*); (2) inclusion ("social inclusion" OR integration OR "sports participation" OR "mainstreaming" OR general OR attendance); (3) physical activity ("physical education" OR "physical activit*" OR exercise* OR "motor activit*" OR sport* OR athletic*); (4) target population (children OR child OR student* OR teenager* OR adolescent* OR person* OR people); (5) condition (disabilit* OR impairment* OR disorder* OR handicap* OR disabled OR "special need*"); (6) setting (school* OR "primary school*" OR "elementary school*" OR "secondary school*" OR "middle school*" OR "high school*"); and (7) belief (belief* OR perception* OR attitude* OR confidence OR "self-esteem" OR "self-efficacy" OR "self-concept" OR competence).

The studies yielded by the search strategy were imported into RAYYAN (Ouzzani et al. 2016) for later independent screening by the research team. After removing the duplicates, the two authors independently screened the title and the abstract of each study against the inclusion/exclusion criteria. Where discrepancies in the two authors' list of included studies were found, the authors discussed them until an agreement was reached. In the final step, the reference lists of the included studies were checked, and, where additional papers were found, they were added into the final systematic review and meta-analysis.

3.3.2 Inclusion Criteria

The target population for the review was in-service primary/elementary (herein primary) and/or secondary/high (herein secondary) school physical education teachers. The studies identified by the systematic literature search were included if they: (1) were written in English; (2) used a cross-sectional design to gather data; (3) were published between the 1st of January 1975[1] and the 30th of April 2022; (4) were peer reviewed, and (5) measured teachers' attitudes using a validated instrument.

3.3.3 Exclusion Criteria

Studies identified through the systematic literature search were excluded from consideration if: (1) the target population were in either pre-service physical education teachers or support teachers (e.g., Learning Support Assistants); (2) the setting was either early years childcare, preschool, kindergarten, or at a university; and (3) they were not published in the English language.

3.3.4 Risk of bias

The quality of the studies included in this systematic review was independently evaluated by the two reviewers using checklists for quantitative study. Any difference in the risk of bias assessment was discussed between the two authors until consensus was reached. The quality of the studies was assessed using a published Methodology Checklist for studies that used a questionnaire (Boynton and Greenhalgh 2004). The criteria were either coded as yes (✓) if they were explicitly presented and described, no (✗) if they were absent, or unclear (?) if they were not defined.

3.3.5 Data Extraction

One author (GT) extracted the data, which thereafter was imported into an Excel spreadsheet. The second author double-checked the extracted data. Any divergences found were discussed until an agreement between the two authors was reached. Data extracted were: study characteristics (authors, year, country); sample characteristics (size, gender, age); questionnaire used.

3.3.6 Meta-Analytic Approach

Only studies that used a validated questionnaire that reported the overall mean and SD for attitudes towards inclusion of SEND children and the study sample size were included in the meta-analysis. In some cases, studies reported means and standard deviations for sub-sections, or for each individual item, of the questionnaire. Therefore, where the overall mean and SD were not directly reported, two authors (GT, RN) calculated them from statistical first principles. Studies for consideration in the meta-analysis also included attitudinal data

reported on both 1 to 5 and 1 to 7 Likert scales. Following Hopkins's suggested approach for standardization prior to use in a meta-analysis, the data from disparate measures were first rescaled to minimum and maximum possible values of 0 and 100 (Hopkins 2018). This meant that a score of 50 would represent 'neutral' attitudes towards the inclusion of SEND children in physical education lessons. Once rescaled, data from individual studies were thereafter centred on a mean of zero to facilitate an estimate (against the null) of the extent to which studies showed positive or negative attitudes towards inclusion of SEND children. This centring also had the added benefit of facilitating the production of a forest plot against which we could assess study attitudes against a neutral value of 0. Data were meta-analyzed using the R package 'metagen' (Harrer et al. 2019). A meta-regression was also conducted to estimate the mean difference between the studies conducted before and after the publication of the Salamanca Statement.

3.4 Results

2,120 records were yielded by the search strategy, of which 341 were duplicates. Of the remaining 1,779 studies, 1,721 were removed during the title and abstract screening process because they did not meet the inclusion criteria. The full text of the final 58 articles was screened, and in total, 28 studies reported quantitative data gathered using either a questionnaire or a survey. However, only 16 of these studies used a validate instrument to gather data and were, therefore, deemed eligible for the inclusion in the meta-analysis, Figure 3.1.

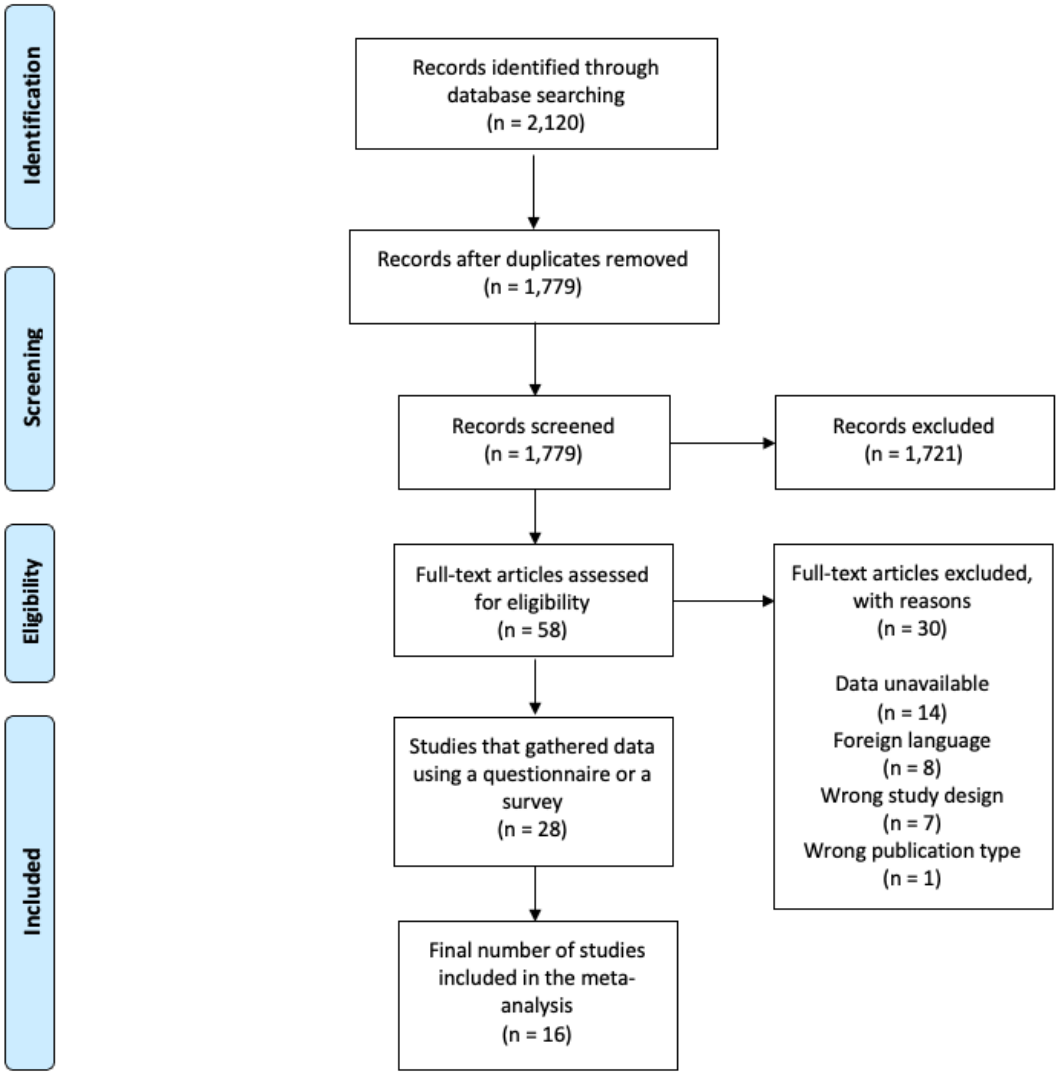


Figure 3.1. Flow Diagram of the Studies Included in the Meta-Analysis.

3.4.1 Characteristics of the Studies

All the sixteen studies included in the meta-analysis gathered the data used a cross-sectional design (Table 3.1). Seven studies were conducted in the USA, two in Greece, two in Turkey, and one each in Nigeria, Serbia, Cyprus, Hong Kong, and China. As for the population of interest, two studies investigated both primary *and* secondary school teachers; two studies investigated primary school teachers only; five studies surveyed secondary school physical education teachers; and a final seven studies did not report any descriptive data that enabled us to assess the type of school or school level being investigated. Nine studies used a sample greater than or equal to 100, whereas seven used a sample smaller than 100. Finally, four studies were either already in print or they most likely conducted data collection prior to the publication of the Salamanca Statement and twelve studies were conducted after its publication.

Table 3.1. *Characteristics of the Studies Included in the Meta-Analysis.*

		Sample characteristics			
Study	**Country**	**Size**	**Mean Age (SD)**	**Women**	**Men**	**Questionnaire used**
Block & Rizzo 1995	USA	91	39.0(9.1)	57	34	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III
Dorđic et al. 2014	Serbia	84	N/A	80	4	Attitude Toward Inclusive Physical Education
Doulkeridou et al. 2010	Greece	155	37.7()	85	70	Attitudes toward Inclusion of Children with Physical Disabilities in Physical Education - for Greece
Doulkeridou et al. 2011	Greece	410	33.6(5.9)	210	200	Attitudes toward Inclusion of Children with Physical Disabilities in Physical Education - for Greece

Fournidou et al. 2011	Cyprus	100	47.2()	47	53	Attitudes toward Inclusion of Children with Physical Disabilities in Physical Education - for Greece
Hersman & Hodge 2010	USA	5	40.0(4.3)	3	2	Physical Educators' Judgments About Inclusion
Hodge et al. 2009	USA	29	41.0(9.8)	11	18	Physical Educators' Judgments About Inclusion
Li et al. 2012	Hong Kong	83	N/A	31	52	Integrated Physical Education Service Delivery Questionnaire
Obrusnikova 2008	USA	168	44.0(10.0)	89	79	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III
Ogu et al. 2017	Nigeria	66	N/A	33	33	Physical Educators Attitude Toward the Teaching of Handicapped
Ozer et al. 2013	Turkey	729	N/A	214	515	Teachers' Attitude toward Children with Intellectual Disability Scale

Rizzo 1984	USA	210	N/A	N/A	N/A	Physical Educators Attitude Toward the Teaching of Handicapped
Rizzo & Vispoel 1991	USA	94	38.0(7.4)	46	48	Physical Educators Attitude Toward the Teaching of Handicapped-II
Rizzo & Wright 1987	USA	136	N/A	59	77	Physical Educators Attitude Toward the Teaching of Handicapped
Wang et al. 2015	China	195	33.0(6.7)	71	124	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III
Yarimkaya & Rizzo 2020	Turkey	472	N/A	184	288	Physical Educators' Attitudes toward Teaching Individuals with Disabilities-III

Table 3.2. *Risk of Bias Assessment for the Studies Included in the Meta-analysis.*

Authors, Year	Validated questionnaire	Example question	Adequate sample	Adequate demographic data	Distribution & administration	Adequate response rate	Appropriate analysis	Relevant data	Link data & conclusion	Quality of study design
Block & Rizzo 1995	✓	✓	✗	✓	✓	✓	✓	✓	✓	H
Dordic et al. 2014	✓	✓	✗	✗	✗	?	✗	✓	✓	M
Doulkeridou et al. 2010	✓	✓	✓	✓	✗	?	✓	✓	✗	M
Doulkeridou et al. 2011	✓	✓	✓	✓	✓	?	✓	✓	✓	H
Fornidou et al. 2001	✓	✓	✓	✓	✓	?	✓	✓	✓	H
Hersman & Hodge 2010	✓	✗	✗	✓	✓	✗	✓	✓	✓	M

Hodge et al. 2009	✓	✗	✗	✓	✓	✗	✓	✓	✓	M
Li et al. 2012	✓	✓	✗	✗	✓	✓	✓	✓	✓	H
Obrusnikova 2008	✓	✗	✓	✓	✓	✓	✓	✓	✓	H
Ogu et al. 2017	✓	✓	✗	✗	✗	?	✓	✓	✓	M
Ozer et al. 2013	✓	✗	✓	✗	✗	✓	✓	✓	✓	M
Rizzo & Wright 1987	✓	✓	✓	✗	✓	✓	✓	✓	✓	H
Rizzo & Vispoel 1991	✓	✓	✗	✓	✓	✓	✓	✓	✓	H
Rizzo 1984	✓	✓	✓	✗	✓	✓	✓	✓	✓	H

Wang et al. 2005	✓	✓	✓	✓	✓	✓	✓	✓	✓	H
Yarimkaya & Rizzo 2020	✓	✓	✓	✓	✓	✓	✓	✓	✓	H

H = High, M = Moderate, L = Low. ✓ = Explicitly present, ✗ = Absent, ? = Unclear.

3.4.2 Overview of Studies' Risk of Bias

The assessment of the study risk of bias is presented in Table 3.2. All the sixteen included studies had minimal missing data and used a validated instrument to measure teachers' attitudes.

3.4.3 Meta-analysis

Figure 3.2 provides a visual representation of the extent to which teachers' attitudes differ between studies published before and after the publication of the Salamanca Statement. As noted, studies reporting negative attitudes (Block and Rizzo 1995; Rizzo 1984, 1985; Rizzo and Vispoel 1991) were either already in print or they most likely conducted data collection prior to the publication of the Salamanca Statement. Equally, studies reporting positive attitudes were published at least a decade after its publication (Dorđic, Tubić, and Protić - Gava 2014; Doulkeridou, Evaggelinou, and Kudláček 2010; Doulkeridou et al. 2011; Fournidou, Kudláček, and Evagellinou 2011; Hersman and Hodge, 2010; Hodge et al. 2009; Li, Chen, and Tsoi 2012; Obrusnikova 2008; Ogu et al 2017; Ozer et al. 2013; Wang, Qi, and Wang 2015; Yarimkaya and Rizzo 2020).

The forest plot provided in Figure 3.2 shows the data for individual studies according to whether they were conducted before or after the publication of the Salamanca Statement. Clear negative and positive statistically significant means were found for studies published before (-3.51, -6.52 to -0.51; meta-analysed mean, 95% confidence interval; $p = .01$) and after (13.18, 8.62 to 17.74; meta-analysed mean, 95% confidence interval; $p < .01$) the publication of the Salamanca Statement, respectively. A meta-regression conducted to estimate the mean difference between these two groups of studies revealed a substantial and statistically significant difference (-16.70, -24.35 to -9.04; difference in meta-analysed means, 95% confidence interval; $p < .001$), with the regression model indicating that approximately 42% ($R^2 = 0.42$) of the variance in mean attitudes between studies was explained by date of publication.

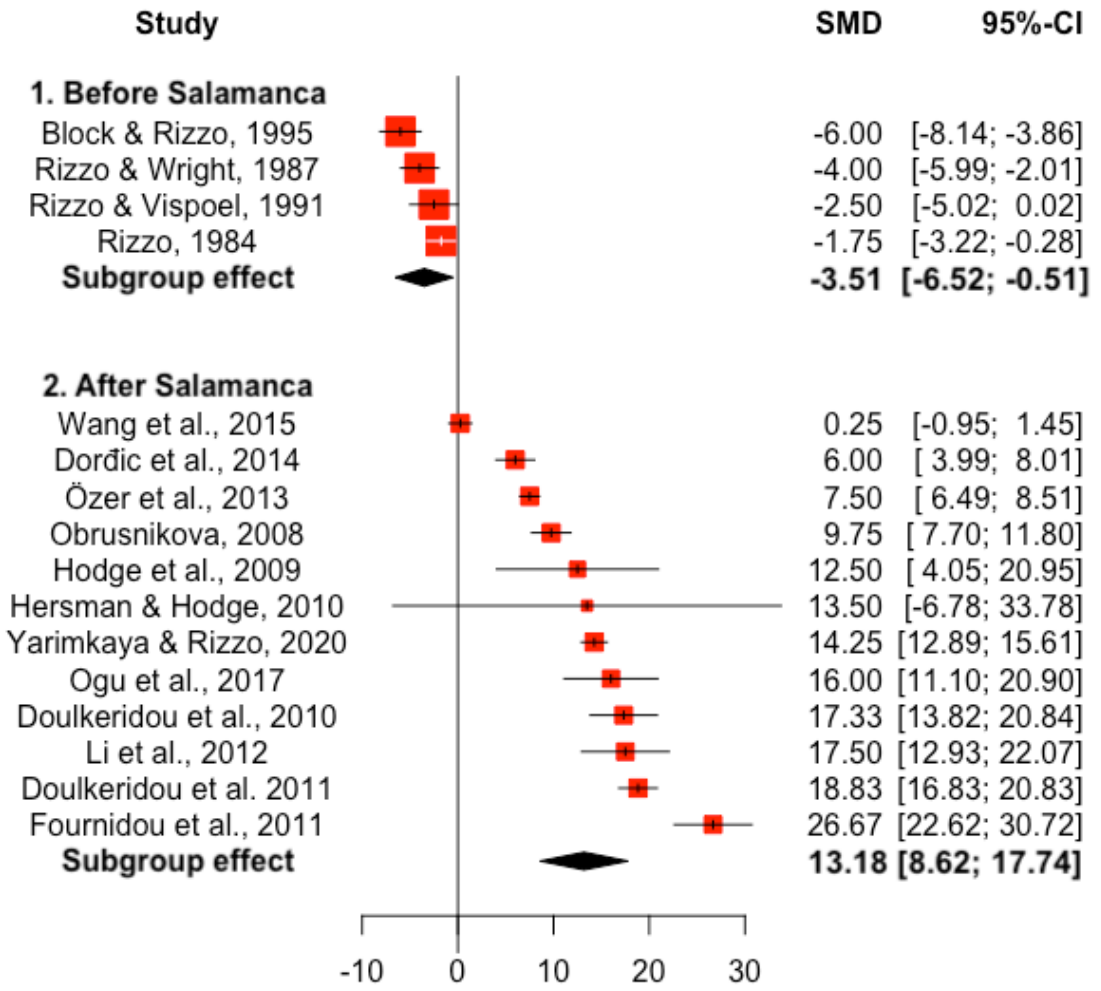


Figure 3.2. *Subgroup analysis of studies conducted before and after the Salamanca Statement (1994). The vertical line represents the neutral mean (zero). CI, confidence interval*.

