ATTITUDES TOWARDS THE INCLUSION OF AUTISTIC LEARNERS:

A STUDY OF SCOTTISH PRIMARY SCHOOL TEACHERS

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Abstract

In Scotland, the presumption of mainstreaming alongside the introduction of the Education (Additional Support for Learning) (Scotland) Act in 2004 means that the diversity of learners in the mainstream classroom is increasing. Recent data suggests, 32.3% of learners have some form of additional support need and 97.5% of these learners are being supported within their mainstream classroom. One specific group of learners who may, require additional support are autistic learners. Research suggests that the attitudes held by teachers have an impact on the success of inclusive education and thus they should be examined in order to determine the success of, and to identify any barriers to, inclusion (Ewing *et al.,* 2018).

The purpose of this study was to investigate the attitudes of Scottish primary school teachers towards the inclusion of autistic learners in mainstream classrooms. The study also examined whether demographic differences between the teachers had an impact on their attitudes towards inclusion. Participants were recruited using social media and 413 responses were collected from teachers across Scotland. Data was collected using an online questionnaire which used an adapted version of the Teacher Attitudes Towards Inclusion Scale (TATIS) (Cullen *et al.,* 2010) and a demographic questionnaire. Participants also had the opportunity to leave a detailed comment on their views towards inclusion.

Descriptive and inferential statistics were used to analyse the data collected from the respondents. The main finding from the study was that 78% of Scottish primary school in this study held a positive attitude towards the inclusion of autistic learners. Newly qualified teachers (NQT) were found to be the most inclusive group of teachers in the study. These findings are consistent with previous studies conducted in other countries such as Australia, the United States of America, Finland, Greece, and Turkey. The use of collaborative teaching methods, such as team teaching, to support inclusion was also found to be popular amongst respondents and the effectiveness within the Scottish context needs to be explored further.

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Chapter 1 Introduction

1.1   Overview of Inclusive Education

The beginning of the 21st century signalled a global shift towards a more inclusive approach to education – recognising that all children and young people should be equally valued members of society (Soto-Chodiman *et al.,* 2012; UNESCO, 2017). However, as noted by McAuliffe, inclusion can be seen as a "*complex and multidimensional concept*" (2018, p. 697). Issues surrounding who is to be included, where inclusion is to happen and how are debated often.

The right of all children to an education is embedded in a number of international treaties such as the United Nations Convention on the Rights of the Child (UNICEF, 1989), The World Declaration on Education for All (United Nations, 1990), the United Nations Standard Rules on Equalization of Opportunities for Persons with Disabilities (United Nations, 1994), and the Salamanca Statement and Framework for Action (UNESCO, 1994). These all signified a move towards a greater awareness and understanding of disabled children and young persons within education (UNESCO, 2014; United Nations, 2016).

The United Nations Convention on the Rights of the Child (UNCRC) embedded the right to an education for all children in 1989. Under the Convention, Articles 28 and 29 highlight the need for all children to have access to a quality education which should focus on the development of each child's personality and mental and physical ability in order to reach their fullest potential (UNICEF, 1989).

The Salamanca Statement and Framework for Action (UNESCO, 1994) was another key milestone in the inclusive education journey, as suggested by McAuliffe (2018), as it asserted:

"*regular schools with inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all*" (UNESCO, 1994, p. ix)

The mainstream school environment has been recognised internationally as needing to embrace the diversity of all children within them and promote social justice for all. The Salamanca statement highlighted the need for more inclusive school environments and practices in an attempt to combat discrimination and create more inclusive school communities.

However, the move to inclusive education has put additional pressures and demands on the mainstream education system and its teachers who are now required to support a more diverse range of additional support needs within the classroom. A number of studies have been undertaken which have concluded that mainstream teachers feel under-prepared in dealing with the increasing diversity within the classroom (Brennan *et al.,* 2019; Emam & Farrell, 2009; Leonard & Smyth, 2020; Norwich, 2010; Rodríguez *et al.,* 2012; Soto-Chodiman *et al.,* 2012).

There has been a global focus on inclusive education and making education more inclusive for all learners, however, the definition of inclusive education is one which is often considered to be a "*contested concept*" (Loreman, 2017). In 2017, UNESCO published their guide to inclusion and equity in education and defined inclusion as being the practise of reducing and removing barriers that exist that limit "[*the] presence, participation and achievement of learners*" (UNESCO, 2017, p. 13). For the purposes of this dissertation, the UNESCO (2017) definition of inclusive education and inclusion will be used. Inclusion is about all children being present and participating within education as well as celebrating all children and young people's achievements.

1.2 Scottish Context

The Scottish education system has historically been different from the other nations that make up the United Kingdom and, in 1998 the Scotland Act gave the Scottish Parliament legislative control over education (EURYDICE, 2020). The Education system in Scotland is decentralised, meaning the Government set out broad policy guidelines and it is the responsibility of the 32 Local Authorities to embed them within their schools. Within Scotland, education is compulsory for all children aged between 5 and 16 years old. Children will spend

7 years within primary education before moving to secondary education at a comprehensive co-educational school. Compulsory secondary education lasts for 4 years before a learner can decide between leaving school to gain employment or take up further education or remain (EURYDICE, 2020).

The Scottish Government acknowledge the rights of children and young people to an education as a basic human right and the purpose of this education is to ensure that all children and young people reach their fullest potential as stated in the Standards in Scotland's Schools etc. Act (2000). Within Scottish Legislation there are several key Acts which focus on inclusion.

1.2.1   Standards in Scotland's Schools etc. Act (2000)

The principal of the right to an education within Scotland is embedded into this Act which meant that all children and young people who are living in Scotland are entitled to an education which is open and accessible to them. This Act also embedded the principal of *presumption of mainstreaming* into Scottish education. This presumption meant that all children and young people in Scotland are presumed to attend their local mainstream school unless under a number of specific conditions which are outlined within the Act. These conditions to not mainstreaming learners are if the mainstream school environment would not be suitable to "*the ability or aptitude of the child*", would have a negative impact on other children in the school or if the placing in the mainstream environment would result in "*unreasonable public expenditure*" (*Standards in Scotland's Schools etc Act*, 2000, sec. 15).

The introduction of the presumption to mainstreaming meant that children and young people with additional support needs would be assumed to be educated within the mainstream school. This has put additional pressure onto the mainstream school system.

1.2.2 Education (Additional Support for Learning) (Scotland) Act (2004)

The Education (Additional Support for Learning) Act is an important Act in regard to inclusive education in Scotland as it introduced and defined the term *additional support*, for the first time, as;

"[where] a […] pre-school child, a child of school age or a young person receiving school education, provision which is additional to, or otherwise different from, the educational provision made generally for child, or as the case may be, young persons of the same age in school… under the management of the educational authority for the area to which the child or young person belongs" (*Education (Additional Support for Learning) (Scotland) Act*, 2004, sec. 1).

This meant that learners who receive support, which is different to that given to their peers, would be classed as having an additional support need (ASN). The Act highlighted additional support may be required for reasons other than disabilities. For example, additional support may be given to a learner due to their family background, emotional or social difficulties, because they are a young carer or because they are experiencing, or have experienced, bullying. The current Code of Practice (Scottish Government, 2017) identifies a list of reasons why additional support may be required – but this should not be seen as an exhaustive list of reasons why additional support may be given.

These two landmark Acts have meant that there has been an increase in the number of learners within the mainstream classroom who require personalised additional support which is often given by the mainstream class teacher.

The concept of inclusion is also embedded into the Professional Standards for Teachers as outlined by the General Teaching Council for Scotland (GTCS). The GTCS highlight social justice as a core value that all educational staff must adhere to as well as valuing diversity through inclusive, fair, and transparent practices (GTCS, 2021). Another key policy within the Scottish Education context is the Getting it Right for Every Child (GIRFEC) approach.

1.2.3   Getting it Right for Every Child (GIRFEC)

This national policy approach aims to ensure that the rights of both children and parents are supported and that outcomes are improved for all learners who live within Scotland. The Getting It Right For Every Child (GIRFEC) approach is central to all Government policy and local authority services who are responsible for delivering services to children and young people (Scottish Government, 2020b). GIRFEC is underpinned by the UNCRC and aims to promote and improve wellbeing for all children and young people based on 8 factors of wellbeing; Safe, Healthy, Achieving, Nurtured, Active, Respected, Responsible, and Included.

Within the Scottish educational context, it can be argued that the policy framework that has been set out offers an appropriate structure that ensures education in Scotland is inclusive for all its learners and helps to underpin a system which can respond to the needs of all its learners; regardless of the requirements for additional support (McAuliffe, 2018; Moscardini, 2018).

1.3   Autism Spectrum Disorder (ASD) in Scotland

A diagnosis of autism spectrum disorder (ASD) represents one category of additional support need (ASN) within the Scottish educational system. ASD is a lifelong developmental condition, usually diagnosed in early childhood, which can have an impact on how the individual perceives and interacts with their physical and social environments. As this is a spectrum disorder, it will impact on all individuals differently and to different extents. However, autistic individuals all have similar characteristics of needs; ranging from difficulties with communication, repetitive behaviour(s), need for routine, anxiety with regards to the social environment and sensory processing issues (National Autistic Society, 2019). Some autistic learners may not require additional support within the mainstream classroom environment. Others may require some additional support such as altering the physical environment to aid with sensory issues or increasing the use of visual supports within the classroom as well as embedding a routine for the ASD learner. Some learners may require a more personalised approach for some or all of their day (Autism Toolkit Working Group, 2020). Those who require a more personalised approach for education, may be educated within a mainstream

school, an ASD specific provision or unit within a mainstream school or a specialised provision separate from a mainstream school.

The prevalence rate of ASD varies a great deal (Wood, 2019) and a range of rates have been identified within the United Kingdom. The Office for National Statistics (2011) suggests a prevalence rate of 1.1 per cent amongst children and young people within the United Kingdom.

Throughout this dissertation the use of identity first language will be used (for example, autistic learners as opposed to learner with autism) as this is the preferred language used by the neuro-diversity movement (Dyck & Russell, 2020).