3.5 Discussion

The purpose of this systematic review and meta-analysis was to explore differences in PE teachers' attitudes towards inclusion before and after the publication of the Salamanca Statement, thereby identifying the possibility of a shift in attitudes towards inclusion in line with macro-level policy change. Results of the meta-analysis support our guiding hypothesis that the means for studies conducted after the publication of the Salamanca Statement would reflect more positive attitudes towards inclusion. As such, these findings provide new empirical support to bolster statements made by scholars in education that the Salamanca Statement is the 'most important reference' for the development of international policy on inclusion, and that the Statement has had an 'undeniable' influence on the application of inclusive practice across the educational system as a whole (Ainscow et al. 2019, p. 674; Magnússon 2019; Meijer and Watkins 2019; Vislie 2003).

Clearly, our findings support a long-held view that the publication of the Salamanca Statement has influenced attitudes towards inclusion. Systematic reviews of the literature in general education also provide indirect support for such a claim: with evidence of negative attitudes and no change in means for attitudes over time reported by Scruggs and Mastropieri (1996) for studies covering the period 1958 to 1995; and with evidence of increasingly positive attitudes and some evidence of changes in attitudes over time reported by Van Steen and Wilson (2020) for studies published between 1994 and 2019. But how has influence manifested over time?

Broadly, it is likely that the Salamanca Statement first contributed to creating a global case for and discourse about inclusion, which thereafter influenced national policymakers, providers of teacher training and professional learning activities, and, eventually, school governing authorities that advocated for and expected school-based practices to support the enactment of inclusive pedagogy (Hernández-Torrano et al. 2020). Research to survey teachers' attitudes towards inclusion in the post-Salamanca Statement period also likely played a pivotal role. A review of the literature, for example, shows that teachers' attitudes toward inclusion were among the most researched (second-most) topics

studied by scholars in inclusive education over the period 1994 to 2019 (Hernández-Torrano et al. 2020). And, in some countries where negative attitudes toward inclusion and low self-efficacy to implement inclusive pedagogy were found among teachers (see e.g., Vickerman 2007; Vickerman and Coates 2009), national-level interventions were rolled out (see e.g., Makopoulou et al. 2021). Taken together, this suggests a cascade of research-policy-practice to support inclusion enactment in the period immediately following the publication of the Salamanca Statement, resulting in both direct policy change and observational studies and practical interventions designed to measure and subsequently change teachers' attitudes (Dickens-Smith 1995; Rakap and Kaczmarek 2010; Sharma and Sokal 2015; Haegele et al. 2018).

Despite the impact that the Salamanca Statement has had on inclusive education globally (Pavone, Bellacicco, and Cinotti 2019; Aniscow, Slee, and Best 2019; Cachago 2018; De Meulder, Murray, and McKee 2019; Snoddon and Murray 2019), there are still many constraints to further normalisation of inclusive practice. Macro-level constraints such as lack of funding and government commitment persist (Sharma et al. 2019; cf. Nilholm, 2021). Over time, it has also become clear that different national challenges can constrain the enactment of inclusion policy and implementation of inclusive pedagogical practice at a micro or local level. For example, research has shown the limitations that inclusive education policies can have on practice changes in different local contexts (Armstrong, Armstrong, and Spandagou 2009; Armstrong, Armstrong, and Spandagou 2011; Smyth et al. 2014; Tomlinson 2017). Because of this, researchers have emphasised the need to reduce the gaps between macro- and micro-level changes, suggesting that inclusive education policies should meet micro-level realities and be relevant and tailored to meet needs in local contexts (Sharma et al. 2019). Despite agreement at an international, macro, level about what inclusive education can and should look like, there is still a lack of understanding about how this agreement can be achieved at a national or local level (Smyth et al. 2014). It is because of this that Sharma et al. (2019) argued that policies frequently fail to meet local realities and needs, which results in unsuccessful practice changes. To address this problem, Sharma et al. (2019)

suggested that macro-level policies ought to be co-designed in collaboration with the local policy enactors, such as teacher trainers, teachers, school governing boards, members of different at-risk or in-need communities.

3.6 Limitations

Despite the considerable strengths of this study, two limitations are particularly noteworthy. Firstly, each study conducted before the publication of the Salamanca Statement surveyed samples of PE teachers from the US only. This is unsurprising, considering that the US has been the 'most prolific and influential' country in the field of inclusive education (Hernández-Torrano et al. 2020, p. 10). The first public law in the US regarding the rights of children with disabilities was enacted in 1975 (United States Congress 1975). The impact of such policy enactment on the public education system in the US was pivotal in providing special education services, and it also led to substantial increases in the conduct of inclusive education research (Keogh 2007). The second limitation of the available research base is the quality of instrumentation used across studies of teachers' attitudes. Twelve studies were excluded from this study, for example, because they used instruments that were not validated. Consistent use of a single validated instrument across the literature would have enabled us to include more studies and thereby investigate a larger sample of teachers, including samples surveyed before the publication of the Salamanca Statement from outside the US (Heikinaro-Johansson and Sherrill, 1994; Jarvis and French, 1990).

3.7 Directions for future research[2]

Overall, the findings from this systematic review and meta-analysis suggest that there are clear differences in PE teachers' attitudes towards the inclusion of children with SEND profiles when we compare studies conducted before and after the publication of the Salamanca Statement. It stands to reason that this could be attributed to the global awareness that emerged from

[2] Due to the word count limit for the *International Journal of Inclusive Education*, this section was omitted from the submitted manuscript that is currently under review.

international consensus, like the Salamanca Statement. Findings from this study also suggest that despite changes at a micro level have occurred, there is still an ongoing focus on exploring teachers' attitudes (Hutzler et al. 2019). However, PE teachers no longer appear to be a barrier to inclusion. In this sense, it has been suggested that policy implementation toward inclusive education should be designed in collaboration with local agents (Sharma et al. 2019). Therefore, future research ought to focus on bridging the gaps between micro- and macro-level factors. A potential way in which this could be achieved by future empirical research is by including PE teachers and PE teacher educators in the development of future inclusive education policies.

As research on inclusive education has progressed over the past 30 years, more work is needed to define key outcomes that should be the focus of future macro-level changes. In this sense, a key aspect that future research ought to consider is building collaborative and international evidence that can foster and promote a shared understanding and a common policy thinking regarding inclusive education across the world. Notwithstanding the dissimilarities that the different local contexts have, international policy thinking should create a communal view of inclusive education. This direction for future research is strongly supported by the evidence provided in this study. Our findings, aligned with those reported in general education (Van Steen and Wilson 2020), suggested that creating international policy developments towards inclusive education (e.g., the Salamanca Statement) influences the inclusion of children with SEND profiles in mainstream education at various levels – micro and macro. However, as guiding principles toward inclusive education are still being changed and implemented (UNESCO 2006; World Education Forum 2015; Goal 4 of United Nations Sustainable Development Goals; UNESCO 2017), future research ought to develop an up-to-date communal and shared policy thinking.

The relative lack of investigation on other contextual micro-level factors influencing the inclusion of students with SEND profiles is troubling and ought to be the focus of future research. As previously reported in the limitations, our study investigated one micro-level aspect only (namely, teachers' attitudes), in comparison to the number of themes reported by literature evidence (Sharma et

al. 2019). Therefore, there is a need to identify other potential agents (not only teachers' attitudes) that can help to bridge the gaps between micro- and macro-levels. For example, the school environment has been identified as an important factor shaping teachers' behaviours (Caprara et al. 2006). In this sense, it can be used, alongside its actors (teachers, school staff, parents, etc.) to refine and adapt macro-level policies to the local reality.

Finally, it would be also interesting to investigate whether other micro-level factors have changed over time as well. It is possible for example that the development of the Salamanca Statement may have also influenced and enhanced those micro-level factors that were considered barriers to inclusion. For example, Sharma et al. (2019) reported that common barriers to inclusion were teachers' continuous professional development (CPD) and training. We believe that it would be beneficial to explore whether teachers' CPD and training have changed – in terms of the number of trainings provided and the content quality – over time, possibly in correspondence with the Salamanca Statement. Another micro-level theme included by Sharma et al. (2019) in their analysis was the local resources, like classrooms and schools. It would also be worthwhile exploring the extent to which these resources have been implemented after the development of international inclusive policies like the Salamanca Statement.

3.8 Conclusion

The findings from this systematic review and meta-analysis showcase clear differences in the means for PE teachers' attitudes towards the inclusion of children with SEND profiles when we compared studies conducted before and after the publication of the Salamanca Statement. Clearly, such findings provide novel empirical support to further underpin the multitude of claims that have been made across time about the impact of the Salamanca Statement as a key piece of macro-level policy to spearhead and guide the implementation of inclusive education. Future research should focus on the extent to which other factors – such as post-Salamanca Statement differences in educational discourse and expectations, regionally or nationally, changes in the nature and number of teacher training programmes focusing on inclusive education or pedagogy in

different regions, increases in national, regional, local spend on inclusion initiatives and resources, development of inclusive education policies at school level, and implementation of proper facilities that support learning for SEND children (as noted, for example by Sharma et al. 2019) – could also have been influenced by the publication of the Salamanca Statement. Focusing on the effect of the Salamanca Statement on such other, complementary, factors will help to give researchers and educational practitioners and advocates a much-needed deeper understanding of the cascade of policy enactment (including generative events, key moments, and critical actors) that facilitated change in international inclusive practice as it enveloped over time.

3.9 Notes

1. The year 1975 was chosen because it marks the year of the first public law (in the United States) regarding the rights of children with disabilities to access mainstream education – namely, The Education for All Handicapped Children Act (United States Congress, 1975).

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Chapter 4: Factors Associated with Irish Teachers' Attitudes Towards the Inclusion of Children with Disabilities and Special Educational Needs in Physical Education

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4.1 Abstract

Since the publication of the Education for People with Special Educational Needs Act in 2004, inclusion in Ireland has become a priority for the educational system. Whilst physical education (PE) has been consistently internationally regarded as a key setting for the promotion of inclusion in schools, research has shown that the inclusion of children with special educational needs and disabilities in PE remains a considerable practical challenge. Building on research which shows that multiple factors affect the possibility of implementing inclusion in PE, the purpose of this study was to explore teachers' attitudes towards inclusion, self-efficacy in delivering inclusive pedagogies, and perceptions about whether inclusion was supported within their schools. A cross-sectional research design was used, and a questionnaire was sent to Irish PE teachers. Results indicate that teachers' attitudes were positively correlated to the number of different types of disabilities in each PE class. Moreover, it was found that secondary school teachers had higher perceived self-efficacy levels than their primary school counterparts. Finally, findings from this study revealed that teachers who had frequent personal contact with persons with disabilities showed more positive perceptions about the extent to which inclusion was supported in the school within which they worked.

Keywords: attitudes, self-efficacy, school context, physical education, Ireland.

4.2 Introduction

Inclusive education in Ireland has become a priority over the last two decades. Since the publication of the Education for People with Special Educational Needs Act (2004), there has been a fundamental shift in the requirement for providing inclusive education for children with Special Educational Needs and Disabilities (SEND) in Ireland (Griffin and Shevlin 2011). This seems to be more than a mere shift from historical legacy of segregation to a renewed philosophy of inclusion (Drudy and Kinsella, 2009), since, in Irish education, there has been both an increase in the number of SEND students (McConkey et al. 2016) and an increase in the number of resources allocated to support the education SEND students in mainstream schools (Kenny et al., 2020).

Internationally, physical education (PE) has been consistently reported as a crucial setting for the promotion of inclusion in schools (Block and Obrusnikova 2007). PE not only provides a structured opportunity for SEND students to meet daily physical activity guidelines (Carty et al. 2021), but it also fosters an ecosystem of complex interactions and relationships that enable SEND students to develop those skills needed to participate in the wider community setting (Butler 2006). However, despite the support that inclusion in mainstream schools has received in Ireland, there is evidence that children with SEND are still not fully or adequately included in PE in schools (Shevlin and Banks, 2021). In this regard, alarming signals come from recent research reporting that, over the past decade, the number of special classes in operation has increased from ~700 to almost 1,800 (Shevlin and Banks, 2021). Research has also highlighted that fact that students with intellectual or developmental disabilities in Ireland are put on short school days, rather than fully included in mainstream classes (Brennan and Browne, 2019).

Since teachers have always been at the so-called ‘coalface of inclusion’ (Jerlinder et al. 2010) in their roles as facilitators of learning in the classroom (Leonard and Smyth, 2020), teachers were understandable deemed to be fundamental proximal actors for enacting inclusion within schools (Forlin 2010b; Leung and Mak 2010). Researchers have argued and have shown that having

more favourable attitudes toward individuals with SEND in general or PE classes creates a fruitful environment for teachers to provide more successful inclusive practices to students with SEND profiles (Meegan and MacPhail 2006). In this sense, teachers' attitudes toward the inclusion of SEND children have become one of the most important key elements to be investigated by research (Tripp and Sherrill 1991, Steward 1998, Avramidis and Norwich, 2002, Folsom-Meek et al. 2000; Kudlacek et al. 2002; Morley et al. 2005; Vickerman 2002). And this research trend also became prominent within Ireland. An early cross-sectional study investigating factors affecting general teachers' attitudes in Ireland reported, unsurprisingly, that positive teachers' attitudes toward inclusion were crucial for building 'solid foundations' for an inclusive school setting (Butler and Shevlin, 2001, p. 135). A more recent study found that, despite having favourable attitudes towards inclusion, Irish teachers still perceived barriers (e.g., curriculum and assessment, lack of time, class size, and inadequate resources) affecting their attitudes and, overall, inclusion (Young et al., 2017).

Attitudes, however, are not the only teachers' characteristic that has been investigated to increase the inclusion of children with SEND profiles. Another key element that has been widely highlighted by researchers as crucial for fostering an inclusive environment for SEND students is teachers' self-efficacy (Avramidis and Norwich, 2002; Forlin, 1998; Hsien, 2007; Soodak, Podell and Lehman, 1998). Described as one of the strongest moderators of attitudes (Bandura 1977, 1993), teachers' self-efficacy has been widely investigated by previous research. For example, it has been shown that primary school pre-service teachers have higher levels of self-efficacy than secondary school pre-service teachers (Baker 2005). Furthermore, research has shown that pre-service teachers with higher levels of self-efficacy vis-à-vis inclusive education tended to have more favourable attitudes towards the inclusion of SEND children in their classrooms (Gao and Mager 2011). In relation to the Irish context, a recent qualitative study conducted at a general level reported that the majority of the teachers interviewed felt a lack of confidence regarding teaching students with SEND (Anglim, Prendeville and Kinsella 2018), suggesting that low levels of self-efficacy may constrain the inclusion of SEND students.

Despite the importance of inclusion in the Irish educational context, little is known about PE teachers' attitudes or self-efficacy levels towards the inclusion of SEND students. For example, the one and only study on Irish PE teachers' attitudes was conducted almost two decades ago. In this quantitative analysis, Meegan and MacPhail (2006) investigated the associations between teachers' demographic characteristics and their attitudes towards the inclusion of children with SEND profiles (Meegan and MacPhail, 2006). Meegan and MacPhail concluded, unsurprisingly, that Irish PE teachers' attitudes towards inclusion were mainly influenced by the severity of the disability and previous experience teaching SEND students. On the other hand, in relation to Irish PE teachers' self-efficacy levels, the only study in Ireland was conducted by Tindall, Culhane, and Foley (2016) on pre-service teachers. This experimental study explored the impact of an inclusion-related programme on Irish pre-service PE teachers' self-efficacy. The authors found that participants who attended the programme showed a significant increase in their self-efficacy levels toward the inclusion of children with SEND then their peers in the control group.

Another gap in the literature and limitation that has been noted in research is way inclusion research has tended to focus on one construct only – namely, on either attitudes or self-efficacy. In their recent comprehensive literature review, Hutzler et al. (2019) highlighted the fact that of seventy-five papers included, only three studies investigate both teachers' self-efficacy and attitudes. Considering wider psychological research showing that self-efficacy is an important moderator of attitudes, there is an urgent need to investigate both PE teachers' attitudes and self-efficacy levels toward inclusion. Notwithstanding the importance of and critical role that teachers are required to play in the implementation of inclusive education (Forlin et al. 2010), research has also shown the importance of the wider school context in shaping teachers' perceptions and behavioural intentions (Caprara et al. 2006). It seems obvious that the school context within which teachers work is another important factor affecting the possibility of inclusive education. The school context should be an environment within which teachers can nurture and educate all students, regardless of differences in ability, ethnicity, culture, gender, language, and class (Kozleski et al. 2007). However, despite the

obvious importance of the environment, there remains limited research on the nature and degree of the association between teachers' attitudes and self-efficacy and the context within which they work.

To address these persistent gaps in the inclusive education research, the aim of this study is to survey Irish PE teachers and to explore how their demographic's attributes and the characteristics of the school in which they work influence their (i) attitudes towards the inclusion of children with SEND profiles in mainstream PE classes; (ii) self-efficacy in delivering inclusive pedagogies; and (iii) perceptions of the given school within which they work. As such, this study directly addresses the directions for future research within the Irish context suggested by Irish researchers Meegan and MacPhail (2006) and Tindall, Culhane and Foley (2016).

4.3 Materials and Methods

4.3.1 Research design and participants

In June 2020, a request for participation in this cross-sectional study – including a description of the study aims and objectives and a link to an online questionnaire prepared in Survey Monkey – was sent to all schools across Ireland: 3,106 primary schools; 723 secondary schools; and 134 special schools. Schools were asked to forward the email containing the questionnaire link to the teachers teaching PE in the school during the current year. School email addresses were retrieved from the Irish Department of Education and Skills website. In total, 329 participants accessed the online questionnaire, of which 260 completed the survey partially or in full, resulting in a 79% completion rate. Ethical approval for this study was granted by the University Human Research Ethics Committee – Sciences (HREC-LS) [Reference No: LS-E-19-177-Tarantino-Neville]. Participants provided informed consent prior to completing the online questionnaire, and no incentives were given for participation.

4.3.2 Measures

The questionnaire was divided into four main sections considering teachers': (i) perceptions of the school context in which they worked; (ii) self-

efficacy in providing inclusive pedagogies during PE classes; (iii) attitudes towards the inclusion of children with SEND in PE classes; and (iv) demographic and broader schools characteristics. Further details about the sub-sections of the questionnaire are described below.

4.3.3 Outcome Variables

School Context

Teachers' perceptions about the school context within which they worked were ascertained using Makopoulou et al.'s (2021) 'About Your School' inventory. This 13-item inventory was developed for and used in a national evaluation of an inclusive PE teacher training programme that was delivered across England between 2013 and 2016. The inventory is based on Booth and Ainscow's (2002) *Index of Inclusion*, as well as the notion of schools as 'learning organisations' (Kools et al., 2020), and comprises three sub-scales concerning teachers' perceptions of the: (i) general school context within which they work; (ii) the overall value attributed to the notion of inclusion at the school level; (iii) and quality of inclusion provided during the PE classes. The general school context sub-scale (4 items) refers to the teachers' perceptions of the context in which they work, which comprises statements about the collegiality and the opportunities to share knowledge and practice (example question: "*There are opportunities to cascade knowledge about inclusion to colleagues after CPD attendance*"). The sub-scale about the sense of inclusion at the school level (4 items) refers to whether the school's culture or ethos is based on inclusion principles, and the extent of availability of resources provided to support inclusive practice (example question: "*The PE curriculum is developed taking into consideration the different abilities and needs of all students"*). Finally, the last sub-scale (3 items) refers to the quality of inclusive PE opportunities for pupils with SEND (example question: *All students in my class, including SEND students, learn together regardless of their (dis)abilities*). A 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) accompanied each of the 13 items. Cronbach's reliability score

(alpha, or α) for the school context inventory was .82, confirming the internal consistency of the scale against the standard criterion of α ≥ .70.

Self-Efficacy

Teachers' perceptions of self-efficacy to enact inclusive pedagogy were ascertained using an inventory developed by Makopoulou et al. (2021), which represents a refinement and extension of previous instruments conceptualised and validated by Humphries et al. (2012) and Block et al. (2013). The inventory is based on Bandura's (1977) definition of self-efficacy as an individual's belief about how well s/he can execute a course of action in a given situation to achieve a predefined desired outcome. The resulting 10-item inventory comprised two sub-scales measuring: (i) teachers' personal beliefs about teaching PE; and (ii) teachers' confidence in supporting pupils with SEND profiles. The belief sub-scale (6 items) asks teachers to consider their efficacy to teach PE, as well as their readiness to adapt activities depending on individual students' needs (example question: "*How confident are you in your ability to change a task to make it easier for a student who is having trouble achieving in this task?*"). The remaining 4-items ask teachers to reflect on their confidence to support students within PE classes, irrespective of ability level (example question: "*How confident you are in your ability to support all students, including students with SEND, understand where they are in their learning, where they need to go next and how to get there?"*). Each question was accompanied by a 5-point Likert scale ranging from 1 (not at all confident) to 5 (extremely confident). Cronbach's α reliability score for the inventory was α = .94, confirming the inventory's internal consistency against the standard criterion of α ≥ .70.

Attitude Scale

Teachers' attitudes towards the inclusion of SEND children in PE were ascertained using the 'Physical Educators' Judgements about Inclusion' inventory, which was developed and validated by Hodge et al. (2002). This inventory is based on Ajzen's (1991) *Theory of Planned Behaviour*, which defines attitudes as the degree to which an individual has a favourable or unfavourable

personal evaluation vis-à-vis an object, activity, or event. The inventory is comprised of 15 items, which can be divided into three sub-scales focusing on teachers': (i) judgements about inclusion in PE (example question: *"Inclusion is an idealistic philosophy that will not work in PE"*) ; (ii) acceptance of students with disabilities (example question: *"I would readily accept teaching a student with a physical disability in PE"*); and (iii) perceived training needs (example question: "*It is important that I receive training on* […] *lesson planning for a variety of ability levels"*). Each question was accompanied by a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). This inventory originally comprised questions regarding the following four categories of disabilities: hard of hearing; visual impairment; learning disability; and physical disability. However, given significant changes in the nature of and terminology used to define SEND profiles since the Hodge et al. (2002) original publication, in this study, we extended the categories of disability to include: emotional and behavioural disorder; intellectual disability; specific learning disability; physical disability; autism spectrum disorders; and visual/hearing impairment. A reliability score of $\alpha = .81$ confirmed the internal consistency of the inventory against the standard criterion of $\alpha \geq .70$.

4.3.4 Independent Variables

Demographics

The final section of the online questionnaire comprised items regarding teachers' demographics and broader school characteristics. Teachers reported their age, gender, number of years teaching PE, number of years teaching SEND students, and number of SEND-related professional development courses they have undertaken. Teachers also reported the type of school within which they worked (i.e., primary, secondary, or special), the total number of pupils in the school, average number of students in a PE lesson, and the different SEND profiles they taught in their classes.

4.3.5 Statistical analyses

We employed a linear mixed model procedure to estimate the associations between teachers' demographic and schools' characteristics (independent variables) and teachers' attitudes toward inclusion, self-efficacy on delivering inclusive pedagogy, and perceptions of the context in which they work (dependent variables). Data were analysed using the Statistical Analysis System (SAS® Studio, University Edition – SAS Institute Inc., Cary, NC, USA). For the categorical independent variables, the estimated associations represented differences in the adjusted mean changes in the dependent variables between comparison groups. For example, the difference in the adjusted mean changes in self-efficacy for teachers with an undergraduate or a postgraduate degree qualification. For the continuous independent variables, the estimated associations represented the change in the dependent variable when the independent variable increases by one unit of the measure. For example, the difference in attitudes for teachers with more years of teaching experience. To facilitate a clear interpretation of the findings, the estimated associations yielded were converted into effect sizes by dividing the estimated association in question by the standard deviation of its outcome variable – a widely applied process known in the social and health sciences literature as standardisation (Tabachnick and Fidell, 2007). The estimates representing the association between continuous independent variables and the dependent variables were converted into correlation coefficients (*r*). The corresponding estimates representing the association between categorical independent variables and the dependent variables were converted into Cohen's *d*. The size of the effect was evaluated using Cohen's (1988) guidelines. The effect size of the correlation coefficients (*r*) were evaluated using the following scale: <.10 trivial; 0.10-0.30 small; 0.30-0.50 moderate; >0.50 large (Cohen, 1988). The effect size of the differences in means (i.e. Cohen's *d*) were evaluated using the following scale: <.20 trivial; 0.20-0.50 small; 0.50-0.80 moderate; >0.80 large (Cohen, 1988). Given the considerable criticism of evaluating quantitative findings by means of p values alone (i.e., where $p < .05$, or not) (Amrhein, Greenland and McShane, 2019), substantial estimated associations in this study were evaluated using a precision of

estimation approach (i.e., by interpreting the width of the lower and upper 95% confidence intervals) (Cumming, 2014).

4.4 Results

4.4.1 Descriptive Statistics

Table 4.1 summarises the teacher- and school- characteristics of the sampel. Teachers surveyed were primarily females (78%) and held an undergraduate teaching qualification (61%). Sixty-three percent of teachers were from primary schools, 32% were secondary school PE teachers, and the remaining 5% of teachers reported working in special schools. Whilst twenty-eight percent of teachers reported having obtained a qualification in teaching students with SEND profiles, most teachers surveyed (93%) reported having some form of contact with children with SEND profiles in the year prior to completing the questionnaire. In relation to broader school characteristics of the sample, the total number of pupils in teachers' schools ranged from 12 to 1,400, with an average of 444 pupils per school. There was a wide range of class sizes reported across the sample, with teachers reporting numbers of students in their PE classes ranging from six to 35, with an average of 25. Teachers also reported the average number of children with SEND profiles in their PE classes was seven, with average exposure of teachers to three different types of disabilities in their lessons.

Table 4.1. Sample characteristics.

Variable		
Gender (n=231)	**n (%)**	
Female	180 (77.9)	
Male	51 (22.1)	
Academic Qualification (n=230)		
Undergraduate	140 (60.9)	
Postgraduate	90 (39.1)	
Qualification in teaching SEND (n=231)		
Yes	64 (27.7)	
No	167 (72.3)	
Type of School (n=229)		
Primary	145 (63.3)	
Secondary	73 (31.9)	
Special	11 (4.8)	
Contact with SEND people in life (n=229)		
Frequent personal contact	64 (27.7)	
Infrequent personal contact	87 (37.7)	
Just see them around	63 (27.3)	
No contact in the past year	17 (7.4)	
	Mean (SD)	**Median (Range)**
Age (n=160)	39 (9)	38 (23-62)
Number of years teaching (n=160)	15 (9)	13 (1-38)
Number of years teaching PE (n=160)	15 (10)	13 (1-38)
Number of years teaching SEND (n=160)	13 (8)	12 (1-38)
Number of SEND Courses attended (n=160)	3 (3)	2 (0-15)

Total number of pupils in the school (n=160)	444 (300)	400 (12-1,400)
No. of pupils in PE class (n=160)	25 (5)	27 (6-35)
No. of SEND children in PE class (n=160)	7 (7)	5 (0-30)
No. of different type of SEND in PE class (n=160)	3 (1)	3 (0-6)

Abbreviations: n=, sample size; PE, physical education; SD, standard deviation; SEND, special educational needs and disabilities.

4.4.2 Analysis of the predictors on the outcome variables

Predictors of teachers' attitude

There was a small-to-moderate positive correlation (r = 0.35; 95%CIs = 0.14 to 0.56; p = .001) between the number of *different* types of disabilities in class and PE teachers' attitudes. Trivial-to-large differences in attitudes were observed between special school and primary (d = -1.32; 95%CIs = -2.65 to 0.00; p = .050) and secondary (d = -1.41; 95%CIs = 2.76 to -0.05; p = .042) school teachers, with special school teachers holding more favourable attitudes. Finally, teachers who reported having obtained a qualification in teaching children with SEND profiles had possibly more favourable attitudes; however, the uncertainty in the estimate (given by the p value and 95%CI) was too large to be definitive (d = 0.38; 95%CIs = -0.04 to 0.80; p = .08).

Predictors of teachers' self-efficacy

There was a small-to-moderate-sized difference between secondary school PE teachers' and primary school teachers' self-efficacy levels (d = 0.71; 95%CIs = 0.28 to 1.13; p = .001), with the latter having higher levels of self-efficacy. Other possible differences include the difference in self-efficacy between: primary school and special school teachers', with special school teachers having more higher efficacy beliefs (d = -1.17; 95%CIs = -2.44 to 0.10; p = .07); and teachers who had different frequencies of contact engagement with people with disabilities in their personal life, with more frequent engagement being associated with higher efficacy beliefs. (d = 0.77; 95%CIs = -0.09 to 1.22; p = .09). There was also a possible association between experience in teaching PE and perceived self-efficacy, with more years teaching PE possibly associated with higher perceived self-efficacy (r = 0.93; 95%CIs = -0.04 to 1.89; p = .06).

Predictors of the perceived inclusive context within the school

There was a small-to-moderate-size difference between teachers who had not had contact with SEND people over the year prior to the competition of the survey and those who had '*just saw them around*' (d = 0.71; 95%CIs = 0.09 to

1.32; p = .025). Trivial-to-large differences were found between teachers with infrequent personal contact with SEND and teachers who '*just saw them around*' (d = 0.47; 95%CIs = 0.12 to 0.83; p = .009), with the former holding more positive perception about inclusivity within the school context. Trivial-to-large differences were also found between teachers who had had frequent personal contact with SEND people and those who had had no contact at all (d = 0.56; 95%CIs = -0.07 to 1.18; p = .08). A trivial-to-moderate difference was found between subjects who had infrequent contact with SEND people and those who had frequent personal contact with people living with a disability (d = -0.33; 95%CIs = -0.70 to 0.05; p = .08), with the latter having more positive perception of the inclusive levels within the school.

Although non-statistically significant, a trivial-to-moderate difference was found between male and female teachers, with the former having higher positive perceptions about the extent to which inclusion was supported within the school (d = -0.28; 95%CIs = -0.62 to 0.06; p = .11). Non-significant trivial-to-moderate differences were found between teachers who held an undergraduate degree and their colleagues who obtained a postgraduate degree (d = -0.31; 95%CIs = -0.64 to 0.02; p = .07), with the latter having more positive perceptions about the inclusive environment within the school in which they worked. A non-statistically significant trivial-to-small negative correlation was found between teachers' perceptions about the school context and the total number of pupils attending the school (r = -0.16; 95%CIs = -0.34 to 0.02; p = .07). Another non-statistically significant trivial-to-small negative correlation was found between teachers' perception of the school context and the number of students with SEND profiles in their PE classes (r = -0.14; 95%CIs = -0.30 to 0.02; p = .08). Finally, a trivial-to-moderate negative correlation was found between teachers' perceptions about the school context and the number of *different* type of disabilities attending the PE classes (r = 0.13; 95%CIs = -0.06 to 0.32; p = .19).

The remaining associations between the predictors variables and the outcome variables that were either unclear or trivial (see Table 4.2).

Table 4.2. Effect sizes.