1.4   Current data

Within Scotland, the Scottish school census records the numbers of learners within schools who have a recorded additional support need. More detailed information is available regarding where these children are placed and how often they access mainstream classroom (e.g. children who spend all their time in the mainstream classroom, some of their time or none of their time) and the reasons for their need for additional support. These data are published on an annual basis; with the latest data available for the academic year 2020/21.

The latest data published indicates that of the 702,197 pupils taught within Scotland, 226,838 of these learners are categorised as having an additional support need; this being 32.3% of all learners in the classroom across Primary and Secondary education (Scottish Government, 2021b). Breaking this down by sector; of the 393,957 learners in Scottish primary schools, there were 109,441 with an additional support need which represents 27.8% of all primary school pupils. Within secondary schools, the total population of learners was 300,954 of which 110,111 or 36.6% with a recorded additional support need.

Figure 1.1 shows the number of pupils in Scottish primary schools with a recorded additional support need over the last 13 years. The trend on the graph shows an increasing one; meaning

more children are being identified as requiring additional support within the mainstream classroom.
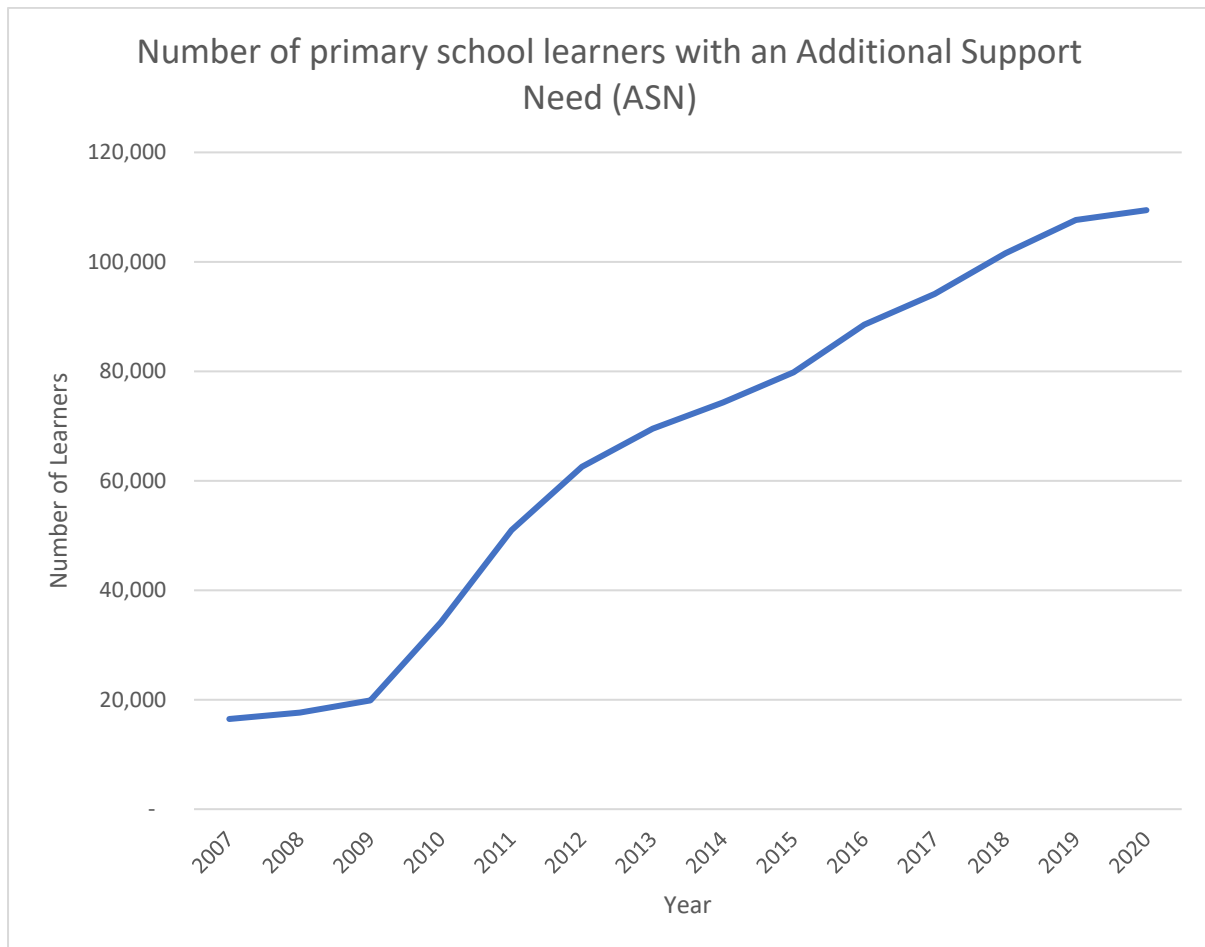
Figure 1.1 Number of pupils in Scottish primary schools with a recorded ASN. Data from Scottish Government (2021b).

The data in the 2020 census, also highlights that the majority, 97.5%, of those learners are taught all the time within their mainstream classroom, with 1% spending some time in their mainstream classroom and 1.5% being educated out with their mainstream classroom (Scottish Government, 2021b).

With regards to autistic learners, the latest data published indicates that there were 9,291 pupils in Scotland's primary schools with a diagnosis of autism spectrum disorder as their need for additional support (Scottish Government, 2021b) which represents 2% of learners in primary schools in Scotland. The data provided in the census does not indicate the breakdown of time spent within their mainstream classroom based on ASN category. The data for

learners with additional support needs, as a whole, suggests that the majority spent all their time within the mainstream classroom, and this is very likely of the autistic population of learners.

1.5 Aims of the Dissertation

The aim of this dissertation is to examine the attitudes that primary school teachers' have towards the inclusion of autistic learners in the mainstream classroom. The study will also examine whether demographic factors, such as gender, age, years of experience, job role and whether they have undertaken additional training, influences their attitudes towards inclusion.

1.5.1 Research Questions

This dissertation will answer the following questions:
- What are the attitudes of mainstream primary school teachers in Scottish schools regarding the inclusion of autistic learners in the mainstream classroom?
- What role does demographic factors have on the attitudes of teachers?

1.6 Outline of Dissertation

This dissertation has been structured into six chapters. This chapter has presented an overview of the journey towards inclusive education as well as the Scottish educational system and the policies which are part of this system. This chapter has also introduced the autistic population within Scottish schools and why they may require additional support compared to their neurotypical peers. The latest data concerning additional support needs has also been presented which shows an increase in the diversity of learners within the mainstream classroom.

The following chapter highlights the current studies and literature available regarding inclusive education and attitudes that teachers have towards inclusion. It highlights the gaps in the literature that this study is aiming to fill regarding to knowledge of teachers' attitudes in Scotland. Chapter 3 describes the methodology used within this study, the research design,

data collection procedure and the quantitative instruments used to analyse the data that has been collected. Ethical concerns are also detailed within this chapter and the process of gaining ethical approval has been discussed. The results from this dissertation, and discussions of these results, are presented and discussed in Chapters 4 and 5. Chapter 6 concludes the dissertation as well as identifying recommendations for current practice and future research and outlining the limitations of this study.

Chapter 2   Literature Review

The purpose of this dissertation is to explore the attitudes of mainstream teachers within Scottish primary schools towards the inclusion of autistic learners in their classrooms. Within this chapter, I will review how attitudes are formed, factors which influence teachers' attitudes towards inclusion and how this can impact on the success of inclusive education. I will also review studies which have analysed teachers' attitudes towards inclusion.

The terminology of additional support needs (ASN) and special educational needs (SEN) are used within the literature to refer to any learner who, for whatever reason, required additional support to that given to their peers. ASN is the terminology used within the Scottish educational system as outlined by the Education (Additional Support for Learning) (Scotland) Act 2004. SEN is more commonly used within the English educational system and other educational systems around the world.

2.1   Overview of Attitudes

Wood (2000) proposes an attitude is an assessment of an object or person and that individuals can hold multiple attitudes. Attitudes can range from extremely negative to extremely positive towards that object or person. Hogg & Vaughan (2005, p.150) describe an attitude as "*a relatively enduring [organisation] of beliefs, feelings, and behavioural tendencies towards socially significant objects, groups, events of symbols.*"

Attitudes towards groups of learners can influence inclusion as Monsen *et al.* (2014a) suggests teachers' attitudes play a key role in the success of inclusive education. Ewing *et al.* (2018) also highlighted that teachers' attitudes towards inclusive education will determine the success of inclusion within mainstream schools and thus should be examined. From the literature outlined in Table 2.1 however, the attitudes of teachers towards the inclusion of learners with additional support needs varies greatly. For example, some teachers are willing to include ASN learners when they have adequate support available to them; whilst other teachers believe that the inclusion of ASN learners may have a negative impact on the education of the other learners in the classroom (Grieve, 2009). Grieve (2009) also found that

some teachers felt that Special Educational Needs (similar to the ASN category in Scotland) learners would receive a better educational experience within a special school compared to a mainstream school due to the higher quality and level of support offered. Florian & Black-Hawkins (2011) suggest that exclusion of those with additional support needs can be exacerbated due to the belief that mainstream teachers are not prepared to work with learners who require additional support – they also identified that little is known about what teachers actually need to know in order to teach all learners within an inclusive classroom.

2.2   Studies into Teachers' attitudes

Considering that the attitudes that teachers have toward inclusion has an impact on the success or failure of inclusion it is important that there are methods to measure attitudes so that barriers can be identified and addressed (Ewing *et al.,* 2018). The need for reliable measures of attitudes are fundamental as it allows researchers to develop an understanding of underlying attitudes and assumptions that teachers have before attempting to design and evaluate initiatives that can aid inclusion of all children in the classroom. Monsen *et al.* (2014b) also argue that the development of these tools will aid the development of more inclusive learning environments within the mainstream education system.