Categorical Predictors

	Cohen's *d*	Lower CI	Upper CI	*p* value	Interpretation
Effect of the predictor on Attitude					
Gender					
Females – Males	0.08	-0.29	0.46	0.66	Unclear
Academic Qualification					
Undergraduate - Postgraduate	0.19	-0.17	0.56	0.30	Trivial to moderate
Qualification in teaching SEND					
No - Yes	0.38	-0.04	0.80	0.08	Trivial to moderate
Type of School					
Primary - Special	-1.32	-2.65	0.00	**0.050**	**Trivial to large**
Secondary - Special	-1.41	-2.76	-0.05	**0.042**	**Trivial to large**
Secondary - Primary	-0.08	-0.53	0.36	0.71	Unclear
Personal contact with SEND					
Frequent Contact - No Contact	-0.12	-0.81	0.56	0.73	Unclear

Infrequent Contact - No Contact	-0.28	-0.94	0.37	0.39	Unclear
See them Around - No Contact	-0.23	-0.91	0.44	0.50	Unclear
Infrequent Contact - Frequent Contact	-0.16	-0.57	0.25	0.43	Unclear
See them Around - Frequent Contact	-0.11	-0.56	0.34	0.63	Unclear
See them around - Infrequent Contact	0.05	-0.33	0.44	0.79	Unclear
Effect of the predictor on School Context					
Gender					
Females – Males	-0.28	-0.62	0.06	0.11	Trivial to moderate
Academic Qualification					
Undergraduate - Postgraduate	-0.31	-0.64	0.02	0.07	Trivial to moderate
Qualification in teaching SEND					
No - Yes	-0.01	-0.39	0.38	0.96	Unclear
Type of School					
Primary - Special	0.29	-0.91	1.50	0.63	Unclear
Secondary - Special	0.49	-0.74	1.73	0.43	Unclear
Secondary - Primary	0.20	-0.20	0.61	0.33	Unclear

Personal contact with SEND					
Frequent Contact - No Contact	0.56	-0.07	1.18	0.08	Trivial to large
Infrequent Contact - No Contact	0.23	-0.37	0.83	0.45	Unclear
See them Around - No Contact	0.71	0.09	1.32	**0.025**	**Trivial to large**
Infrequent Contact - Frequent Contact	-0.33	-0.70	0.05	0.08	Trivial to moderate
See them Around - Frequent Contact	0.15	-0.26	0.56	0.48	Unclear
See them around - Infrequent Contact	0.47	0.12	0.83	**0.009**	**Trivial to large**
Effect of the predictor on Self-Efficacy					
Gender					
Females – Males	-0.38	-0.74	-0.03	**0.036**	**Trivial to moderate**
Academic Qualification					
Undergraduate - Postgraduate	0.02	-0.33	0.37	0.90	Unclear
Qualification in teaching SEND					
No - Yes	0.15	-0.26	0.55	0.48	Unclear
Type of School					
Primary - Special	-1.17	-2.44	0.10	0.07	Trivial to large

Secondary - Special	-0.46	-1.76	0.84	0.49	Unclear
Secondary - Primary	0.71	0.28	1.13	**0.001**	**Small to large**
Personal contact with SEND					
Frequent Contact - No Contact	0.57	-0.09	1.22	0.09	Trivial to large
Infrequent Contact - No Contact	0.37	-0.26	1.00	0.25	Unclear
See them Around - No Contact	0.35	-0.30	1.00	0.29	Unclear
Infrequent Contact - Frequent Contact	-0.19	-0.59	0.20	0.33	Unclear
See them Around - Frequent Contact	-0.22	-0.65	0.21	0.32	Unclear
See them around - Infrequent Contact	-0.02	-0.39	0.35	0.90	Unclear
Continuous Predictors					
Effect of the predictor on Attitude	***r***	**Lower CI**	**Upper CI**	***p* value**	**Interpretation**
Different types of disabilities in PE class	0.35	0.14	0.56	**0.001**	**Small to moderate**
Years teaching	0.25	-0.83	1.34	0.64	Unclear
Years teaching PE	-0.31	-1.31	0.70	0.55	Unclear
Total pupil in the school	-0.02	-0.22	0.18	0.85	Unclear
Number of pupil in PE class	0.04	-0.18	0.25	0.74	Unclear

SEND courses attended	0.01	-0.03	0.05	0.67	Trivial
Number of SEND in PE class	-0.05	-0.22	0.13	0.58	Unclear
Years teaching SEND	0.09	-0.21	0.40	0.54	Unclear
Age	-0.25	-0.63	0.14	0.21	Unclear
Effect of the predictor on School Context					
Different types of disabilities in PE class	0.13	-0.06	0.32	0.19	Trivial to moderate
Years teaching	0.14	-0.85	1.13	0.77	Unclear
Years teaching PE	-0.05	-0.97	0.87	0.91	Unclear
Total pupil in the school	-0.16	-0.34	0.02	0.07	Trivial to moderate
Number of pupil in PE class	0.10	-0.10	0.29	0.34	Unclear
SEND courses attended	0.02	-0.02	0.06	0.30	Trivial
Number of SEND in PE class	-0.14	-0.30	0.02	0.08	Trivial to small
Years teaching SEND	0.03	-0.25	0.30	0.83	Unclear
Age	0.06	-0.30	0.41	0.75	Unclear
Effect of the predictor on Self-Efficacy					
Different types of disabilities in PE class	-0.08	-0.28	0.12	0.45	Unclear

Years teaching	-0.71	-1.76	0.33	0.18	Unclear
Years teaching PE	0.93	-0.04	1.89	0.06	Trivial to large
Total pupil in the school	-0.03	-0.22	0.16	0.79	Unclear
Number of pupil in PE class	0.01	-0.19	0.22	0.89	Unclear
SEND courses attended	0.03	-0.01	0.07	0.13	Trivial
Number of SEND in PE class	0.02	-0.15	0.19	0.80	Unclear
Years teaching SEND	0.10	-0.19	0.39	0.49	Unclear
Age	-0.20	-0.57	0.17	0.29	Unclear

Abbreviations: CI, confidence interval; *d*, difference score; *p*, probability; PE, physical education; *r*, correlation coefficient; SD, standard deviation; SEND, special educational needs and disabilities.

Note: The statistically significant *p* values are reported in bold. Level of significance was set at $p < .05$.

4.5 Discussion

Teachers' attitudes, self-efficacy levels, and school environment are key elements required to create an inclusive setting in PE classes for students with SEND profiles (Tripp and Sherrill 1991, Avramidis and Norwich, 2002, Folsom-Meek et al. 2000; Kudlacek et al. 2002; Morley et al. 2005; Vickerman 2002, Hutzler et al. 2019). Despite Ireland having enacted policy to support inclusive education over the past two decades, challenges for teachers still exist within PE classes (Shevlin, Winter, and Flynn. 2013). Previous studies of Irish PE teachers concluded that further future investigations were required to further elaborate on the correlates of (i.e., potential reasons for) teachers' attitudes (Meegan and MacPhail, 2006). Therefore, the main purpose of the present paper was to empirically investigate the factors that are associated with Irish PE teachers' (i) attitudes vis-à-vis inclusion; (ii) self-efficacy in delivering inclusive pedagogies; and (iii) perceptions about the school context in which they worked.

Perhaps the most surprising finding of this study was the positive correlation found between different types of disabilities in class and PE teachers' attitudes. Previous research has primarily focused on the impact of the type and degree of the disability on teachers' attitudes and self-efficacy (Casebolt and Hodge, 2010; Hersman and Hodge, 2010; Hodge et al., 2004; Morley et al., 2005; Sato et al., 2007; Sato and Hodge, 2009, Meegan and MacPhail 2006), and a recent systematic review and meta-analysis has concluded that, overall, teachers' attitudes were more favourable towards teaching students with mild disabilities (Tarantino, Makopoulou and Neville 2022). However, our findings showed, for the first time in published research, that teachers who taught students with a wider range of SEND held more positive attitudes toward the inclusion of such children in PE classes. These results can be interpreted as showing that exposure to different types of disabilities can lead to more favourable attitudes vis-à-vis inclusion. Such findings are novel to PE, but align well with previous research results that showed that general education teachers who were exposed to different types of disability had more positive attitudes toward inclusion (Keilbaugh, 1977; Wall, 2002; Goddard and Evans, 2018).

The findings of this study also show that previous personal contact with people with SEND (i.e., outside of the classroom) influences teachers' perceptions about inclusion. Our findings revealed that higher levels of contact with people with SEND were associated with more positive perceptions about the extent to which inclusion was supported within the school in which teachers work. Prior research has reported the school context to be one of the most important factors influencing and shaping teachers' attitudes, self-efficacy, and behaviours (Tripp and Sherrill 1991; Caprara et al. 2006; Hutzler, Zach, and Gafni 2005; Obrusnikova 2008; Özer et al. 2013; Rizzo and Vispoel 1991). However, our results now suggest that this association might be reciprocal. For example, it is quite possibly that teachers with more frequent contact with SEND in their personal life know more about and are therefore more attuned to the ways in which the needs of a person with a SEND profile can be and are met within a given school. It is also quite possible that teachers with more frequent contact with SEND in their personal life positively influence other school staff and thereby shape the beliefs and values that promote inclusion within a given school context. Such findings and interpretations align well with previous theoretical models; for example, social cognitive theory (Bandura 1986), which proposes a bi-directional relationship between environmental and personal characteristics, and previous research in general education has begun to explore in more depth (Thibaut et al. 2018).

In terms of teachers' attitudes toward inclusion, our findings revealed significant differences between special school teachers and teachers teaching in both primary and secondary, with the former reporting more favourable attitudes toward inclusion. Given that special school teachers work in a setting where the specific goal of inclusion for all based on individual needs and specific abilities is fundamental to teacher practice, these findings are perhaps unsurprising. However, it is potentially surprising that no differences were found between primary and secondary school teachers' attitudes. Though, a lack of evidence for differences in attitudes towards inclusion between teachers in primary and secondary school settings has been signalled in previous research. In their comprehensive literature review on attitudes towards inclusions, Avramidis and

Norwich (2002) reported conflicting evidence from across numerous empirical studies: i.e., some found that secondary school teachers showed more favourable attitudes towards inclusion than counterparts working in elementary schools, whereas others show the opposite. Although such an analysis was not part of the present study, it is possible that differences in attitudes towards inclusion between teachers working in different settings are mediated by the nature and characteristics of the school context within which teachers work.

Another interesting, yet surprising, finding was the differences in self-efficacy levels between primary and secondary school PE teachers. Contrary to what reported by Baker (2005) in the American context, our results showed that secondary school teachers had significantly higher levels of self-efficacy in providing inclusive pedagogies when compared to their primary school counterparts. Although teachers' self-efficacy has been widely investigated in the Irish context (Ryan and Matthews 2022; Tindall, Culhane and Foley 2016; Hosford and O'Sullivan 2016), research evidence has been lacking regarding the differences between primary and secondary school teachers, especially within the context of inclusive PE. A possible explanation for the difference in self-efficacy among primary and secondary school teachers could be found in the difference between the curricula and subsequently the provision of PE in primary and secondary schools in Ireland. Although previous evidence has not been reported in the context of inclusive PE, an explanation can be drawn up by looking at general education. Irish primary teachers teach PE alongside other subjects, whereas secondary school PE teachers teach PE only. This may result in a lack of practical confidence and perceived competence among primary teachers as they cannot specialise and simply cannot spend as much time on task learning about or implementing PE activities as a specific subject (among many others). A recent qualitative study conducted by Ní Chróinín and O'Brien (2019) reported that primary teachers did not tend to have a background in sport and/or structured physical activity and that they were also 'positively disposed' towards the provision of PE activities by external educators (p. 331). Ní Chróinín and O'Brien (2019) reported that, despite enjoying teaching PE, primary teachers preferred having an external educator teaching PE, who was deemed having more

expertise and management skills in teaching PE. In this study, one participant even voiced that having someone with ‘a more fine-tuned skills set’ was pivotal for children’s enjoyment and learning (Ní Chróinín and O’Brien 2019, p. 331). Another obvious difference between primary and secondary school teachers is that the former (primary school teachers) do not need a specific qualification to teach PE in their practice. On the other hand, secondary PE teachers not only need to obtain such a higher-education qualification for teaching PE, but research shows that secondary school PE teachers are also more likely they have a sporting background and thereby feel much more at in teaching and facilitating learning with a physical activity component. MacPhail et al. (2006) reported that more than ninety per cent of secondary school principals requested a recognised PE qualification when employing a PE teacher, as non-qualified PE teachers undermined the quality of PE provision. Having obtained a qualification in teaching PE may have also exposed secondary school teachers to a variety of courses on inclusive PE, which has been highlighted as one of the predictors that positive influence attitudes (Tarantino, Makopoulou and Neville 2022, Anunah and Hodge, 2006; Vickerman and Coates, 2009).

4.6 Strengths and Limitations

This study has a number of strengths. The study provides comprehensive and novel empirical evidence regarding the factors associated with Irish PE teachers’ attitudes vis-à-vis inclusion, self-efficacy to deliver inclusive pedagogies, and perceptions about whether and how inclusion was supported within their school. The only other published study of Irish PE teachers’ attitudes towards inclusion was conducted in 2007 (Meegan and MacPhail, 2007) and it investigated a more limited number of factors associated with inclusion attitudes. As such, this study provides both an update to an extension of inclusion research that is particular to and can directly inform the Irish educational context.

Despite the novelty and strengths of this study, some limitations need to be acknowledged. The cross-sectional nature of this study is an obvious limitation, within our findings represent only a snapshot (though an updated and extended snapshot at that) of the factors associated with Irish PE teachers

attitudes towards inclusion. It is also worth noting that these cross-sectional data were collected during the first lockdown of the COVID-19 pandemic. During this period, schools were closed, and teaching was largely being delivered remotely. As such, given the new pedagogical challenges that teachers were experiencing in the context of social and physical distancing restrictions, the findings of study might also reflect some COVID-related attitudes, self-efficacy, and perceptions about the school context. For example, teachers might have had lower efficacy beliefs at different points of the COVID-19 pandemic as they quickly needed to transition into a new mode of delivery. Equally, teachers' attitudes towards inclusion might have been more positive because, during COVID, they became more attituded to the challenges of remotely including children with differing needs and even from different backgrounds. The recruitment of participants for this study required participants to opt into the study on a voluntary basis and to complete an online questionnaire. As such, the findings of this study could be open to some response biases: namely, response bias (i.e., it is possible that only teachers who are knowledgeable about and interested in inclusion responded) and social desirability bias (i.e., teachers potentially responded in a manner that reflects what they think they ought to say about inclusion, rather than what they actually perceive or believe). It should be noted here again that we used well-validated questionnaires during the conduct of this study, which is a known methodological tactic to reduce these types of response biases. The importance of replication is also worth noting here – we believe that replication of the present findings in different (potentially different international) contexts surveying independents sample of PE teachers would further corroborate and improve the generalisability of our findings.

4.7 Conclusion

In summary, our results showed that: (i) having different types of SEND in class; (ii) being frequently exposed to people with SEND; and (iii) obtaining a qualification in teaching PE may positively influence the inclusion of children with SEND in PE classes. Such findings highlight the importance of teachers' exposure to routine and consistent working with children with SEND profiles,

which influences not only the attitudes and efficacy beliefs of the people working directly with them, but it also influences the broader school context within which teachers work. Our findings, also potentially highlight the importance of delivering inclusion-related professional learning opportunities to primary school teachers. Such professional learning opportunities could include collaboration among primary and secondary school teachers on inclusion challenges and approaches, as well as practical workshops to address such challenges and apply new approaches directly with (and with feedback and input from) children with SEND profiles.

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Chapter 5: Associations between Physical Education Teachers' Attitudes towards Inclusion, Self-Efficacy to Deliver Inclusive Pedagogy, and Perceptions about the School Context within which They Work: A Confirmatory Model

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This chapter is presented as the author-submitted manuscript of a peer-reviewed journal: *European Physical Education Review (Currently under review)*

5.1 Abstract

Physical Education (PE) has been consistently reported as a key setting for promoting the inclusion of children with disabilities. PE teachers have been positioned as key policy enactors of inclusion. However, there is still a lack of evidence on contextual factors that can affect the implementation of inclusive pedagogies – particularly, the broader school context within which teachers work. The aim of this study was to test a model of, and estimate, the relationships between teachers' attitudes towards inclusion, self-efficacy to deliver inclusive pedagogy, and perceptions about whether and to what extent inclusion was supported within their school. A cross-sectional research design was employed. Teachers were surveyed using an online questionnaire that elicited responses about teachers': perceptions of inclusion in the context of their own school; self-efficacy teaching PE; and attitudes towards the inclusion of students with SEND in PE. Confirmatory and exploratory factor analysis was employed to test the fit of a theoretically informed model integrating these key inclusion variables. This study provides corroborating quantitative evidence on the relationship between teachers' attitudes towards inclusion and self-efficacy to deliver inclusive pedagogy. Novel evidence is provided about the relationship between teachers' attitudes, self-efficacy, and the school context within which they work. Critically, this study provides evidence that, whilst unrelated to teachers' willingness to accept children with disabilities profiles in their classrooms, perceptions about

school context are significantly related to teachers' judgements about the feasibility of implementing such inclusion in practice.

Keywords: teacher's attitudes; school context, inclusion, physical education, self-efficacy.

5.2 Introduction

Physical education (PE) has been consistently reported as a key setting for promoting the inclusion of children with disabilities (Block and Obrusnikova 2007; Hutzler et al. 2019; Qi and Ha 2012; Rekaa et al. 2019; Tant and Watelain 2016; Wilhelmsen and Sørensen 2017). Numerous international reports and consensus statements have proffered the benefits of PE for children across the range of physical, social-emotional, behavioural, and intellectual disabilities and disorders, with the shared aspiration that PE should be accessible for all children, regardless of ability status (Murphy and Carbone 2008). This aspiration of greater inclusion in PE is not simply because students with disabilities can benefit functionally, or therapeutically, from regular engagement in physical activity and exercise (Rimmer and Rowland 2008). It is also not simply because PE could provide a structured and reliable opportunity for students with disabilities to achieve recommended daily physical activity goals (Carty et al. 2021). Rather, as Butler (2006) noted, it is also because high-quality PE can provide a microcosm of the complex interactions and relationships involved in participating in wider community settings. As such, high-quality PE can facilitate learning that supports social skills development, empathetic understanding between children, and greater social integration (cf., Martin 2013).

Teachers' attitudes have been reported as one of the primary factors influencing the inclusion of students with disabilities on PE (Rekaa et al. 2019; Hutzler et al. 2019), thereby positioning teachers, at times, as the sole policy enactors of inclusion (Lambert and Penney 2020). Researchers have also frequently lamented a lack of empirical evidence regarding other factors that affect inclusion, particularly the influence of school context. For example, in a recent comprehensive review of the literature on the inclusion of students with disabilities in PE, Hutzler et al. (2019) reported that, out of 48 published studies, only one investigated the influence of the school environment. According to this study, Rischke et al. (2017), teachers who were more *process* rather than *product* orientated held more favourable attitudes toward inclusion, concluding that teaching in a certain kind of school environment (a "performance-oriented school environment") can have a negative impact on teachers' attitudes. Other studies

noting contextual challenges include Morley et al. (2005), wherein teachers' qualitative comments about the enactment of inclusion reflected an inherent tension between promoting equity and pursuing excellence in how the subject area of PE is perceived within a given school.