Ewing *et al.* (2018) argues that due to the range of different factors which help develop teachers attitudes towards inclusion and inclusive education, the use of robust questionnaires that specifically explore perceptions of teachers attitudes towards inclusion are an "*effective method of capturing data"* (p. 153). This idea is further strengthened by the work of Antonak and Livneh (2000) who argued psychometric data collection instruments are imperative in helping to explore relationships between attitudes and inclusion of children with additional support needs in the school environment. They also highlighted that existing questionnaire scales should be used and updated as needed instead of developing new scales.

The paper published by Ewing *et al.* (2018) undertook a systematic literature review into the range of varying questionnaire scales used to measure attitudes towards inclusion, published between 1995 and 2015 to form a useful resource for the selection of appropriate questionnaire scales. The paper highlighted several questionnaires that would be useful for

researchers to use as well as identifying any potential issues with these scales. Using this paper and identifying several key studies as outlined below, helped me to consider the most appropriate questionnaire scale for this research.

There has been a wide number of studies undertaken that have used a range of standardised questionnaires to assess teachers' attitudes towards the inclusion of all children within mainstream classrooms. A review of these studies is shown in Table 2.1, organised by most recent.

Table 2.1 Review of Studies into Teachers' Attitudes (arranged by most recent).

Authors	Country of Study	ASD Specific	Sample size	Questionnaire Used	Results (as described in Abstract)
Ediyanto *et al.* (2020)	Indonesia		177	Teacher Attitude Towards Inclusion Scale (TATIS)	Pre-service teachers had moderative attitudes and beliefs towards inclusive education.
Leonard & Smyth (2020)	Ireland	Yes	78	Impact of Inclusion Questionnaire (IIQ)	Negative / neutral attitudes towards inclusion of children with ASD
Saloviita (2020)	Finland		1764	Various (Teachers' Attitudes towards Inclusive Education, Teachers' sense of Efficacy Scale, Work Orientation)	Classroom teachers scored below and the subject teachers significantly below, the neutral midpoint of the scale. About 20% of teachers were strong opponents of inclusion.
Garrad *et al.* (2019)	Australia	Yes	107	Autism Attitude Scale for Teachers	Teachers' attitude was found to be highly positive.

Monsen *et al.* (2014a)	England, United Kingdom		95 (teachers), 2514 (pupils)	Various (Teachers' Attitudes towards Inclusion Education, Willingness to Include, Adequacy of Support, Health/Stress)	Teacher attitudes towards including SEN pupils in mainstream settings were found to have a significant impact on how they managed their classroom learning environment and how adequately they perceived available support.
Galović *et al.* (2014)	Serbia		322	My Thinking About Inclusion	participants held neutral attitudes towards inclusive education and more positive expectations regarding the outcomes of inclusion.
Boyle *et al.* (2013)	Scotland, United Kingdom		391	Own Scale developed	teaching staff were pro-inclusion, conditional on adequate support and resources
Segall & Campbell (2012)	United States of America	Yes	196	Autism Inclusion Questionnaire	Positive, in general, although attitudes were not a significant

					predictor of awareness.
Forlin *et al.* (2011)	Various (Hong Kong, Canada, India, United States)		542	The Sentiments, Attitudes and Concerns about Inclusive Education Revised	*Not reported*
Rakap & Kaczmarek (2010)	Turkey		194	Various (Opinions Relative to the integration of Students with Disabilities, Teachers' willingness to work with Children with Severe disabilities	slightly negative attitudes towards the inclusion of students with disabilities into regular education classrooms.
Park *et al.* (2010)	United States of America	Yes	131	Autism Attitude Scale for Teachers	Pre-service teachers had positive attitudes towards children with autism.
Forlin *et al.* (2009)	Various (Australia, Canada, Hong Kong, Singapore)		603	Various (Attitudes towards Inclusive Education scale, Interaction with Disabled Persons Scale, Concerns about Inclusive Education Scale)	importance of differentiating teacher preparation courses to address these different needs of pre-service teachers.

Avramidis & Kalyva, (2007)	Greece	155	My Thinking about Inclusion	positive attitudes towards the general concept of inclusion

Table 2.1 highlights that recently there have been several studies that have been interested in the attitudes that teachers hold towards the inclusion of groups of learners and that there are a wide range of questionnaire instruments used as well as a wide range of results from these studies. The sample sizes of these studies also vary greatly; from studies based in small regional areas within countries with very small sample sizes (such as Leonard & Smyth, 2020; Monsen *et al.,* 2014a) to studies on a wider geographical area with large sample sizes such as Saloviita (2020). The majority of these studies have focused on the nature and concept of inclusion rather than on the specific attitudes towards certain groups of learners such as autistic learners. As such, Leonard & Smyth (2020) conclude that autistic learners is one under respremated group in the research towards teachers' attitudes and as such this is the focus of this dissertation.

There were a number of the studies (Garrad *et al.,* 2019; Leonard & Smyth, 2020; Park *et al.,* 2010; Roberts & Simpson, 2016; Segall & Campbell, 2012) which were specifically interested in the attitudes towards autistic learners in the mainstream classroom. These studies had varying results. Leonard & Smyth (2020) found a negative or neutral attitude amongst Irish primary school teachers towards the inclusion of autistic learners in the classroom; however, the sample size of 78 is small to generalise the overall attitude amongst teachers in Ireland. Using a different questionnaire scale, Garrad *et al.* (2019) found a highly positive attitude towards the inclusion of autistic learners within an Australian context with a slightly higher sample size of 107 teachers. Park *et al.* (2010) investigated the attitudes of pre-service (student) teachers within the United States of America and found that they had a positive attitude towards inclusion of autistic learners. These 3 studies each used a different questionnaire scale to measure the attitudes of teachers within their respective countries.

Segall & Campbell (2012) used the standardised questionnaire instrument, the Autism Inclusion Questionnaire, to sample 196 educational professionals to determine their attitudes towards the inclusion of autistic learners. They found that 92% of the participants held a positive attitude towards mainstream inclusion. Lastly, Roberts & Simpson (2016) found positive attitudes towards inclusion of ASD learners through their meta-analysis study. Overall, the attitudes towards the inclusion of ASD learners in the mainstream classroom seems to either be neutral or positive.

One interesting finding from the literature was introduced by Able *et al.* (2015) in their study of teachers attitudes towards inclusion of autistic learners in the United States of America. The study concluded teachers felt that they needed more knowledge and skills on how to better support ASD learners in the classroom. The study proposed the use of creating collaborative professional development opportunities and collaborative teaching approaches between general (mainstream) teachers and special education (additional support needs) teachers.

2.2.1   Collaborative Teaching Approaches

This collaborative approach, or co-teaching, has gained popularity within many educational systems as a strategy to provide inclusive educational opportunities for students who require additional support (Pancsofar & Petroff, 2016). Takala & Head (2017) suggest co-teaching has been seen as an effective way in dealing with the diversity of all pupils within the mainstream classroom. Furthermore Villa *et al.* (2013) argues more collaborative teaching approaches need to be used in order to reach a more diverse student population.

Co-teaching has been defined as being a "…*collaboration between general and special education teachers for all of the teaching responsibilities of all students assigned to a classroom*" (Gately & Gately, 2001, p. 41).

Friend and Cook (2012) identify 6 different approaches to co-teaching based on the interactions between both teachers and the pupils. The 6 different approaches identified by them are hierarchical and are ranked from least to most collaborative. They are; one teach – one assist, one teach – one observe, station teaching, parallel teaching, alternative teaching, and team teaching (Pancsofar & Petroff, 2016). Solis *et al.* (2012) defines these 6 approaches to include Whole Class, Teacher Led; Two Heterogeneous Groups; Two Homogeneous Groups; Station Teaching; Whole Class + Small Group and Whole Class Team Teaching. Table 2.2 outlines the different models of co-teaching as defined by Solis *et al.* (2012).

Table 2.2 Description of Collaborative Teaching Methods as described by Solis et al.(2012)

Type of Co-Teaching	Description	Mainstream/General Education Teacher Role	Additional Support Need / Special Education Teacher Role
Whole class, Teacher Led	One teacher is responsible for whole-class instruction and the other teacher monitors student work and provides instructional support during work time.	Lead Teacher	Support
Two Heterogeneous Groups	Class is split into equal groups. Groups are not split on needs of the pupil. Each teacher delivers the same materials.	Lead Teacher	Lead Teacher
Two Homogeneous Groups	The class is split into equal groups based on needs.	Lead Teacher (usually focusing on extending learning)	Lead Teacher (usually focused on re-teaching)
Station Teaching	Work stations are set up in the classroom and small groups of students move around the stations. Each teacher leads instruction at a table.	Lead Teacher	Lead Teacher
Whole Class + Small Group	Lead Teacher instructs the whole class while the supporting teacher works with a small group of students who require additional or alternative teaching methods.	Lead teacher of whole class	Lead teacher of the small group
Whole Class Team Teaching	Teachers work together cooperatively to teach a whole lesson. One teacher may take the lead role, while the other supports with making clarifications or restating information to increase understanding for all students.	Lead Teacher	Lead Teacher

The most common co-teaching approach found by Scruggs *et al.* (2007)'s meta synthesis analysis was the one teach – one assist model; whereby one teacher is the active teacher and is responsible for the teaching of the material and the other teacher assist them in doing so. This is a similar approach to the Whole Class, Teach Led approach described in Table 2.2 by Solis *et al.* (2012). This model of collaborative teaching is the least collaborative as defined by Friend & Cook (2012). Takala & Head (2017) also highlight that, from a teacher's point of view, this one teach – one assist model often sees the other teacher being viewed as an assistant, and not a teacher in their own right and thus, more collaborative working between the two teachers needs to occur in order for co-teaching to be successful. The use of co-teaching approaches can also be beneficial as it allows for problems, evaluations and discussions with parents to be shared by both teachers as well as allowing for teachers' professional skills to develop when working with a colleague (Takala & Head, 2017).

The use of collaborative teaching is one that can be beneficial for inclusive education and ensuring that all children can access learning and teaching within the classroom. However, to make collaborative teaching function, time and resources needs to be utilised to train teachers in the different co-teaching approaches and time needs to be spent to allow for effective planning (Takala & Head, 2017). The opportunities for co-teaching would allow more specialist teachers to help those learners who require a more structured input to their learning compared to their mainstream peers.

2.3   Factors influencing Teachers' attitudes

There are a range of factors which can influence the teachers' attitudes about inclusive education (Ewing *et al.,* 2018). These include the availability and quality of resources to help support the inclusion of ASN leaners, teachers' own views as well as their own competency of supporting ASN learners, and the behaviour of ASN learners (Forlin *et al.,* 2008; Goodman & Burton, 2010; Monsen *et al.,* 2014a). The success or failure of implementing inclusive educational practices as well as creating an inclusive classroom environment is dependent upon the beliefs that the classroom teacher has towards inclusive education initiatives (Forlin *et al.,* 2008; Monsen *et al.,* 2014b; Leonard & Smyth, 2020).

Leonard & Smyth (2020) identified, and the evidence from literature suggests, there is an overall relationship between attitudes and behaviours towards a group of people, in this case autistic learners. They suggested the attitudes that a teacher has towards a learner, or group of learners, can impact on the behaviours shown by that teacher; meaning that positive attitudes towards inclusion of autistic learners held by teachers would promote inclusion whereas negative attitudes may become an obstacle. This idea is also present in the work of Hastings & Oakford (2003) who found teachers' attitudes differed based on the type of additional support need that the individual learner had. They found that student teachers had a more positive attitude towards including children with an intellectual disability compared to children with social, emotional, and behavioural difficulties.

Although there are a number of studies which have highlighted a positive attitude towards the inclusion of ASD learners in the mainstream classroom there is a lack of research about the factors which influence these attitudes.

Current research has found that the gender of individual teachers continue to show mixed results as to whether they influence attitudes towards inclusion. Recent studies conducted by Galović *et al.* (2014) and Leonard & Smyth (2020) found gender did not have a significant impact on the attitudes of the participants in their studies whereas studies such as Boyle *et al.* (2013); Park *et al.* (2010); Saloviita (2020) found that gender did have a significant impact towards attitudes held by the teachers in their studies. Due to the varying results in recent studies, gender will be included in this study to determine whether they have an impact on the attitudes held by teachers.

Years of teaching experience, and age, is another key theme within recent studies into teachers' attitudes. Leonard & Smyth (2020) proposes newly qualified or early career teachers are more likely to have a positive attitude towards inclusion than those who have been teaching for a longer period of time. Glaubman IV & Lifshitz (2001) found more recently qualified teacher (e.g. those who have been working for 0 – 10 years) held a significantly more positive attitude than those who had been working for 11+ years. Boyle *et al.* (2013) concluded early career teachers had a more pro-inclusive attitude when compared to other longer service teachers. However, Ross-Hill (2009) found in the United States, the number of

years of teaching experience had no significant impact. Studies in Ireland (Leonard & Smyth, 2020) and in Serbia (Galović *et al.,* 2014) also found this to be the case.

As well as years of teaching experience, the additional experiences that teachers have might also have an impact on their attitudes towards ASD learners. Education and further training in additional support needs can contribute towards the development of attitudes towards inclusion (Leonard & Smyth, 2020). Sharma & Nuttal (2016) studied student teachers' attitudes towards inclusion pre- and post- engagement in a university course regarding inclusion and inclusive practice. They found teachers had a significantly more positive attitude towards inclusion after participating in this course. Avramidis & Kalyva (2007) also found that primary school teachers in northern Greece who engaged in professional development and training in additional support needs and inclusion over the course of their teaching career had a significantly more positive attitude towards inclusion compared to their colleagues who had little or no training experience.

A Scottish study conducted by Boyle *et al.* (2013) found there was a difference in attitudes towards inclusion based on the level of qualification that a participant had taken. They found that those who had completed a module of a course in additional support need or special education had a higher attitude than those who had not completed any additional training or study. They did, however, also find that those having completed a master's degree in inclusion or additional support need did not necessarily improve attitudes compared to those who had taken a stand-alone course or module, but they did have a higher attitude score compared to those who had not completed additional training.

However, Garrad *et al.* (2019) found in their study based in Australia, that training experience, as well as years of experience, does not have a correlation with an individual teacher's attitude towards inclusion. However, this could be attributed to teachers' thoughts towards policy and practice within their countries as to how well they feel supported in delivering inclusion.

Due to the mixed results from the literature, both years of experience and previous training have been identified as data which could help to further understand attitudes within this

study and therefore have been included within the questionnaire, alongside gender and age. This study has identified a number of demographic groups to further investigate the attitudes held and is shown in Figure 2.1.

Current role within the school is one of the demographics that is lacking in the literature. The current studies tend to solely focus on classroom teachers as opposed to including the range of other positions within a mainstream school (such as Headteacher, Deputy Head Teachers, Principal Teachers). Boyle *et al.* (2013) found Headteachers and Deputy Head Teachers had a higher positive attitude towards inclusion compared to Teachers and Principal Teachers (Head of Departments within Secondary schools). This study, which was conducted within a local authority in Scotland, was interested in exploring attitudes of secondary school teacher's attitudes and did not involve primary school teachers. Due to this, I have included a question within the questionnaire to determine whether job role within the school can have an impact on attitudes. This will add to the current body of literature regarding attitudes towards inclusion within Scotland.
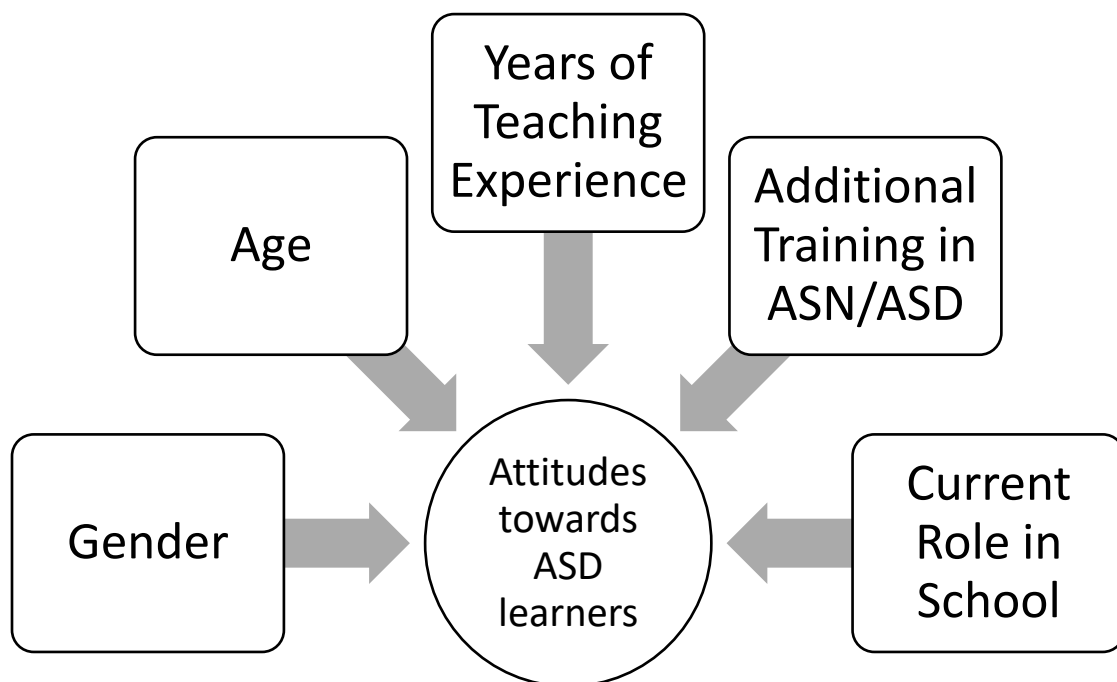
Figure 2.1 Demographic group influences over attitudes (ASN = additional support needs, ASD = autism spectrum disorder)

2.4   Scottish context

Within Scotland, the General Teaching Council for Scotland's Standards for Full Registration, and all of their standards, highlights the requirement for teachers to demonstrate and respect the rights of all children and to be committed to social justice through the use of inclusive practices regardless of protected characteristics; which disability is one of (GTCS, 2021). This highlights the inclusive nature of the Scottish education system which seeks to ensure that teachers actively demonstrate inclusion. Teachers are required to have a strong personal commitment towards the implementation of inclusive practices and attitudes which affect both the teaching approaches used within the classroom and the classroom environment that they create. However, not all teachers have a positive view towards the inclusion of ASN children within the mainstream classroom.

Within Scotland, there has been a major change towards inclusive education through the introduction of a range of legislation, as outlined in the previous chapter. The introduction of the presumption of mainstreaming in 2000 meant that the range of learners with additional support needs in the mainstream school environment has increased. Teachers, however, often report feeling that they do not feel prepared to support this ever-diversifying group of learners (Educational Institute of Scotland, 2019; ENABLE Scotland, 2019; Florian, 2012).

The Education and Skills Committee (2017) of the Scottish Parliament reported that 93% of learners with an additional support need now spend their full time within a mainstream classroom, often only supported by the mainstream teacher. The data from the latest school census suggests that this has increased to 97.5% in 2020/21 (Scottish Government, 2021b).

Florian (2012) reported that classroom teachers often report feeling unprepared for inclusive education. More recently, ENABLE Scotland (2019) found that 98% of education staff (n = 204) who completed their "*IncludED in the Main?!*" survey felt that their training did not adequately support them or prepare them for supporting learners with additional support needs in the classroom. A recent review conducted by Angela Morgan entitled "Support for Learning: All our Children and All their Potential" (Scottish Government, 2020c) found school

staff felt under *"enormous pressure, often feeling unable to do the job they want."* (p. 67) and that staff often feel undervalued with regards to supporting all children within the classroom.

With the publication of these reports, the Scottish Government established the Autism in Schools Short-Life Working Group in 2019 to discuss the issues that had been raised regarding the experiences of autistic learners in schools (Scottish Government, 2021a). This group's role was to explore four key themes; firstly, to ensure content on autism was common across Initial Teacher Education (ITE) programmes. Secondly, inclusive pedagogical work was distilled throughout the education system. Thirdly, wider sharing of good practice across the system and lastly, ensuring a continuum of support for professional development and practice (Scottish Government, 2021a). From this working group, an action plan was created to address the themes identified above.