Building on their comprehensive review of the literature – and integrating key concepts from social cognitive theory (Bandura 1986) and the theory of planned behaviour (Ajzen 1991) – Hutzler et al. (2019) subsequently proposed the model shown in Figure 5.1. Here, teachers' behaviours vis-à-vis inclusive practice are influenced by a set of antecedent decisions and background variables (cf. Makopoulou et al. 2021). According to the model, background variables are represented by school- and teacher-level attributes (e.g., teachers' experience in teaching students with disabilities, type of school), and individual students' disability attributes (e.g., type and degree of disability). Decision variables relate to teachers' own personal attitudes and behavioural intentions towards inclusion, and, relatedly, by their perceived sense of self-efficacy to deliver effective inclusive PE pedagogy.

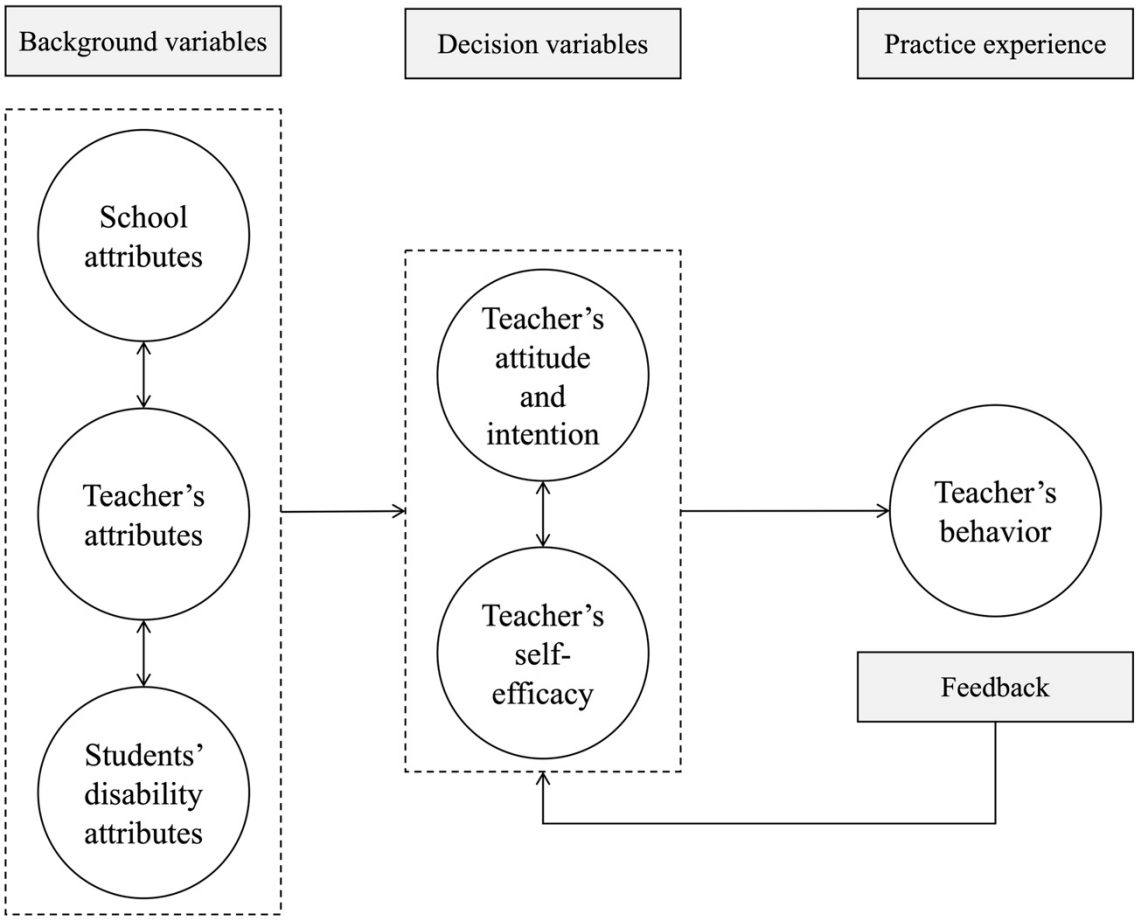


Figure 5.1. Domains of attributes impacting the inclusion of children with disabilities in PE according to Hutzler et al. 2019.

Of particular note in the model proposed by Hutzler et al. (2019) is that only three variables can be considered directly modifiable, meaning that they are open to possible scrutiny and intervention. These variables are teachers' (i) attitudes and intentions and (ii) self-efficacy and (iii) school attributes, such as the context within which teachers work. There is already a significant body of published research on inclusive PE and the degree to which attitudes, self-efficacy, and behavioural intentions differ according to different teacher- and student-level attributes (cf. Salvia and Munson, 1986). For example, in a recent systematic review and meta-analysis, [Authors (Year)] reported a high level of evidence showing that attitudes towards inclusion in PE differed according to teachers' age, educational attainment, and years teaching experience, and also according to the type and degree of an individual student's disability. In a national-level study of inclusive PE conducted in England, Makopoulou et al. (2021) reported differences in efficacy beliefs and self-efficacy change between male and female teachers, and for teachers of different ages, career stages, and years' experience. Researchers have also developed comprehensive conceptual models to test the theory of planned behaviour in the context of practising inclusive PE. Kudláèek et al. (2002) estimated that approximately 15% of variability in behavioural intentions towards inclusion of students with physical disabilities were predicted by attitudinal variables (Kudláèek et al. 2002). However, to our knowledge, to date, there have been no published studies that explore the interrelationships between teachers' attitudes towards inclusion, self-efficacy to deliver inclusive pedagogy, and the broader school context within which they work. This is a particular omission from the literature, since the school context within which one works appears to us (in principle at least) to be a critical background variable that can shape teachers' attitudes, self-efficacy, behavioural intentions, and, therefore, ultimately, the enactment of inclusion.

5.2.1 Study purpose and hypothesised model

Against the backdrop of a research evidence base which has yet to fully integrate key constructs affecting inclusion – particularly modifiable factors – the main purpose of this study was to test a model and estimate the relationships

between teachers' attitudes towards inclusion, self-efficacy to deliver inclusive pedagogy, and perceptions about whether and how inclusion was supported within their school. Our model (Fig. 2) was based on the theoretical assumptions presented by Hutzler et al. (2019). As such, the hypothesised model predicted that there would be significant associations between latent variables (ovals in Fig. 2) representing attitudes (judgements about inclusion, acceptance of SEND students, and related training needs to implement inclusive pedagogy), efficacy beliefs (perceived self-efficacy, and self-reported confidence in supporting SEND students), and school context (general supporting school context, prioritisation of and support for inclusion, and provision of inclusive PE). Following Hutzler et al. (2019), the model hypothesised that that these latent variables (ovals in Fig. 5.2) representing attitudes, efficacy beliefs, and school context would mutually co-vary as potential influencers of teachers' behavioural intentions toward the inclusion of SEND children in PE. Understanding the relationships between these variables can and should inform action planning for inclusion in PE. This is particularly important when it comes to decision-making about unit of analysis – attitudinal change, teacher training for inclusion, school policy change – in the design of interventions to embed inclusive practice within schools (Li et al. 2017)

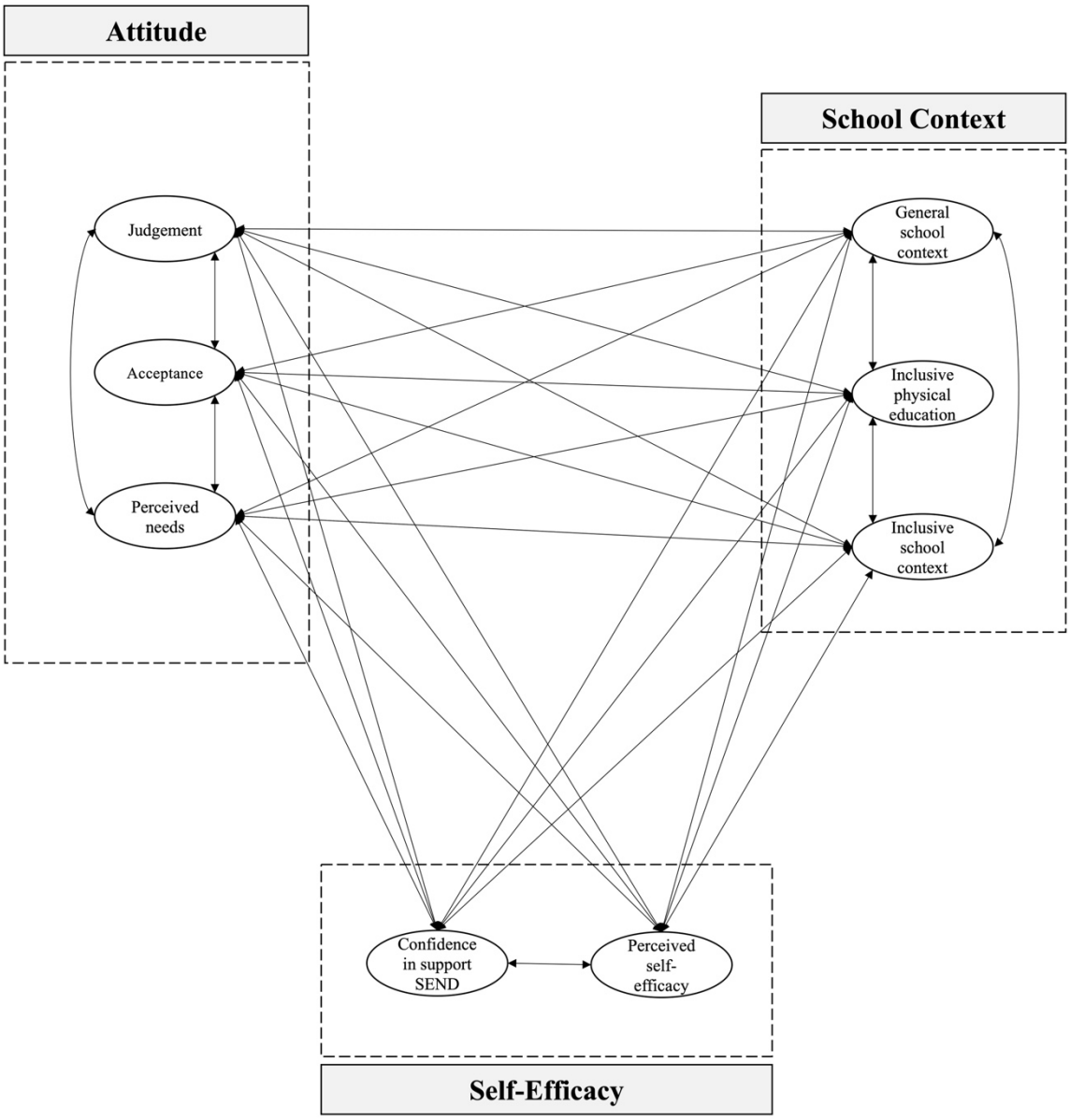


Figure 5.2. Hypothesised model.

5.3 Materials and Methods

5.3.1 Research design and participants

A cross-sectional research design was employed and, in June 2020, an email request for participation in the study was sent to all primary (N=3,106), secondary (N=723), and special schools (N=134) listed publicly on a national (Irish) department of education and skills website. Of the n=329 teachers who accessed the link, n=260 completed the survey in full, resulting in a 79% completion rate. Whilst the response rate (7%) is less than the response rate for similar study designs focusing on Irish school teachers published in this journal by Meegan and MacPhail (2006), the final sample size was large enough (i.e., adequately powered) to converge the hypothesised model. This study was granted ethical approval by the [insert name of institutional review board here]. Survey participants provided informed written consent and no incentives for participation were given.

5.3.2 Measures

Teachers were surveyed using an online questionnaire, which was comprised of four main sections: (i) perceptions about inclusion in the context of their own school; (ii) self-efficacy teaching PE (including confidence in teaching students with SEND); (iii) attitudes towards the inclusion of students with SEND in PE; and (iv) a final demographics and school characteristics section. The details of each section are described below.

School context

Teachers' perceptions about inclusion in the context of their own school were measured using and inventory developed by Makopoulou et al. (2021) in their national study an inclusive PE professional development programme in the United Kingdom. This 13-item, 'About Your School' (Makopoulou et al, 2021: 787), inventory was developed based on Booth and Ainscow's (2002) *Index of Inclusion* and on the broader professional development literature which promotes the notion of schools as 'learning organisations' (Kools et al. 2020). Whilst

Makopoulou et al. (2021) originally reported the outcomes of the measure as a single component, a three-factor solution fit the present data and was employed in this study. These three factors and focused on teachers' perceptions about: (i) the general school context within which they worked (4 items), including statements about the level of collegiality within the school, and about opportunities for shared learning and cascading knowledge (example item: "*Teachers and support staff collaborate to improve existing inclusion practices*"); (ii) inclusion at the school in a general sense (4 items), including questions about whether there was a culture or ethos of inclusive, and about the availability of resources within the school to support inclusive practice (example item: "*Students at 'risk' are carefully monitored and steps are taken to ensure their presence, participation, and achievement*"); and (iii) the quality of inclusive PE provision at the school (3 items), including questions about the quality of inclusive PE opportunities for children with SEND in particular (example item: "*The students in my class, including SEND students, have access to high quality PE*"). After being initially prompted to think about "school policies, practices, and values […] as well as opportunities to learn with colleagues", teachers responded to each of the 13 items on a 1 (strongly disagree) to 5 (strongly agree) scale. Alpha reliability (α) scores for the general school context, inclusion at the school, and quality of inclusive PE subscales were .69, .70, .68 respectively, thereby confirming the approximate internal consistency of the subscale scores (i.e., $\alpha \geq .70$).

Self-efficacy

Self-efficacy can be defined as an individual's beliefs about whether and how well he or she can execute a plan or course of action in a given situational context. Following this conceptualisation by Bandura (1977), in this study, teacher's self-efficacy toward teaching PE was measured using an instrument developed by Makopoulou et al. (2021). This 10-item instrument was developed based on previous instruments validated by Humphries et al. (2012) and Block et al. (2013). Whilst Makopoulou et al. (2021) originally reported the outcomes of the measure as a single component, a two-factor solution fit the present data and

was employed in this study. These two factors focused on: (i) teachers' personal efficacy beliefs about teaching PE (example item: "*How confident are you in your ability give different tasks to different groups of learners at the same time to meet their diverse needs?*") and readiness to adapt the activity depending on a student's needs (example item: "*How confident are you in your ability to change a task to make it easier for a student who is having trouble achieving in this task?*"); and (ii) teachers' confidence in supporting SEND students (4 items, example item: "*How confident are you in your ability to support all students, including SEND, who experience difficulties in carrying out a task, think about finding solutions themselves?*"). Teachers responded to the 10 items on a 5-point scale, which ranged from 1 (not at all confident) to 5 (extremely confident). Reliability scores for the efficacy beliefs and confidence in teaching SEND subscales were .91 and .88 respectively, confirming the internal consistency of subscale scores against standard criteria.

Attitudes towards inclusion in PE

Attitudes are most commonly conceptualised within the framework of Ajzen's (1991) *Theory of Planned Behaviour*. Here, an attitude is defined as the degree to which a person has a favourable or unfavourable personal evaluation towards an object, activity, or event. Teachers' attitudes toward the inclusion of children with SEND in PE was measured using the 15-item 'Physical Educators' Judgements About Inclusion' measure developed and validated by Hodge et al. (2002). This measure is comprised of three factors with scales measuring (i) judgements about inclusion versus exclusion (example item: "*Students with severe disabilities should be taught in separate classes*"), (ii) acceptance of students with disabilities (example item: "*I would readily accept teaching a student with a physical disability in PE*"), and (iii) perceived training needs (example item: "*It is important that I receive training on* […] *lesson planning for a variety of ability levels*"). Teachers responded to the 15 items on a 1 (strongly disagree) to 5 (strongly agree) scale. Only one change was made to the measure by us to ensure alignment with more up to date disability classification. Hodge et al. (2002) originally asked acceptance questions (i.e., "*I would readily accept*

teaching a student with …") about the following categories of disability: hard of hearing; visual impairment; learning disability; and physical disability. For this study, however, we elaborated on these categories, as follows: visual/hearing impairment; emotional and behavioural disorder; specific learning disability; physical disability; autism spectrum disorders; and intellectual disability. Reliability scores for the judgments, acceptance, and perceived training needs sub scales were .69, .87, .82 respectively, thereby confirming internal consistency.

Demographics

Teachers reported their sex, age, number of years teaching PE, numbers of years teaching SEND students, as well as the number of SEND-related professional development courses they have undertaken. Teachers also reported the type of school they worked in (i.e., primary, secondary, or special school), total number of students and average number of students attending PE in that school, and the different SEND profiles they had experience teaching in PE.