The first theme; to ensure there is a common approach towards the delivery of autism specific resources on ITE programmes within Scotland. The working group did highlight though that currently focus within ITE programmes is based on inclusive pedagogy and how to support all learners rather than support to specific conditions such as autism spectrum disorder (ASD) (Scottish Government, 2020a). The working group also concluded that more knowledge and understanding of inclusive pedagogy needs to be distilled across the whole educational system so that all staff working within education were aware of this approach. The introduction of a National Improvement Hub would also help to support practitioners across the education system by highlighting best practice. All these recommendations would help to benefit the experience that autistic learners have within the Scottish educational system.

2.5   The Current Study

The presumption of mainstreaming introduced into Scottish schools has meant that there is an increase in the diversity of learners taught in the mainstream classroom by the mainstream teacher. The number of ASD learners is also on the increase in schools but at the same time teachers are reporting feeling under pressure and undervalued due to a range of issues. This study, based on a range of literature and studies based in other countries, aimed to explore the attitudes that mainstream primary school teachers had towards the inclusion of ASD

learners in the mainstream education system in Scotland. The gaps that have been identified in the literature have been addressed through this study based within a Scottish context, the largest gap being that attitude studies are usually based on all children with additional support needs rather than certain groups e.g., ASD learners.

Chapter 3   Methodology

Within the methodology chapter I will discuss the methodological approaches used within this dissertation. Research design, methods and the philosophical world view will be discussed as well as detailing the research aims and questions of the study. The survey instrument, the Teacher Attitudes Towards Inclusion Scale (Cullen *et al.,* 2010) is introduced within this chapter and details about how data collection and analysis was undertaken. Ethical considerations regarding this study, including the process of gaining ethical approval, are also documented.

3.1   Research Design

Creswell (2014) describes research design as the decisions and procedures that we undertake, from the broad assumptions to the detailed decisions about data collection and analysis within a research project. Cohen *et al.* (2018) further suggests that research design is part of the strategy that is used to organise the research and make it practical for both the researcher and participants. Cohen *et al.* (2018) suggest the purpose of the research will determine the design of the project which in turns informs the methodology of the research. Fundamentally though, methodology is based on "*a philosophical stance or worldview that underlines and informs a style of research*." (Sapsford & Jupp, 2006, p. 175).

This study has been designed using a quantitative, post-positivist approach which is based on a survey design using an online questionnaire as the instrument for data collection. The post-positivistic view argues that facts and observations are theory and value laden, that they are fallible and that a variety of theories may support facts and observations in the real world and is heavily reliant on empirical observation to provide meaning (Cohen *et al.,* 2018). Creswell (2014) argues that any quantitative research methodology will fundamentally be adhering to a post-positivist view of knowledge to help develop understanding through the use of cause and effect thinking, use of measurement and observation, reducing research to testing hypotheses and research questions and employing strategies to collect data to analyse statistically.

This dissertation will use an online questionnaire to gather data from participants. Cohen *et al.* (2018) suggest questionnaires offer the benefits of utilising both standardised and open-ended responses to a range of differing topics from a large sample of the population. They also propose that questionnaires are widely used and useful data collection instruments for collecting data, providing a structure and are able to be administered without the need for the researcher to be present during data collection. Questionnaires also provide a numeric description of attitudes or opinions within a population by studying a smaller sample of the population.

Due to these approaches being utilised within this dissertation, the philosophical world view of the researcher is one of post-positivist. The methodological framework used within this dissertation is demonstrated within Figure 3.1.

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                    ┌──────────────────────┐
                    │ Philosophical World  │
                    │         View         │
                    │    Post Positivist   │
                    └──────────────────────┘

              ┌──────────────────────────┐
              │    Research Approach     │
              │       Quantitative       │
              └──────────────────────────┘

   ┌──────────────────────────┐
   │     Research Method      │          ┌──────────────────────────┐
   │ • Hypothesis (Research   │          │     Research Design      │
   │   Question)              │          │       Quantitative       │
   │ • Data Collection        │          └──────────────────────────┘
   │ • Data Analysis          │
   │ • Interpreation          │
   │ • Validation             │
   └──────────────────────────┘
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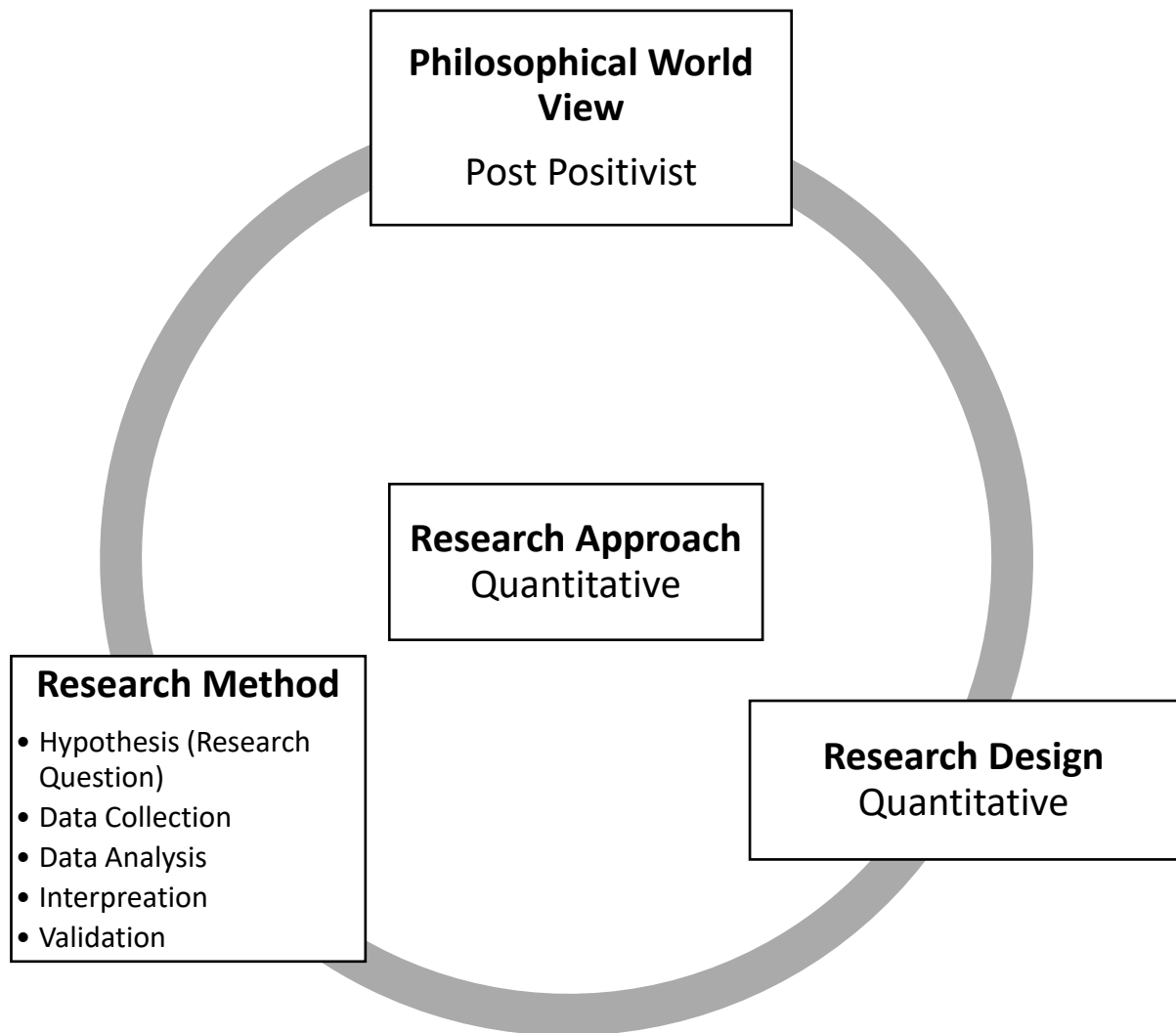
Figure 3.1 Methodological Framework within this study

3.2   Research Aim & Question

The aim of this study is to evaluate the attitudes that mainstream primary school teachers have in Scotland regarding the inclusion of autistic learners in the mainstream classroom. The move towards a more inclusive education system in Scotland has meant that autistic learners are often educated within the mainstream classroom, but the attitudes of teachers can have an impact on the success or failure of inclusion and inclusive practices.

The research question is therefore: *What are the attitudes of mainstream primary school teachers in Scottish schools regarding the inclusion of autistic learners in the mainstream classroom?*

Further research aims were identified such as considering whether there is any difference in attitudes amongst different groups of teachers. For example, does age of the teacher have an impact on their attitudes towards the inclusion of autistic learners? Is there a difference between the attitudes amongst those who identify as male and female? Is one group of teachers more inclusive than another group?

3.3   Participants

Participants were recruited using social media (Facebook, Twitter, and Instagram) and were welcome to take part in the research if they were a mainstream primary school teacher within Scotland. The researcher's professional social media accounts were used to share the questionnaire link and was shared by other users to reach a larger audience.

3.4   Questionnaire

An online questionnaire was used to collect data from the participants. The questionnaire was hosted online using the JISC Online Survey software (JISC, 2021) as recommended by the University of Glasgow. The questionnaire was organised into two sections. The first part of the questionnaire was designed to collect demographic information from the participants, the latter being an adapted version of the Teachers Attitudes Towards Inclusion Scale (TATIS) which was developed by Cullen *et al.* (2010). This standardised questionnaire was chosen as it was originally designed specifically for measuring teachers' attitudes towards inclusion. At the end of the questionnaire, participants had the opportunity to leave a comment or statement about the research, giving the participants the opportunity to share their own opinions to the research question. This was an open-ended question as it allowed for a range of differing views to be identified and analysed.