5.3.3 Statistical analyses

Confirmatory Factory Analysis (CFA) was used to test the factorial validity of the model illustrated in Figure 5.2. The model was fit using the lavaan package for R Studio. The full information maximum likelihood estimation approach was programmed to account for potential confounding associated with missing data (Enders and Bandalos 2001). The quality of the fit of the models was examined using indices and thresholds advocated by Hu and Bentler (1999): comparative fit index (CFI) and Tucker-Lewis index (TLI) of ≥ .95; root mean square error of approximation (RMSEA) of ≥ .06; and standardised root mean squared residual (SRMR) of ≥ .08 (Hu and Bentler 1999). The Satorra-Bentler scaled chi-square test (χ^2) was also used to evaluate the fit of the model. Recognising that the *p* value for the χ^2 test is sensitive to sample size, we followed recommendations (Marsh et al. 1988) to evaluate the ratio of χ^2 to the model degrees of freedom (χ^2/df). Values for χ^2/df of < 2 indicate acceptable model fit.

5.4 Results

5.4.1 Descriptive statistics

Participant characteristics are summarised in Table 5.1. The sample was predominantly females (78%) and from primary (63%) and secondary (32%) schools. The sample was between 23 and 63 years of age at the time of responding to the questionnaire (40 ± 10 years; mean ± SD), and reported a wide range of years working in the profession (16 ± 10 years). Teachers in the sample reported fewer years, on average, teaching pupils with SEND profiles (13 ± 9 years)

Table 5.1. *Teachers' characteristics.*

Characteristics	Value
School type, n (%)	
Primary	145 (63)
Secondary	73 (32)
Special	11 (5)
Females, n (%)	180 (78)
Age, mean (SD)	40 (10)
Years teaching, mean (SD)	16.2 (9.6)
Years teaching PE, mean (SD)	15.8 (9.7)
Years teaching SEND, mean (SD)	13.7 (8.7)

Abbreviations: M, mean; n, number; PE, physical education; SD, standard deviation; SEND, special educational needs and disabilities.

Descriptive statistics for the variables presented in the hypothesised model (Fig. 2) are reported in Table 2. Although teachers' judgments about and acceptance of inclusion were generally positive (3.69 ± 0.65, 4.41 ± 0.53), teachers' self-reported need for inclusion-specific training was well above the mid-point on the 5-point scale (4.03 ± 0.74). Teachers expressed personal efficacy beliefs (3.61 ± 0.68) and confidence in supporting SEND students (3.54 ± 0.68), and average perceptions about the school context supports for inclusion were largely positive (inclusion in general: 3.71 ± 0.71; inclusive PE: 3.72 ± 0.72).

Table 5.2. *Descriptive statistics.*

Constructs	n	M	SD
School context			
General	260	3.71	0.71
Inclusive PE	260	3.72	0.72
Inclusion general	260	4.00	0.65
Self-efficacy			
Personal efficacy beliefs	250	3.61	0.68
Confidence supporting SEND	250	3.54	0.68
Attitudes towards inclusion			
Judgments	238	3.69	0.65
Acceptance	238	4.41	0.53
Perceived training needs	238	4.03	0.74

Abbreviations: M, mean; n, number of sample participants who completed this item; PE, physical education; SD, standard deviation; SEND, special educational needs and disabilities.

5.4.2 Confirmatory factor analysis

Marginal support was found for fit of the hypothesised model in Figure 5.2: χ^2/df = 1.65, CFI = .904, TLI = .894, RMSEA = .050, 90% CI [.044 to .055], and SRMR = .061. Inspection of the factor loadings indicated that statements from the attitudes ("*All students should be taught in PE*" and "*To be prepared to teach student with disability, I need course work that provides me with knowledge about a wide range of disabilities, from mild to severe*") and school context ("*The school*

makes its buildings physically accessible to all people" and "*All students in my class, including SEND students, learn together regardless of their abilities*") inventories were negatively affecting model fit. Post hoc model modifications carried out to remove these statements resulted in a substantially better fitting model in an absolute sense: χ^2/df = 1.60, CFI = .920, TLI = .910, RMSEA = .048 (90% CI = .042 to .054), and SRMR = .057. We confirmed this by comparing the initial model with this reduced model to assess relative fit. The resulting chi-squared difference test (i.e., delta chi-square, or $\Delta\chi^2$) confirmed that the reduced model fit the data substantially better than the original hypothesised model: $\Delta\chi^2(104) = 193.57$, $p < .001$.

5.4.3 Further exploratory factor analysis

The primary aim of this study was to confirm a multi-construct and multi-factor model (based on Hutzler et al. 2019) that integrated teachers' attitudes towards inclusion with their perceptions about the broader school context within which they worked and also their own personal sense of self efficacy about working with students with SEND in PE. However, our final inspection and interpretation of the magnitudes of the relationships between constructs shown in Figure 5.3 revealed that teachers perceived training needs were not significantly associated with any of the other latent constructs. This finding prompted a final investigation, based on the principle of parsimony, of the extent to which teachers' perceived training needs were redundant in the model. In other words, would the model fit reported in the previous section (and illustrated in Figure 5.4) be compromised by the removal of this latent variable? Would a reduced model fit the data worse, or not fit the data at all? The results of this final exploratory factor analysis indicated that the reduced model fit the data well in an absolute sense according to recognised model fit indices: χ^2/df = 1.61, CFI = .929, TLI = .920, RMSEA = .049 (90% CI = .042 to .055), and SRMR = .051. The chi-squared difference test derived also confirmed that this more parsimonious model represented a better fit to the data better than the previous reference model: $\Delta\chi^2(104) = 186.27$, $p < .001$.

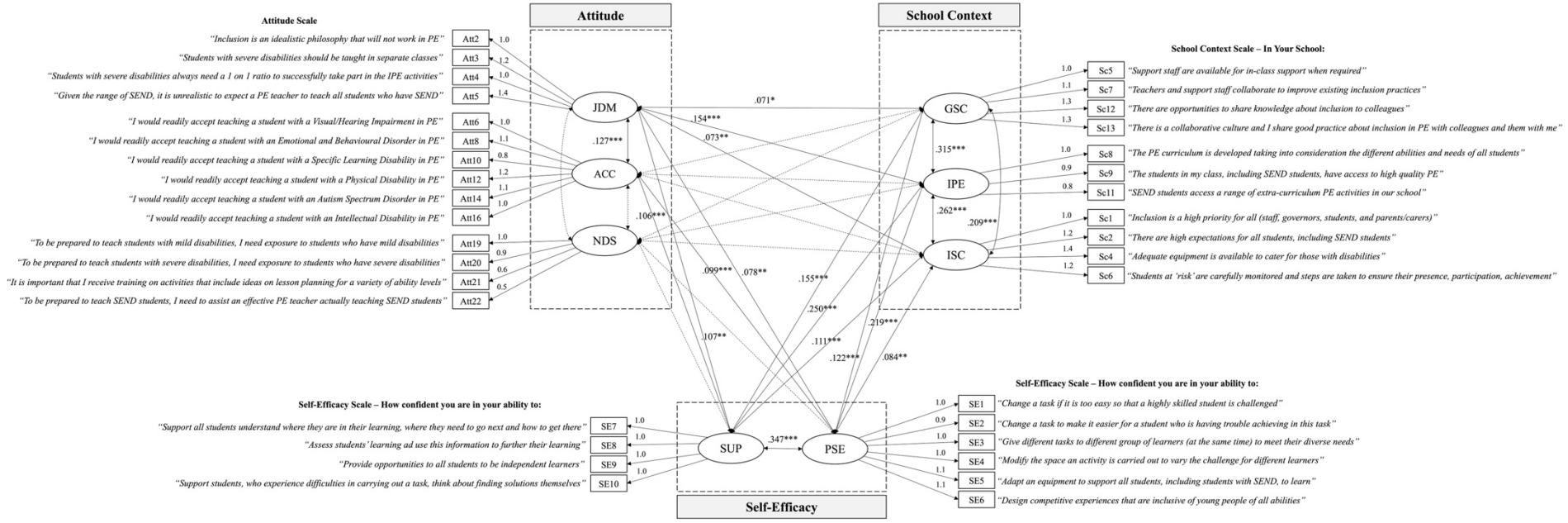


Figure 5.3. Confirmatory Factor Analysis of the latent variables. Standardised path coefficients shown. Significance denoted * p < .05, ** p < .01, *** p < .001. Dotted paths represent non-significant associations.

In summary, the model presented in Figure 5.4 indicates that latent variables representing teachers' attitudes (judgements and acceptance) towards inclusion were significantly associated with latent variables representing teachers' self-efficacy (confidence and competence). Latent variables representing teachers' perceptions about the school context within which they worked (general support for inclusion, the inclusivity of the PE curriculum, and school-wide expectations of students with SEND) were also significantly associated with latent variables representing teachers' self-efficacy. The latent variable representing teachers' acceptance of students with SEND profiles was not significantly associated with latent variables representing teachers' perceptions about the school context. However, and finally, the latent variable representing teachers' judgements about the practicalities of implementing inclusive pedagogy was significantly associated with latent variables representing teachers' perceptions about the school context.

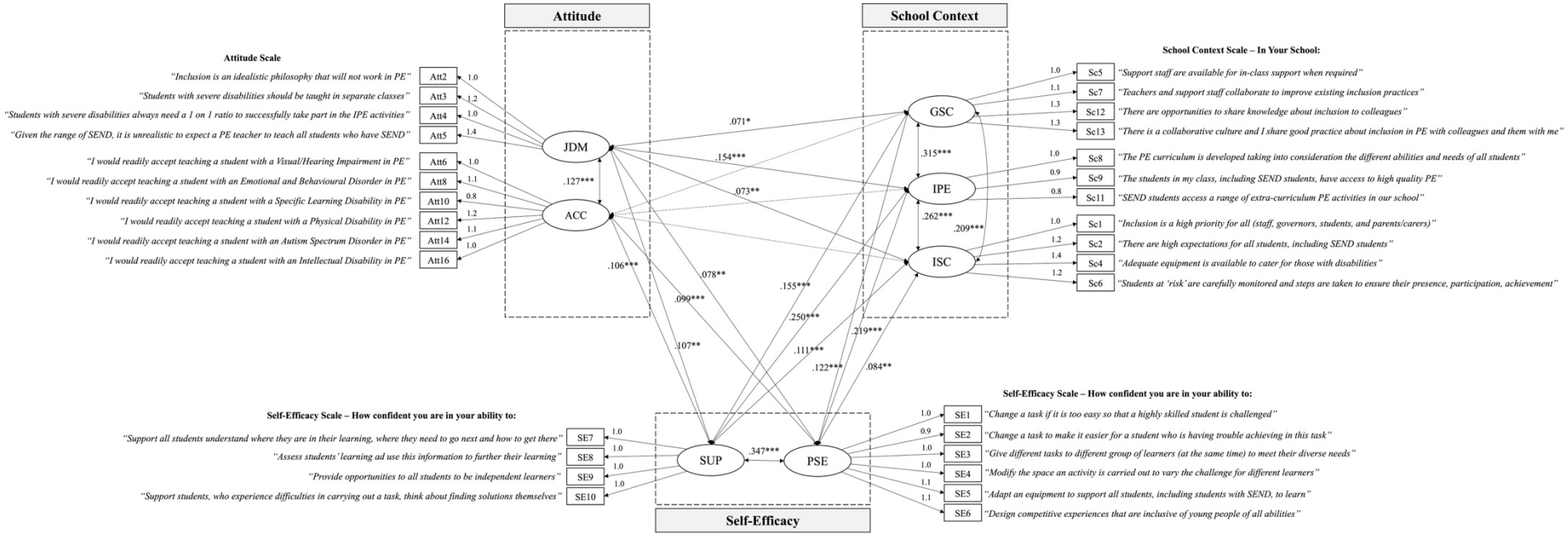


Figure 5.4. Confirmatory Factor Analysis after removal of 'Needs'. Standardised path coefficients shown. Significance denoted * p < .05; ** p < .01; *** p < .001. Dotted paths represent non-significant associations.

5.5 Discussion

Whilst there is consensus that school-based physical activity opportunities should be accessible for all children, regardless of ability status (Murphy and Carbone 2008; Rimmer and Rowland 2008), students with SEND are consistently over-represented in groups at risk of being excluded from PE (Bredahl 2013; Fitzgerald 2005; Grimminger 2014; Haegele and Sutherland 2015; Penney et al. 2018). Research in the field of PE has largely (though not exclusively) focused on proximal factors affecting the inclusion of students with SEND, such as teachers' attitudes and/or judgements (e.g., Block and Obrusnikova 2007; Hutzler et al. 2019; Qi and Ha 2012; Rekaa et al. 2019; Tant and Watelain 2016; Wilhelmsen and Sørensen 2017). And, whilst previous research studies have appropriately and extensively recognised the role of teachers as key agents of change for inclusion (e.g., Anttila et al. 2018), the existing evidence base overlooks the importance of other potentially modifiable factors affecting inclusion. For example, questions about the degree to which teachers' attitudes covary alongside their own personal sense of self-efficacy or confidence when working with SEND students remain unanswered. Moreover, we still know very little about whether and how the variability in teachers' attitudes and self-efficacy is explained by the context within which they work.

Building on the comprehensive review and theoretical model of factors affecting the inclusion of students with disabilities in PE proposed by Hutzler et al. (2019), the primary aim of this study was to empirically test this model and estimate the relationships between the following modifiable factors: teachers' attitudes towards inclusion, self-efficacy to deliver inclusive pedagogy, and perceptions about whether and how inclusion was supported within their school. The overall fit of the hypothesised model was good, with statistically significant associations estimated between latent variables (ovals in Fig. 2) representing attitudes (judgements about inclusion and acceptance of different SEND profile), efficacy beliefs (perceived self-efficacy, and self-reported confidence in supporting SEND students), and school context (general supporting school context, prioritisation of and support for inclusion, and provision of inclusive PE).

Consistent with previous quantitative *and* qualitative studies, our findings revealed positive associations between teachers' attitudes towards inclusion and their self-efficacy. For example, in the context of teaching students with autism spectrum disorder, Beamer and Yun (2014) reported large correlations (r = ~ .60) between attitudes and self-efficacy among PE teachers. In line with the associations between latent variable presented in our model (Supplementary Figure 2), numerous qualitative studies have reported critical links between judgements and acceptance of students with SEND and confidence and self-efficacy in delivering inclusive pedagogy (Hardin 2005; Casebolt and Hodge 2010; Hodge et al. 2009; Hersman and Hodge 2010). The directionality of the association between attitudes and self-efficacy cannot be inferred from these studies, or from our study. However, in line with the theory of planned behaviour, it can be expected (and it makes theoretical sense) that teachers with more positive attitudes would have efficacy beliefs the make them think and feel that the inclusion of students with different SEND profiles in PE is within their behavioural control (cf., Jeong and Block 2011; Kudláèek et al 2002). We refer to longitudinal models that can be implemented to answer this question empirically in the following strengths and limitations section, where we also identify future research directions.

To the best of our knowledge, there are no published quantitative studies which have explored the relationships between teacher's self-efficacy to deliver inclusive pedagogy and perceptions about the school context within which they work. Some qualitative studies (based on teacher interviews) have suggested key links between perceptions about the school environment and about the plausibility of implementing inclusion in practice – including data reported in numerous systematic reviews and meta-analyses (cf., Block and Obrusnikova 2007; Hutzler et al. 2019; Pocock and Miyahara 2018; Qi and Ha 2012; Rekaa et al. 2019; Tant and Watelain 2016; Wilhelmsen and Sørensen 2017). Other studies, such as Morley (2005) and Rischke et al. (2017), have elaborated more specifically on this link by alluding to the challenge of inclusion and the existence of tensions between school goals of excellence and equity in PE. Consistent with previous studies, findings from our model also highlight the significant

associations between the degree of supporting culture within the school (including both support staff, but also a culture of knowledge sharing and collaboration between teachers) and teacher's self-efficacy and confidence to implement inclusive pedagogy. Furthermore, in alignment with the work of Morley (2005) and Rischke et al. (2017), our findings highlight the significant links between the school environment and expectations for inclusion and teacher's self-efficacy and confidence. Again, whilst not a directional finding, these data suggest that teachers' self-efficacy covaries with broader school-wide priorities and degree to which a culture of equity and access is upheld within a given school.

It was interesting, and unexpected, to find that teachers' attitudes towards training needs were not significantly related to any of the other latent variables in the original hypothesised model (Figure 2). Perhaps it should be unsurprising to find that training needs were unrelated to teachers' acceptance of and judgements about inclusion – theory predicts, and research has shown, that attitudes are relatively stable over time (cf., Ajzen 2001), and this is perhaps even more true in cases of important (i.e., moral, and therefore equity) attitudes (Luttrell and Sawicki 2020). However, these data do appear to be at odds with some studies that have proffered the importance of specialised training courses for enhancing teachers' self-efficacy. For example, utilising cross-sectional data, Hutzler and Barak (2017) reported large differences in self-efficacy between teachers with and without adapted PE specialisation. However, more recently, and utilising a longitudinal design, Makopoulou et al. (2021) reported trivial-sized changes in self-efficacy among teachers after attending daylong professional training promoting inclusive PE. One plausible explanation for the findings reported in our paper is that, since most of the sample were in-service teachers, perhaps they perceived themselves to have largely completed their formal teacher training. Therefore, statements such as those starting with "*To be prepared to teach…*" might not have seemed relevant to them and their level of teaching experience. This interpretation has some empirical grounding, particularly when we consider Makopoulou et al.'s (2021) findings that self-efficacy changes as a consequence of attending inclusive PE training differed

between teachers at different career stages. Taken together with the null findings from our model, as well as data on teacher education and professional development published outside of PE (e.g., Coldwell 2017), this suggests that the relationship between perceived training needs and attitudes towards inclusion and self-efficacy do not remain stable over time.