3.4.1   Part 1: Demographics

Demographic information was collected from the participants regarding their gender identity, age bracket they fell into, the length of their teaching service, whether they had an autistic learner in their current class or have done in the past, whether they had undertaken any additional training in supporting autistic learners and if so, what type of training, their current

role within the school (e.g. Classroom Teacher, Additional Support Teacher, Principal Teacher, Head Teacher) and which Scottish local authority they currently worked for. All this data was helpful in determining whether these had an impact on their attitude towards inclusion of autistic learners in the classroom.

3.4.2   Part 2: Attitudes Scale

The questionnaire that was selected for this dissertation was the Teachers' Attitude Towards Inclusive Education (TATIS) scale which was devised by Cullen, Gregory and Noto in (2010), however some of the terminology and language was adapted to suit the survey. The TATIS questionnaire was selected as being the most appropriate for this study, when compared to other available tests, as firstly, it was designed to measure teachers' attitudes towards inclusion and secondly, it was the easiest one for participants to complete. However, this survey was not designed specifically to focus on autistic learners, rather children with mild and moderate disabilities, therefore adaptions to the questions were undertaken to focus the questionnaire on the inclusion of autistic learners.

 For example, Question 1 in the original survey was
"All students with mild to moderate disabilities should be educated in regular classroom with non-handicapped peers to the fullest extent possible."

 This was reworded to *"All autistic students should be educated in regular classrooms with neurotypical peers to the fullest extent possible"*.

A copy of the revised questionnaire can be found in Table 3.1.

The original version of the questionnaire was developed by administering the questionnaire to 252 teachers at a University in Connecticut, United States of America. Construct validity was confirmed through a Principal Component Analysis whereas construct validity was assessed using the Cronbach Alpha Correlation procedure (Cullen *et al.,* 2010). The TATIS has an overall Cronbach alpha reliability coefficient of 0.82 which means it has an excellent internal consistency (Cohen *et al.,* 2018). The TATIS involves 14 statements in which the

participants rank their answers against a 7-point Likert scale ranging from 1 (Agree Very Strongly) to 7 (Disagree Very Strongly). An additional question was added to this scale to specifically ask the participant how confident they would feel in having an autistic learner in their classroom.

The TATIS scores participant responses under three factors which were identified by Cullen & Noto (2007) as being critical attitudes towards inclusion. The factors to calculate their overall inclusion score are participants attitudes towards students with disabilities in inclusive settings, the second factor being their beliefs about the efficacy of inclusion and lastly the beliefs about professional roles and responsibilities. The questions within the questionnaire are all assigned to one of the three components which shape attitudes towards inclusion. Table 3.1 below indicates how each question interacts with the development of attitudes.

Table 3.1 TATIS questions and how they impact on the components and factors of attitude development. ASN = additional support needs, ASL = additional support for learning

Question Number	Question	Attitude factor within TATIS
1	*All autistic students should be educated in regular classrooms with neurotypical peers to the fullest extent possible.*	Attitudes towards students with disabilities in inclusive settings (POS)
2	*It is seldom necessary to remove autistic children from regular classrooms in order to meet their education needs.*	
3	*Most or all separate classrooms/units/provisions that exclusively serve autistic children should be eliminated.*	
4	*Most or all regular classrooms can be modified to meet the needs of autistic students.*	
5	*Autistic students can be more effectively educated in regular classrooms as opposed to separated classrooms/units/provisions.*	
6	*Inclusion is a more efficient model for educating autistic children because it reduces transition time (i.e. The time required to move from one setting to another).*	
7	*Autistic students should not be taught in mainstream classrooms with neurotypical students because they will require too much of the teachers' time.*	Beliefs about the efficacy of Inclusion (BEI)
8	*I have doubts about the effectiveness of including autistic students in mainstream classrooms because they often lack the academic skills necessary for success.*	
9	*I have doubts about the effectiveness of including autistic students in mainstream classrooms because they often lack the social skills necessary for success.*	
10	*I find that mainstream teachers often do not succeed with autistic students in mainstream classrooms.*	

11	*I would welcome the opportunity to team teach as a model for meeting the needs of autistic students in mainstream classrooms.*	Professional roles and responsibilities (PRF)
12	*All students benefit from team teaching; this is, the pairing of a mainstream and an ASN/ASL teacher in the same classroom.*	
13	*The responsibility for educating autistic children in mainstream classrooms should be shared between mainstream and ASN/ASL teachers.*	
14	*I would welcome the opportunity to participate in a consultant teacher model (i.e., regular collaborative meetings between mainstream and ASN/ASL teachers to share ideas, methods and materials) as a means of addressing the needs of autistic students in mainstream classrooms.*	

The overall score is calculated by coding participants responses as 1 being agree very strongly, 2 = strongly agree, 3 = agree, 4 = neither agree or disagree, 5 = disagree, 6 = strongly disagree, and 7 = disagree very strongly. Once numerically coded, the score is calculated by adding the responses from question 1 through 6 plus the responses from question 11 through to 14. Questions 7 – 10 are negatively scored and therefore the score is calculated by adding the total score for those questions and subtracting 32 to allow for negative scoring. These three calculations are added together to calculate the final TATIS score.

$$TATIS\ Score =\ POS\ Score + (32 - BEI\ Score) + PRF\ Score$$

A low score on the TATIS suggests a more positive attitude towards inclusion. The TATIS score ranges from 22 to 83, with a midpoint score of 56. This midpoint indicates a neutral attitude towards inclusion. Any scores below the midpoint indicates a more positive attitude to inclusion and scores above the midpoint indicates a more negative attitude.

3.5   Data Analysis

The data that was collected online was downloaded from the online questionnaire survey tool and analysed using SPSS version 27 (IBM, 2020). The data was prepared to allow for descriptive and inferential statistic data analysis to be undertaken using SPSS. Descriptive statistical analysis was undertaken (e.g., means, standard deviation) to assess whether the data collected was of normal distribution which affected the inferential statistical tests undertaken on the data.

The research question – what the attitudes of mainstream primary teachers towards the inclusion of autistic learners are, was measured by calculating the overall mean score of the TATIS for the entire sample. Further data analysis such as independent t-tests and Analysis of Variance (ANOVA) were also undertaken to identify relationships between demographic groups and their TATIS score. A regression analysis was also undertaken to examine the effects that each demographic group had on the development of participant's attitudes.

Participants had the opportunity to leave an open-ended statement or comment at the end of the questionnaire about any issue that was raised during their completion of the questionnaire.

3.6   Ethics

This dissertation followed the ethical guidelines outlined by the British Educational Research Association in regards to educational research (BERA, 2018). Most notably, the themes of consent, transparency and privacy and data storage were seen to be very important within this study. Ethical approval was applied for in December 2020 to the University of Glasgow's School of Education Ethical Committee and granted in January 2021. This process involved applying to the Ethical Committee and submitting the online questionnaire and a Plain Language Statement for the participants. This process allowed reflection to be taken on how data will be collected, how this will be ethically sound and the justification of the research.

All data in the studies was collected via an online questionnaire using the JISC Online Surveys tool through license from the University of Glasgow (JISC, 2021). This meant that data

collection and storage was compliant to the General Data Protection Regulations (GDPR) and was secure.

Once the data collection had finished in April 2021, the data was downloaded, password protected and secured on the researcher's laptop. The data was completely anonymous and any identifiers to participants were removed. The data was then analysed using SPSS Statistic version 27 software and then deleted from the researcher's laptop after the data analysis was completed.

All participants were made aware of the Plain Language Statement, and this was also accessible to them at the beginning of the online questionnaire. This statement highlighted to the participants what the purpose of the research was, what data will be collected, how the data will be stored and processed and how they could withdraw from the study. Participants were also made aware that they could receive a copy of this dissertation or summary of research at the end of the project.

Consent was gained from participants by the means of returning the questionnaire; participants actively selected that they were willing to participate in the research by completing the questionnaire and this was deemed acceptable by the School of Education's Ethics Committee.

As the questionnaire was conducted online, the researcher was not present during the data collection and therefore, the researcher made no or minimal impact on the data that was collected from the participants.

3.7 Summary

This chapter has outlined the methodology and data analysis that was undertaken throughout this project as well as identifying the ethical considerations of collecting participants data. The chapter has highlighted the research design, the questionnaire used within the study, how the participants were recruited and how the data collection was undertaken and analysed. The research question of this study is to explore the attitudes that mainstream teachers have towards the inclusion of autistic learners in the mainstream primary classroom. This question

will be asked by analysing the mean inclusion score from the TATIS questionnaire instrument and further analysis will identify whether there are any links between attitudes and the participants' demographics. This will be explored through the use of descriptive and inferential statistics to answer the research question. The next chapter will present the results from the study.

Chapter 4   Results

This chapter will present the results from the questionnaire and the analysis that was undertaken to answer the research questions. This chapter is organised into two parts; the first section will use the data collected from the Teacher Attitudes Towards Inclusion Scale (TATIS) (Cullen *et al.* 2010) section of the online questionnaire to examine the attitudes that primary school teachers have towards the inclusion of autistic learners. The second section will present the analysis of demographic data in relation to the TATIS score to determine whether demographic factors such as gender, age, years of experience, job role and additional training has an impact on participants attitudes.

The TATIS consisted of 14 questions which participants had to answer on a 7 point Likert scale based on whether they very strongly agreed to very strongly disagreed to the questions. Overall, 413 responses were collected via the online questionnaire. Nineteen respondents had not completed the TATIS questionnaire fully so were discounted from analysis as their TATIS score could not be calculated. The overall sample size for analysis was 394 participants.

The score was calculated from the responses and used to determine whether a participant had a pro-inclusive attitude or not. The scale allows for a score of 22 to 83 with a midpoint of 56. Any score below 56 meant that the participants held a more inclusive attitude than those who scored above 56. Lower scores on the TATIS meant a more inclusive attitude than higher scores.

The first research question: "*What are the attitudes of mainstream primary school teachers in Scottish schools regarding the inclusion of autistic learners in the mainstream classroom?*" was analysed using descriptive analysis. These tests would help to determine the attitudes held by mainstream teachers using the Teacher Attitudes towards Inclusion Scale (TATIS).