Perhaps the most novel finding of this study – a finding that does seem to imply a directional association between school- and teacher-level attributes – is that teacher's perceptions about the school context within which they work were unrelated to their acceptance of different SEND profiles, but significantly related to their judgements about whether inclusion was a realistic and even appropriate pedagogical goal. In other words, whilst not related to the willingness to accept students with different types of SEND, teachers' perceptions about the context within which they work were related to judgements about the practicalities of inclusion, and of implementing inclusive pedagogy in the PE classroom. It is possible that these findings reflect fundamental differences between policy acceptance (i.e., what, in principle, could and should be) and policy enactment (i.e., what, in reality, can and will be) (cf. Lambert and Penney 2020; Wilkinson et al. 2021). Reflections on this divide are evident in a recent study on professional development for inclusion published by Makopoulou et al. (2019), who cautioned that the idea of inclusion – the 'public face of inclusion' (Makopoulou et al. 2019, 2) – continues to outpace its practice and, consequently, inclusive education continues to 'promis[e] more than it delivers' (Florian 2014, 286). Theoretically speaking, these findings suggest an alternative hypothesis than is given by Hutzler et al.'s model of factors impacting teachers' attitudes and self-efficacy: i.e., that school-level attributes partially mediate the relationship between teachers' attitudes and self-efficacy. Practically speaking, such a model of inclusion would imply that the strength of the association between attitudes and self-efficacy is determined in part by the degree of support and expectations set for SEND students within a given school. This partial mediation hypothesis is aligned with research outside of PE, by Caprara et al. (2006), which has shown that teachers who belong to the same school tend to have similar characteristics and beliefs than colleagues from different schools. More broadly, it is also

supported by research outside of PE by Carrington and colleagues (Carrington 1999; Carrington et al. 2021), who advocate for whole school approaches to inclusion. Naturally, such a model would need empirical validation in future studies, and in independent samples.

5.6 Strengths and limitations

This study has considerable strengths. We provided initial empirical evidence to support a theoretical model of the relationship between teachers' attitudes towards inclusion, self-efficacy to deliver inclusive pedagogy, and perceptions about whether and how inclusion was supported within their school. The study confirmed such a theoretical model, with some modifications (Supplementary Figure 2), and has also prompted consideration of alternative, directly testable, hypotheses which could help to further explain the relationships between school- and teacher-level attributes in the process of enacting inclusion in PE. Consideration of limitations is also warranted, however.

Our study is limited in part by being tested in a single national context. Future research should, therefore, replicate and extend (Supplementary Figure 2) on the present findings in different international contexts. Also, where possible, researchers should prioritise testing for measurement invariance across multiple countries. For example, whilst teachers' perceived training needs were not a significant component of the final and most parsimonious model tested in this study, it is plausible that such a finding could differ significantly cross-culturally (e.g., where attitudes towards inclusion might not be as progressive as in the Republic of Ireland, or where inclusive pedagogy does not form a core component of teacher training).

The cross-sectional nature of the research design for this study is also a potential limitation. Such a design can only capture a snapshot of the relationships between measured variables at a single point in time. As such, future research should utilise longitudinal designs to establish the extent of stability in the relationships between teachers' attitudes, sense of self-efficacy, and perceptions about the context within which they work. A multivariate cross-lagged panel analysis (Hamaker et al. 2015) could provide estimates

representing the presence or absence of stability. In addition, such an analysis could also provide insights into the directionality and temporal sequencing of these factors affecting inclusion. For example, with such an analysis, researchers could better understand whether (and the extent to which) teachers' judgements about implementing inclusion are dictated by their perceptions about the context within which they work. Researchers could also ask questions about whether attitudes towards inclusion are temporally preceded and therefore logically explained by teachers' efficacy beliefs, or vice versa. Answers to such questions can thereafter form the basis of decision-making about interventions to promote inclusion – particularly 'unit of analysis' (Li et al., 2017) questions through which researchers establish the essential target of an intervention (e.g., attitudinal change, behaviour change, school policy or cultural change). Naturally enough, such interventions would require consideration of and even broader ecology of factors – i.e., assistants, other pupils, parents, policymakers, and even policy artefacts – that affect the inclusion of children with SEND in PE (Lambert and Penney 2020; Lambert et al. 2021; Penney 2013; Wilkinson and Penney 2021).

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Chapter 6: Final Discussion and Future Directions

6.1 Introduction

The benefits of PA to children with and without SEND profiles has been widely researched and evidenced. The notion that PA is universally beneficial for children regardless of ability status (Carty et al., 2021; Murphy and Carbone, 2008; World Health Organization, 2020) is today non-controversial and not contested. This is because meeting the recommended guidelines for engagement in PA confers substantial physical health benefits during childhood, and across the life course (Carty et al., 2021; World Health Organization, 2020). Meeting PA guidelines can also promote mental health and an overall sense of wellbeing (Brunes et al., 2015; Giese et al., 2017, Puce et al., 2019), reduce anxiety and depression symptoms (Brunes et al., 2015; Fiorilli et al., 2016; Gaweilow et al., 2016; Whitney et al., 2019a; Whitney et al., 2019b), and significantly reduce the sense of fatigue (Maher et al., 2015). In the context of SEND, research also shows that having adequate levels of PA can promote condition-specific benefits (e.g., functional benefits for children with physical disabilities and development of adaptive skills for those with more neurodevelopmental and/or psychosocial impairment) (Neville et al., 2021; Willis et al., 2018). Despite such benefits, children with SEND still have lower levels of PA than their so-called 'typically-developing' peers without SEND, however (Foley et al., 2008; Hinckson and Curtis, 2013). For example, it has been shown that children with Down Syndrome engage in lower levels of PA than their typically developing peers (Whitt-Glover, O'Neill, and Stettler, 2006). Children with autism spectrum disorder are also less likely to reach the recommended PA levels for good health compared to their typically developing peers (Bandini et al., 2013).

To directly target and reduce physical inactivity levels among children with SEND, researchers have acknowledged the importance of PE (Greenfield et al., 2016; Murphy and Carbone, 2008; Norris et al., 2015; Weiler et al., 2014). It has been argued that PE can provide an excellent setting to deliver high-quality PA for children, regardless of their disability (Hills et al., 2015). PE not only promotes

SEND children's mental and physical health (Jin et al., 2018; Morgan et al., 2007), but it also provides a potential setting (Butler and Hodge, 2004; Goodwin, 2001) for developing their interpersonal communication and socio-emotional skills (Butler 2006). However, despite such opportunities to directly promote PA in the context of the PE setting, the research evidence clearly shows that children with SEND profiles are not still fully or even well included in PE classes and that their participation is still hindered by many factors (Sit et al., 2017). Among the many factors that have been explored as potential barriers and facilitators of PA among children with SEND profiles, teachers' attitudes have been one of the more widely-researched potential enablers of greater PA (Elliot 2008). Teachers' attitudes., in particular, have been widely regarded as the most important proximal factor affecting inclusion in PE; consequently, teachers' attitudes are widely linked to opportunities for children with SEND profiles to engage reliably (and safely) in regular PA opportunities.

Despite the growing body of international literature regarding the factors influencing teachers' attitudes, research focused on inclusive PE has been lacking in the Irish context (particularly recent research to update research conducted more than 15 years ago by Meegan and MacPhail [2006]). Therefore, the aim of this thesis was to investigate the inclusion of children with SEND within PE classes in Ireland from the teachers' viewpoints. Among the several definitions of inclusion that researchers have provided over the past decades, the one that better captures the overall aim of this dissertation was provided by DePauw and Doll-Tepper (2000, p. 139): 'inclusion is a systemic and philosophical approach for implementing social justice in our schools and our society so that all persons are valued as unique contributing members of society and included'. The purpose of the present discussions is, therefore, to critically address considerations that have not been previously reported in this dissertation and frame such considerations within the broader context of the Irish educational system. Such an approach is necessary as it provides research-led evidence that can form the basis for future policy and practice changes that can lead to the mainstreaming of education for children with SEND profiles in Irish schools.

6.2 Research Questions 1 and 2.

The first two questions that this thesis investigated were whether teachers held mostly favourable or unfavourable attitudes towards the inclusion of SEND children in PE, and whether personal, professional, social, and practical factors were associated with attitudinal formation. Moreover, Chapter 3 sought to explore if there were differences in the direction and magnitude of PE teachers' attitudes towards the inclusion of children with SEND profiles for studies conducted before and after the publication of the Salamanca Statement.

The findings provided in Chapters 2 suggest that teachers' attitudes are generally positive towards the inclusion of children with SEND profiles. Such findings are further corroborated by data reported in Chapter 3 which indicated that teachers' attitudes towards the inclusion of children with SEND profiles has changed over time, in particular, in correspondence with a timeline that maps closely to publication of the Salamanca Statement in 1994.

Following these findings, which reflect the synthesis of international research, it can also be observed that Ireland has implemented guidelines to support the enactment of inclusion within its educational system (Kubiak et al. 2021). One of the first steps taken to support such implementation was the establishment of an independent statutory body by the Minister for Education and Science. The National Council for Special Education (NCSE), established in December 2003 almost 10 years after the publication of the Salamanca Statement, was pivotal for the publication of policies like the EPSEN Act (2004) and the Disability Act (2005), which demonstrate the extent to which Ireland committed to providing inclusive education for all. For example, the EPSEN Act (Section 2b, p. 7) states that:

> *"A child with special educational needs shall be educated in an inclusive environment with children who do not have such needs unless the nature or degree of those needs of the child is such that to do so would be inconsistent with*
> *(a) The best interests of the child as determined in accordance with any assessment carried out under this Act, or*

(b) The effective provision of education for children with whom the child is to be educated."

Since the publication in Ireland of the Education for Persons with Special Educational Needs Act (EPSEN, 2004) and the Disability Act (2005), policies to enact inclusion in the field of education have been developed over the past 20 years. Within the Irish context, if the initial focus was on mainstream education of people from socio-economically disadvantaged groups, due to the changes in the global perspective of inclusive education, mainstream education has been significantly extended to include people with SEND (Kubiak et al. 2021). Therefore, as the past 20 years have marked a clear shift, albeit primarily theoretical, in mainstream education for children with SEND profiles, investigating one of the factors affecting the inclusion of children with SEND was necessary to understand the current status of inclusion in Ireland and the potential impact that teachers' attitudes may have on inclusion. Moreover, considering that the only research focusing on Irish PE teachers' attitudes was conducted in 2006 by Meegan and McPhail, this investigation was essential to update and provide new evidence.

Despite Ireland having shown great commitment to following international consensus and recommendations regarding the enactment of inclusion, including the mainstream of education for children with SEND profiles, inclusion still seems to be a philosophical and policy ambition in the Irish context, rather than a practical achievement.

Since the publication of the EPSEN Act, research has reported a dramatic increase in the number of students with SEND attending Irish mainstream schools (McConkey et al., 2016) and an almost counterintuitive increment in the number of children attending special classes (Shevlin and Banks 2021, Banks and McCoy, 2017). In this sense, although not a direct finding derived from this investigation, this dissertation showed that there were still 134 special schools (data obtained during the data collection phase) in operation in 2019/2020, with a total of 8,351 students with SEND enrolled in these schools, representing the 1.5% or the total number of pupils enrolled in mainstream primary education.

These numbers have barely changed, if not slightly increased, over the past years (Table 6.1). Data retrieved from the Department of Education website (Department of Education), and depicted in Table 1, showed that over the last decade, although the number of special schools has slightly decreased, the number of pupils with SEND enrolled in special schools has steadily increased. Although this trend has also occurred in primary and secondary schools, these results arguably show the deficiencies and the disconnections between policy changes and practical implementation within the Irish education system.

Table 6.1. *Number or primary, secondary, and special schools and pupils respectively enrolled in each type of school in the Republic of Ireland from 2011/2012 to 2021/2022.*

	Special Schools		Primary Schools		Secondary Schools	
Year	**Schools**	**Pupils**	**Schools**	**Pupils**	**Schools**	**Pupils**
2011/2012	141	7,420 *(0.0%)*	3,159	509,038 *(+0.0%)*	722	360,339 *(+0.0%)*
2012/2013	141	7,665 *(+3.3%)*	3,152	518,757 *(+1.9%)*	721	364,104 *(+1.0%)*
2013/2014	141	7,755 *(+1.2%)*	3,145	528,562 *(+1.9%)*	723	368,462 *(+1.2%)*
2014/2015	140	7,949 *(+2.5%)*	3,137	536,747 *(+1.5%)*	732	373,549 *(+1.4%)*
2015/2016	138	8,070 *(+1.5%)*	3,124	545,310 *(+1.6%)*	735	379,160 *(+1.5%)*
2016/2017	137	8,114 *(+0.5%)*	3,115	550,200 *(+0.9%)*	711	352,257 *(-7.1%)*
2017/2018	137	8,208 *(+1.2%)*	3,111	555,241 *(+0.9%)*	715	357,408 *(+1.5%)*
2018/2019	134	8,224 *(+0.2%)*	3,106	559,548 *(+0.9%)*	722	362,899 *(+1.5%)*
2019/2020	134	8,351 *(+1.5%)*	3,106	559,365 *(+0.0%)*	723	371,450 *(+2.4%)*
2020/2021	134	8,408 *(+0.7%)*	3,107	553,003 *(-1.1%)*	730	379,182 *(+2.1%)*
2021/2022	135	8,692 *(+3.4%)*	3,104	546,121 *(-1.2%)*	728	391,703 *(+3.3%)*

The percentual increments or decrements reported in Italic below the number of pupils refer to the previous year.

However, such application of and reliance on special schools and classes is not unique to Ireland. Research has shown that the presence of special classes is persistent in most European countries (Buchner and Proyer 2020; Saloviita 2020; Shevlin and Banks 2021). As such, researchers have argued that having policies that foster ‘education for all’ principles does not necessarily mean that

children with SEND profiles will ultimately be educated together with their peers in mainstream settings (Ebersold 2011, Graham and Slee, 2008).

This debate around inclusive mainstream education in Ireland is still ongoing, however. Despite early international research reporting that SEND students' outcomes attending special classes were not different than their SEND peers' outcomes attending mainstream classes (Jenkinson, 1997; Hegarty, 1993), more recent evidence described special classes as a form of "internal segregation" that can affect SEND students' self-esteem (Dyson, 2007; Crockett et al., 2007). However, some researchers have argued that special schools and special classes offer many advantages, including smaller class sizes, trained teachers, personalised curricula, and emphasis on functional skills (Kauffman and Hallinan, 2005; Kauffman and Hallahan, 1993; Fuchs and Fuchs, 1994; Warnock, 2005). Regarding the Irish context, Banks and McCoy (2017), in their recent mixed-method study, found that the successful inclusive education discourse around special classes and special schools was associated with a different number of factors, such as the designation of the class, the severity of the disability, and the level of leadership in the school. This suggests that the provision of education to SEND children in special schools or special classes is not a non-inclusive achievement *per se*. Rather, it should prompt further discussions about the purpose of special schools and classes, and their broader role within 'any future model of inclusive education' (Banks and McCoy 2017, p. 458).

6.3 Research Questions 3 and 4.

This thesis also sought to explore the extent to which teachers' demographic attributes and schools' characteristics in which teachers work are associated with their (i) attitudes towards the inclusion of children with SEND profiles in mainstream PE classes; (ii) self-efficacy in delivering inclusive pedagogies; and (iii) perceptions of the given school within which they work. Furthermore, this thesis aimed to explore the relationships between these constructs and estimate the extent to which they covary within the Irish school context.

Findings from this dissertation provide strong empirical evidence to support the education of children with SEND profiles in mainstream classes and suggests an inclusive model that ought to shift towards a more 'desegregative' configuration (Wang, 2009; Thomas, 2013). Results from Chapter 4 showed that attitudes toward inclusion were generally positive and more favourable among PE teachers who had different types of disabilities in their classes. This not only showed that teachers felt prepared to teach students with SEND, but it also offered evidence that PE teachers' attitudes were likely positively influenced by the diversity PE classroom. In Chapter 4, it was also reported that personal exposure to people living with SEND conditions positively influenced the perceptions about the extent to which inclusion was supported within the school, suggesting a two-way shaping process between teachers and the school context. In this sense, although limited to PE, these findings strongly suggest that having SEND children in mainstream schools may have a positive impact on the proximal agents involved in inclusive education. Future research ought to focus on the benefits of such an inclusive setting on other agents, such as students with and without SEND, parents of SEND children, school staff, etc.