The second research question was to determine whether any demographic factors impacted on participant's views of inclusion. This was calculated using independent sample t-tests and Analysis of Variance (ANOVA) to examine the relationships between participants

demographics and their attitude towards inclusion. A regression analysis was also undertaken to examine the impact of these demographic groups on a participant's attitude score.

Participants were asked to identify the Scottish local authority that they work for, and all local authorities have been represented within this study except for Orkney Island Council. This shows a wide geographical range of participants across Scotland.

4.1 Description of Teachers' Attitudes towards Inclusion

The TATIS score was used to answer the first research question; the TATIS consists of 14 questions measured on a 7-point Likert scale. The Likert scale was numerically coded as followed; 1 = very strongly agree, 2 = strongly agree, 3 = agree, 4 = neither agree nor disagree, 5 = disagree, 6 = strongly disagree and 7 = very strongly disagree. Questions 7 to 10 were negatively scored which meant that higher scores on these questions indicated a more inclusive attitude towards those statements. Therefore, these scores were calculated and subtracted from 32.

The TATIS score was calculated as outlined by Cullen *et al.* (2010) and the results are shown in Figure 4.1. A normality curve has been added to the histograph to highlight the normal distribution of the results. Lower TATIS scores indicate a more inclusive attitude whereas higher scores indicate a less inclusive attitude as participants who held a more inclusive attitude would strongly agree or very strongly agree to the statements giving them a lower score.
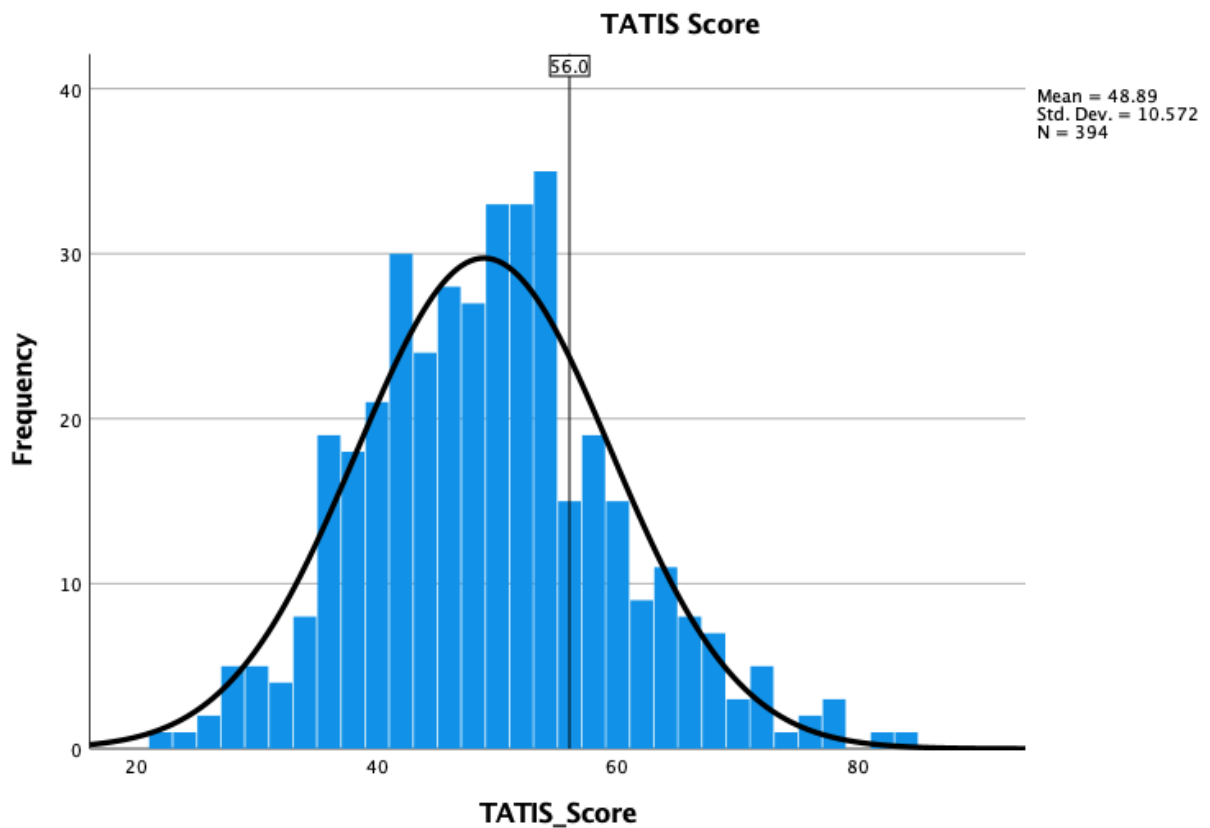
Figure 4.1 TATIS Score (with normality curve). The midpoint (56) has been added to the graph to highlight the separation of positive and negative attitudes.

Figure 4.1 highlights the distribution of the TATIS score amongst the participants, with a range between 22 and 83. From the data, the mean TATIS score, overall, was 48.9 with a standard deviation of 10.6.

The midpoint of the TATIS score, a score of 56, would indicate a neutral attitude which is neither positive nor negative towards inclusion. Any score below the midpoint would indicate a more positive attitude and scores above would indicate a negative attitude. As the mean TATIS score for this study is below this midpoint, it suggests the participants held a more positive attitude than negative. Table 4.1 displays the breakdown of the positive and negative attitude groups.

Table 4.1 Attitude Groups

	N	%
Positive Attitude	309	78
Negative Attitude	85	22

Further examination of participants agreement or disagreement towards the inclusion of autistic learners in the classroom was undertaken. The overall responses for each question were collated and are shown in Table 4.2.

The *agree very strongly, strongly agree and agree* responses have been combined to indicate agreement towards the statements in the TATIS and the *disagree very strongly, strongly disagree and disagree* responses are combined to indicate disagreement.

Table 4.2 Breakdown of responses by question number. Note: AVS = Agree Very Strongly, SA = Strongly Agree, A = Agree, NAD = Neither Agree nor Disagree, D = Disagree, SD = Strongly Disagree, DVS = Disagree Very Strongly. Cells have been highlighted to show the most common responses.

	Agree			Neutral	Disagree		
TATIS Question	**AVS %**	**SA %**	**A %**	**NAD %**	**D %**	**SD %**	**DVS %**
1	6.9	11.4	27.2	10.9	30.7	7.6	5.3
2	2.8	5.3	23.4	12.2	39.3	10.7	6.3
3	0.8	1.3	5.8	4.3	38.3	17.5	32.0
4	4.3	9.9	35.5	11.7	25.1	8.1	5.3
5	1.5	2.3	12.4	37.6	28.7	8.1	9.4
6	1.5	4.6	15.0	32.2	29.4	7.9	9.4
7	1.8	3.0	6.9	12.9	37.6	15.2	22.6
8	0.5	1.0	6.1	9.1	36.3	18.8	28.2
9	1.0	3.0	14.7	10.7	34.0	17.0	19.5
10	2.3	6.9	19.8	18.3	27.4	14.2	11.2
11	22.3	23.4	34.5	13.5	3.0	2.3	1.0
12	21.6	23.4	30.2	16.8	5.3	1.8	1.0
13	22.1	21.6	35.5	11.9	6.3	1.3	1.3
14	29.9	25.4	32.7	7.4	3.0	0.3	1.3

Questions 1 and 2 asked participants about how they felt about autistic learners being educated within the mainstream classroom and whether they should be removed in order to meet their educational needs. Both questions have a slight skew towards disagreement, with 43.6% of participants disagreeing that autistic students should be fully educated within the mainstream classroom (Question 1) and 39.3% of participants disagreeing that autistic learners seldomly need to be removed from the mainstream classroom in order to meet their

educational needs. This indicates that participants feel that often removing an autistic learner might be appropriate to help meet their educational needs. This links to the results seen in Question 3, which focused on how participants felt about eliminating separate educational settings for autistic learners - 87.8% of participants disagreed with this statement; with 32% disagreeing very strongly to the statement. This highlights that the participants feel that there is a need for separated provision at some points to help autistic learners.

Question numbers 4 has a skew towards the agreement side of the scale. When participants were asked about whether classrooms could be modified to meet the needs of autistic learners 49.7% of participants felt that classrooms could be modified, whereas 11.7% held a neutral opinion and 38.5% disagreed with this statement.

Questions 5 and 6 have a slight skew towards disagreement. Questions 5 and 6 were interested in the participants attitudes towards inclusion as a model for educating autistic learners in the classroom with 46.2% of respondents indicating they felt that autistic learners could not be effectively educated within the mainstream environment compared to separated classrooms/units of provisions (Question 5); whereas 37.6% of respondents held a neutral attitude towards this question. In addition, 46.7% of participants felt that inclusion was not the most efficient model for educating autistic learners due to issues with transitioning between different settings within a school (Question 6).

It should be noted that Questions 7, 8, 9 and 10 have skewed results towards the disagreement responses but these responses were negatively scored so indicate a positive attitude towards the statements. Question 7, which 75.4% of respondents disagreed with, asked participants their opinion on whether autistic learners should be taught in mainstream because they may require more attention from the teacher. This means that participants felt that this was not an issue when it comes to the inclusion of autistic learners in the mainstream classroom. When asked whether autistic learners lack the academic skills necessary for success, 83.3% of respondents disagreed (Question 8) and 70.5% of respondents disagreed that they lack the social skills needed for success (Question 9). In response to Question 10, 52.8% of respondents disagreed that mainstream teachers do not succeed with autistic learners in their classroom.

Questions 11, 12, 13 and 14 all have skewed results towards the agree very strongly to agree responses. These questions asked participants about the potential for team teaching and the role of specialist teachers for autistic learners. Question 11 has a large positive response (80.2% of respondents held a positive attitude) towards the idea of team teaching as a model for meeting the needs of autistic learners within the mainstream classroom. In addition, 75.2% of respondents agreed that all students would benefit from team teaching where a mainstream teacher is paired with an additional support needs teacher within the same classroom (Question 12). In response to Question 13, 79.2% of participants felt that responsibility of teaching autistic learners should be shared between mainstream teachers and additional support need teachers (Question 13). The idea of a consultant teacher model, whereby there are regular meetings between mainstream teachers and additional support teachers to help share ideas, pedagogical methods, and materials, had a positive response from the participants with 88% of respondents stating that this model would be welcomed (Question 14).