Findings from Banks and McCoy (2017) have shown that school principals' beliefs may affect the provision of inclusive education. As the severity of the disability is one of the most important factors affecting the inclusion of SEND children in mainstream settings, Banks and McCoy continued, school principals tend to provide special classes as a safer alternative for students with severe SEND profiles. Such findings are neatly aligned with findings presented in this thesis. Chapter 5 showed the extent to which school priorities, equity values, and access to inclusive practices influenced teachers' attitudes and self-efficacy levels. In this sense, it is also reasonable to believe that the school context or, more appropriately speaking, the school culture – seen as an informal social dimension which exists in the context of the school's values and beliefs (Furner and Mc Culla 2018) – plays a vital role in the inclusive education process. In this regard, the school principals embody the school culture and advocate such a culture among the school and its staff, including teachers. However, the debate about school culture and inclusive education is novel within the Irish educational

system. It has been argued that the school culture is central to promoting meaningful inclusive education in schools and the impact of school principals, as Banks and McCoy stated, is even more significant in achieving such a promotion (Keon 2020). As international research showed that the influence exerted by leaders in embedding desired values and expectations into the culture of an organisation shapes the behaviours of all its members (Hogan and Coote 2014), it is plausible to believe that such a consideration also applies to the Irish school context. In this regard, Faas, Smith and Darmody (2018) argued that Irish school principals play indeed a fundamental role within their school in shaping the culture and influencing inclusive practice, such as acknowledging and valuing differences between students, reflecting diversity in the school curriculum, developing cultural awareness in staff, and empowering students and parents (Riehl 2000; Khalifa, Gooden, and Davis 2016). As educational empirical research has primarily focused on the practicalities of inclusive education, widely exploring the single variables constraining or facilitating inclusive setting, such as pedagogical practice, assessment, teachers' attributes, policies, or curriculum, this dissertation attempted to provide a thorough investigation of some factors influencing the inclusion of SEND children in school (namely, PE teachers and school context). Although defined within PE classes only, findings from this dissertation offer a strong rationale for developing further discussions about what 'inclusive education actually means' (Banks and McCoy, 2017, p. 459), and may foster a new inclusive discourse, forming a solid basis for future potential structural changes within the Irish educational system.

6.4 Limitation and Direction for Future Research

Despite the considerable strengths of the empirical work reported in this dissertation, some limitations are noteworthy and prompt consideration of new lines of future research. Firstly, and broadly, the research questions and objectives driving this research were limited to PE, which constructs the goal of inclusion as overly compartmentalised and structurally independent from the goals of inclusion that simultaneously occur in other school subjects. Future research should focus on the further measurement of similarities and differences

in attitudes and efficacy beliefs towards inclusion between teachers (e.g., in secondary schools where teachers primarily act as subject specialists) and across subjects (e.g., in primary schools where teachers primarily act as generalists and could have relative strengths and weaknesses across the range of required subjects.). Future qualitative research could also lead to the development of either (or both) school- and teacher-level case studies of successful enactment of inclusion across subjects – i.e., case studies of the enactment of inclusion as a collaboration and school-wide accomplishment. Such cases studies, if shared publicly as success stories, could increase national awareness of where and how inclusion can work, potentially leading to new policy changes supporting and implementing the inclusion of children with SEND profiles in mainstream education.

Secondly, although the research constructs (attitudes, self-efficacy, and perceptions about the nature of inclusion within the school context) applied in this dissertation were more comprehensive other than in any other previous quantitative study in this field, the operationalisation of such constructs still on only captured the perceptions of a single though crucial proximal agent of inclusion in PE – i.e., the teacher. In this sense, this dissertation leaves open and primed for future studies the attitudes, perceptions, and actions of the manifold other agents that affect inclusive education for children with SEND profiles. For example, numerous researchers have lamented dearth of active participation of children with SEND in research (Feldman et al. 2013). Although the 'children themselves' are the ultimate arbiters and beneficiaries of inclusion and given what has been said above about the importance of collaboration, future research should also focus more broadly on the different actors within the network or ecology of inclusion and also seek to include them more directly in the research process – such as parents of children with SEND profiles, students without SEND, and the school staff. Embracing inclusion as a systemic process means practising new research to better understand of the relationships (both complementarities and conflicts) between these actors and the potential role that they have to play within inclusive process such that it can be successfully and reliably enacted within a given school. In this sense, research findings have been

contradictory regarding the investigation and the modification of single enablers of inclusion. For example, research focusing on individual constructs (i.e., attitude or self-efficacy) has reported inconsistent outcomes for PE and general teachers after attending an inclusive-related workshop. Some studies, in fact, reported changes in self-efficacy levels after participating in an inclusive education programme, whereas other articles found no changes in attitudinal and self-efficacy levels after attendance in an inclusive-based workshop (Jarvis Chaput and French, 1990; and Mauerberg-deCastro et al., 2013; Lautenbach et al., 2020; Lautenbach and Heyder, 2019; Tindall, Culhane and Foley, 2016). Therefore, results from this dissertation provide a strong rationale for more comprehensive interventional studies. For example, as this dissertation provided evidence of the extent to which the interactions between the teachers' attributes and the schools' characteristics may influence the inclusion of SEND children, future research should develop new forms of interventions focused on embracing and guiding schools and their agents toward a more inclusive educational provision. Previous researchers have highlighted the importance of meaningful school practices and policy implementation supported and developed in accordance with the school and the school staff (Morely et al. 2005). In this sense, an approach that could be employed by future researchers to achieve such suggestions is the participatory design. Such an approach has been widely recognised as a research design (Spinuzzi, 2005; Schuler and Namioka, 1993; Kensing and Blomberg, 1998) and broadly used in the field of inclusive education for developing new forms of learning strategies and practices for students with SEND (Borges et al. 2016; Millen, Cobb, and Patel, 2011). The participatory design could be used to (i) develop new forms of inclusive practices within the targeted school with the involvement of the students, regardless of their condition, the parents, and the school staff; and (ii) inform policymakers regarding the potential practice changes that could lead to a more inclusive educational model of the Irish educational system.

The participatory design is only one of the different methods that could be employed by future research to further explore the Irish educational system. It is our role, as researchers, to shape and revise the different models of inclusion

that the educational systems provide. This can be achieved by transforming the current designs of educational research through more collaborative and participatory approaches, so that more inclusive policy and practice changes can be implemented and adopted at a macro and micro level according to the needs of those who are predominantly involved. The first step is, therefore, to reconsider the way that we, researchers, think and position ourselves within inclusive education research and how this new way of thinking can impact our practices when conducting research, perhaps also revising our categorical approach to the research process.

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Appendixes

Appendix 1. String used for the search strategy in Chapter 2.

(teacher* OR assistant* OR coach* OR educator* OR trainer* OR instructor* OR tutor*)

AND

(“social inclusion” OR integration OR “sports participation” OR “mainstreaming” OR general OR attendance)

AND

(“physical education” OR “physical activit*” OR exercise* OR “motor activit*” OR sport* OR athletic*)

AND

(children OR child OR student* OR teenager* OR adolescent* OR person* OR people)

AND

(disabilit* OR impairment* OR disorder* OR handicap* OR disabled OR “special need*”)

AND

(school* OR “primary school*” OR “elementary school*” OR “secondary school*” OR “middle school*” OR “high school*”)

AND

(belief* OR perception* OR attitude* OR confidence OR “self-esteem” OR “self-efficacy” OR “self-concept” OR competence).

Appendix 2. Copy of the questionnaire delivered to the Irish PE teachers in June 2020.



Informed Consent Statement

Introduction: My name is Giampiero Tarantino. I am a PhD student at University College Dublin. I am conducting my dissertation study on Irish teachers' attitudes toward the inclusion of children with special educational needs and disabilities in physical education classes. The purpose of this questionnaire is to record information about your perceptions and experience toward inclusion. There are no right or wrong answers. I invite you to participate.

Activities: If you participate in this research, you will be asked to:

- Participate in an online survey that should take approximately 15 minutes.
- Indicate that you have read and agreed to the terms of the informed consent.

Eligibility: You are eligible to participate in this research if you:

- Teach physical education.
- Are over the age of 21.
- Have worked with students with special educational needs and disabilities in physical education classes.

You are not eligible to participate in this research if you:

- Do not teach physical education.
- Are under the age of 21.
- Have not worked with students with disabilities in physical education classes.

I hope to include ~100 people in this research.

Risks: There are minimal risks in this study. You may feel some discomfort when answering personal questions related to your teacher training. To help decrease the impact of this risk, you may skip any question. You may stop participating in the study at any time.

Benefits: There are no direct benefits to you if you participate in the study. There are potential benefits for others. Data collected in this study may be reviewed by school personnel and physical education

teacher education programs. This may lead to curricular improvements in teacher preparation programs.

Confidentiality: The data collected in the study will be confidential. Your name will not be asked, and your personal information is not linked to data. Only the researchers in this study will see the data.

Data storage: The anonymised data will be archived, in a digital format, in the UCD Research Repository, which is a digital collection of open access scholarly research publications from University College Dublin.

Contact Information: If you have questions about your rights as a research participant, any complaints about your participation in the research study, or any problems that occurred in the study, please contact the researchers identified in the consent form. If you prefer to talk to someone outside of the study team, please contact research.ethics@ucd.ie.

We would be happy to answer any questions that may arise about the study. Please direct your questions or comments to:

Mr Giampiero Tarantino

Phone: +353 (0) 89 976 5960
Email: giampiero.tarantino@ucdconnect.ie

or

Dr Ross Neville

Phone: +353 (0) 1 716 3419
Email: ross.neville@ucd.ie

Voluntary Participation: Your participation is voluntary. If you decide not to participate, or if you stop participation after you start, there will be no penalty to you. You will not lose any benefit to which you are otherwise entitled.

By ticking the following boxes, you agree and consent to take part in this study.

- ☐ I have read and understood the Informed Consent Statement for this study.
- ☐ I have received enough information about this study.
- ☐ I understand how the data will be collected and stored.
- ☐ I understand and am fully aware of the minimal potential risk that can arise from participating in this study.
- ☐ I understand that I am free to withdraw from the study at any time until the data is anonymised.
- ☐ I understand that anonymised data will be archived for future research.
- ☐ I agree to take part in the study.

University College Dublin

Ireland's Global University

The purpose of this questionnaire is twofold: (1) to collect some baseline information about you and your school; and (2) to capture your perception and view about the inclusion of children with Special Educational Needs and Disabilities (SEND) in Physical Education (PE) classes. By completing this questionnaire, you give your informed consent to participate in the study.

It should take no more than 20 minutes.

Many thanks for participating in this study.

Giampiero Tarantino

PART ONE – SCHOOL CONTEXT

The following items examine your views about school policies, practices and values in relation to inclusion as well as the existing opportunities to learn with colleagues. Please identify the extent to which you agree or disagree with the following statements. There are five options: from 1 – 'not at all in agreement' to 5 – 'completely in agreement'. **(Please circle)**

	IN YOUR SCHOOL….	**Not at all in agreement**		**Somewhere in the middle**		**Completely in agreement**
1	Inclusion is a high priority for all (staff, governors, students, and parents/carers)	1	2	3	4	5
2	There are high expectations for all students, including SEND students	1	2	3	4	5
3	The school makes its buildings physically accessible to all people	1	2	3	4	5
4	Adequate equipment is available to cater for those with disabilities	1	2	3	4	5
5	Support staff are available for in-class support when required	1	2	3	4	5
6	Students 'at risk' are carefully monitored and steps are taken to ensure their presence, participation and achievement	1	2	3	4	5
7	Teachers and support staff (who are they?) collaborate to improve existing inclusion practices	1	2	3	4	5
8	The PE curriculum is developed taking into consideration the different abilities and needs of all students	1	2	3	4	5
9	The students in my class, including SEND students, have access to high quality PE	1	2	3	4	5
10	All students in my class, including SEND students, learn together regardless of their (dis)abilities	1	2	3	4	5
11	SEND students access a range of extra-curriculum PE activities in our school (or wider community?)	1	2	3	4	5
12	There are opportunities to cascade knowledge about inclusion to colleagues after CPD attendance	1	2	3	4	5
13	There is a strong collaborative culture and I often share good practice about inclusion in PE with colleagues and them with me.	1	2	3	4	5

PART TWO – YOUR SELF – EFFICACY (CONFIDENCE)

The following items are related to your self-efficacy. Self-efficacy has been defined as one's belief in one's ability to succeed in specific situations. There are five possible responses: from 1 – 'no confidence' to 5 – 'complete confidence'. **(Please circle)**

	HOW CONFIDENT YOU ARE IN YOUR ABILITY TO:	No confidence		Somewhere in the middle		Complete confidence
1	Change a task if it is too easy so that a highly skilled student is challenged	1	2	3	4	5
2	Change a task to make it easier for a student who is having trouble achieving in this task	1	2	3	4	5
3	Give different tasks to different groups of learners (at the same time) to meet their diverse needs	1	2	3	4	5
4	Modify the space an activity is carried out to vary the challenge for different learners	1	2	3	4	5
5	Adapt equipment to support all students, including students with SEND, to learn	1	2	3	4	5
6	Design competitive experiences that are inclusive of young people of all abilities	1	2	3	4	5
7	Support all students, including students with SEND, understand where they are in their learning, where they need to go next and how to get there	1	2	3	4	5
8	Assess students' learning and use this information to further their learning	1	2	3	4	5
9	Provide opportunities to all students, including students with SEND, to be independent learners	1	2	3	4	5
10	Support students (including SEND), who experience difficulties in carrying out a task, think about finding solutions themselves	1	2	3	4	5

PART THREE – PHYSICAL EDUCATORS JUDGEMENTS ABOUT INCLUSION

The following items are related to your judgement and attitudes toward inclusion of children with SEND in your PE classes. Please identify the extent to which you agree or disagree with the following statements. There are five options: from 1 – 'strongly disagree' to 5 – 'strongly agree'. **(Please circle)**

		Strongly disagree	Disagree	Undecided	Agree	Strongly agree
1	All students with SEND should be taught in PE	1	2	3	4	5
2	Inclusion is an idealistic philosophy that will not work in PE.	1	2	3	4	5
3	Students with severe disabilities should be taught in separate classes.	1	2	3	4	5
4	Students with severe disabilities always need a one on one ratio to successfully take part in inclusive physical education activities.	1	2	3	4	5
5	Given the range of disabilities that can exist, it is unrealistic to expect a PE teacher to teach all students who have SEND	1	2	3	4	5
6	I would readily accept teaching a student with a Visual/Hearing Impairment in PE.	1	2	3	4	5
7	I would readily accept teaching a student with an Emotional and Behavioural Disorder (e.g., ADHD) in PE.	1	2	3	4	5
8	I would readily accept teaching a student with a Specific Learning Disability (e.g., Dyslexia) in PE.	1	2	3	4	5
9	I would readily accept teaching a student with a Physical Disability in PE.	1	2	3	4	5
10	I would readily accept teaching a student with an Autism Spectrum Disorder in PE.	1	2	3	4	5
11	I would readily accept teaching a student with an Intellectual Disability PE.	1	2	3	4	5
12	To be prepared to teach students with disabilities, I need course work that provides me with knowledge about a wide range of disabilities from mild to severe.	1	2	3	4	5
13	To be prepared to teach students with severe disabilities, I need exposure to students who have mild disability.	1	2	3	4	5
14	To be prepared to teach students with severe disabilities, I need exposure to students who have severe disabilities.	1	2	3	4	5
15	To be prepared to teach students with mild to severe disabilities, it is important that I receive training on activities that include ideas on lesson planning for a variety of ability levels.	1	2	3	4	5

16	To be prepared to teach students with mild to severe disabilities, I need training in behaviour management strategies and conflict resolution beyond what is necessary to teach students without disabilities.	1	2	3	4	5
17	To be prepared to teach students with mild to severe disabilities, I need to assist an effective PE teacher actually teaching students with disabilities.	1	2	3	4	5

PART FOUR – DEMOGRAPHIC DATA

Can we have some details about you?

1. Date of Birth (dd/mm/yyyy): _____

2. Gender (please tick) Male ☐ Female ☐ Other ☐

3. Nationality: _____

4. What is your highest academic qualification?

   Bachelor ☐

   Master ☐

   Doctorate ☐

   Other (please specify) ☐ _____

5. Do you have a qualification in teaching SEND pupils? Yes ☐ No ☐

6. How many years have you been teaching PE? _____

7. What is your job title?

   Teaching assistant ☐

   Teacher ☐

   PE Teacher ☐

   Other (please specify) ☐ _____

8. How many years have you been teaching students with SEND? _____

9. How many modules/courses/workshops about children with SEND have you attended after qualification? _____

10. Outside of school what contact do you presently have in your personal life with a child or adult with disabilities? Please, tick on of the following:

- Frequent personal contact (e.g. monthly contact with family member/friend) ☐
- Infrequent personal contact (Occasional contact with family member, friend) ☐
- Just see them around (in neighbourhood, public transport) ☐
- No contact in past year ☐

Can we have some information about your school?

11. Where do you work?

- Primary school ☐
- Secondary school ☐
- Special school ☐
- Other (please specify) ☐ _____

12. Is your school a DEIS school? Yes ☐ No ☐

13. Around how many students are there in your school? _____

14. How many students do you have in your PE classes (on average)? _____

15. How many students with SEND do you currently have across all the classes that you teach? _____

16. What special needs or disability do they have? Please, tick all that apply.

- Autism Spectrum Disorder ☐
- Intellectual Disability ☐
- Physical Disability ☐
- Sensory (blind/deaf) ☐
- Emotional and Behavioural Disorder (e.g., ADHD) ☐
- Specific Learning Disabilities (e.g., dyslexia) ☐

Thanks for completing the questionnaire

Giampiero Tarantino