4.2   Relationship between Teacher Demographic Factors and Inclusion Attitudes

The second aim of this study was to examine whether there were any links between teachers' demographics which might have an impact on their attitudes towards the inclusion of autistic learners in the classroom; mainly their gender, age, job role, years of teaching and whether they have undertaken formal training. To answer this research question statistical tests were undertaken to assist with the analysis. Analysis of Variance (ANOVA) and independent t-tests were conducted along with a regression analysis to examine the effects that each demographic factor had on the attitudes of participants.

4.2.1   TATIS Score and Gender

A one-way ANOVA test was used to determine whether there were any significant differences between the gender of the participants and their TATIS score. There was a larger percentage of female respondents (93%) compared to males (6%) and those who preferred not to disclose their gender (1%) in this study. Female participants held a higher mean score ($\bar{x}$ = 49.22) compared to Male ($\bar{x}$ = 46.52) and prefer not to say ($\bar{x}$ = 40.25). A lower mean score in the TATIS means a more inclusive attitude towards the inclusion of autistic learners within the

demographic group. Higher mean scores shows that the participants within the group held a more negative attitude towards inclusion.

Table 4.3 Descriptive Statistics: TATIS score and Gender

	N	Mean	Standard Deviation
Male	25	46.52	7.73
Female	364	49.22	10.62
Prefer not to Say	4	40.25	10.75

The results from the Analysis of Variance (ANOVA) found that there was not a significant difference between gender and their TATIS score (*F = 2.179*, p = .115). The *p* value is above the significance level of 0.05 therefore no statistical significance exists between participants' gender and their TATIS score.

4.2.2   TATIS Score and Age

Participants were asked to identify which age group they fit into ranging from 18 to 60+ years of age. The largest group was 30-40 years old (n = 124). By analysing the means from the groups, the 18–25 years had the lowest mean ($\bar{x}$ = 45.9, SD = 8.60) which indicates a more inclusive attitude. The 60+ group had the highest mean ($\bar{x}$ = 55.8, SD = 14.13). The ANOVA test was also undertaken to determine whether age had a significant effect on the participants TATIS scores.

Table 4.4 Descriptive Statistics: TATIS score and Age

	N	Mean	Standard Deviation
18 – 25	49	45.90	8.60
25 – 30	68	47.85	10.81
30 – 40	124	47.91	10.7
40 – 50	94	49.64	9.33
50 – 60	49	52.96	11.73
60+	10	55.80	14.13

The results from the ANOVA test indicates that there is a significant effect on participants TATIS scores and their age ($F_{(5, 388)}$ = 3.648, p = 0.003). Further analysis, using the Tukey honestly significant difference (HSD) post hoc test was undertaken to assess where the significant differences were occurring within the data. The Tukey HSD test found there was a significant difference in TATIS score between the 18 – 25 years old group and the 50 – 60

years old group (p = 0.11) and the 30 – 40 years old group and the 50 – 60 years old group (p = 0.048). There were no other statistically significant differences between the other age groups.

4.2.3   TATIS Score and Job Role

The participants were asked to identify their current role within the school, ranging from Class Teacher, Principal Teacher to Senior Leadership roles (Deputy Head Teacher and Head Teacher). Participants also had the opportunity to input their own job role if no other options suited. Ten respondents selected the 'Other' job role, and they were a Specialist Support Teacher, Non-Class Contact Teacher (n = 3), Nurture Teacher (n = 2), Transition Teacher, Chartered Teacher, Literacy Challenge Leader of Learning, Additional Support Needs and CCR Teacher. These responses were given by the participants and the researcher is not aware of the CCR term given by one of the participants.

Table 4.5 Descriptive Statistics: TATIS score and Job Role

	N	Mean	Standard Deviation
Classroom Teacher	316	48.87	10.5
Principal Teacher	32	48.5	10.48
Deputy Head Teacher	9	42.56	8
Head Teacher	4	45	4.83
Other	10	50.50	14.92

The results from the ANOVA test indicates that there was no statistically significant effect on participants TATIS scores and their job role within the school ($F_{(4, 366)} = 0.983$, $p = 0.417$).

4.2.4   TATIS Score and Years of Teaching Experience

Participants were asked about their teaching experience, in particular how long they have been teaching for. The largest group had been teaching for less than 5 Years (n = 93); the second largest group had been teaching for 20 years or more (n = 78) and this group had the largest mean in their TATIS score ($\bar{x}$ = 51.41). A higher mean score within the TATIS indicates a less inclusive attitude when compared to a lower mean score.

Table 4.6 Descriptive Statistics: TATIS score and Years of Experience

	N	Mean	Standard Deviation
NQT Year	44	42.98	7.34
Less than 5 Years	93	48.13	10.21
5 – 10 Years	74	49.62	10.33
10 – 15 Years	65	49.43	12.59
15 – 20 Years	40	50.03	9.64
20+ Years	78	51.41	10.37

The results from the ANOVA test indicates that there was a significant effect on participants TATIS scores and their years of teaching experience ($F_{(5, 388)} = 4.087$, $p = 0.001$). Further exploration of the data, using the Tukey HSD test, found that there were statistically significant differences between the Newly Qualified Teacher (NQT) group and those in the 5 – 10 years teaching group ($p = 0.11$), the 10 – 15 years group ($p = 0.19$), the 15 – 20 years group ($p = 0.24$) and the 20+ year group ($p = 0.001$).

4.2.5   TATIS Score and Formal Training

Participants were also asked whether they had undertaken any formal training in autism and how to support ASD learners in the classroom. The training highlighted to participants could have been through local authority based training, University based training or personal development opportunities. Of the participants in this study, 281 had taken part in some form of formal training.

The results from the independent t-test found that those who had undertaken formal training ($\bar{x} = 48.58$, SD = 10.62) compared to those who had not undertaken formal training ($\bar{x} = 49.65$, SD = 10.46) did not have a statistically significant difference in their TATIS scores, *t (392) = 0.91, p = 0.36*.

4.3   Regression Analysis

A multiple regression analysis was undertaken to predict the effects that the different demographics had on participant's TATIS scores. The demographic information of gender, age, years of teaching experience, whether they had received additional training in ASN/ASD and their current role within their school was used against their TATIS score. The results from

the regression included the adjusted R^2 (0.117), ANOVA (F = 3.87, p < 0.001) and the standardised β coefficient of each variable (Figure 4.2).

The results show that age (β = .354, p < 0.001) and years of experience (β = .197, p < 0.001), exerted the greatest influence on participants TATIS scores. Current role in school (β = .115, p = .007) also exerted a positive influence on the TATIS scores of participants. Additional training exerted a small and statistically insignificant influence (β = .096, p = 0.56) and gender exerted a negative and statistically insignificant influence on TATIS scores (β = -0.86, p = .196).
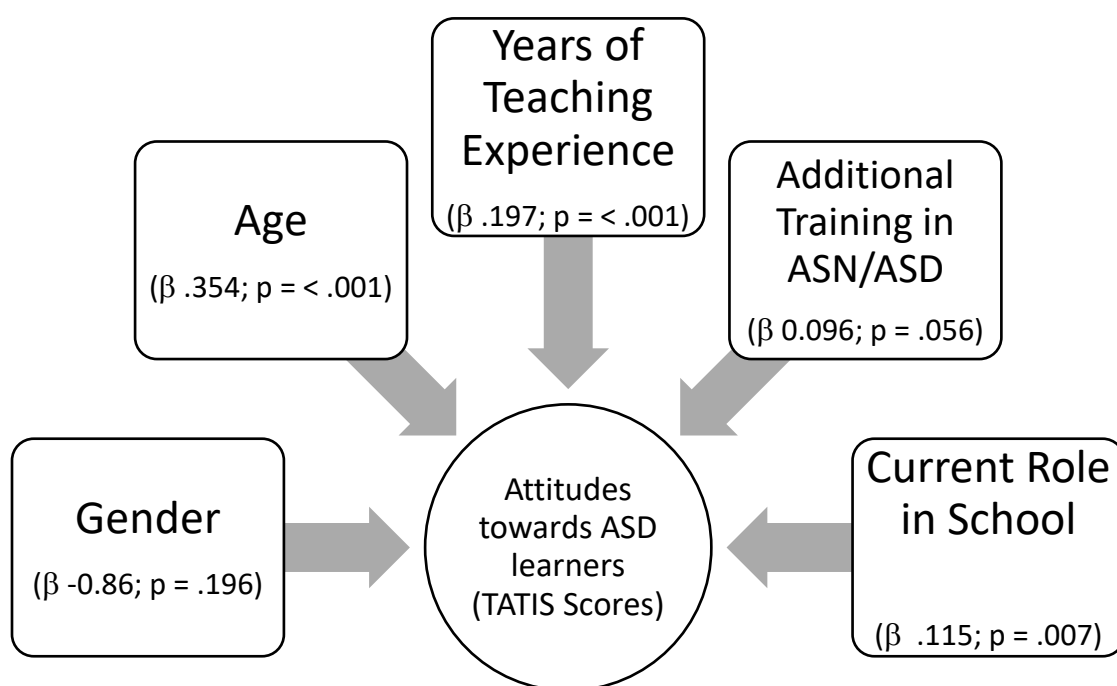
Figure 4.2 Regression Analysis Results

From the regression analysis, it was found that age, current role in school and years of experience exerted some statistically significant influence over participant's TATIS scores with age having the largest effect. Additional training in additional support needs or autism had a small effect although this was not statistically significant. Gender exerted a negative influence on the TATIS scores; however, this was not statistically significant.

4.4   Confidence Question

An additional question was added to the questionnaire which asked participants how confident they felt with having an autistic learner in their classroom. This question was ranked on the same Likert Scale as the TATIS questions; 1 = Agree Very Strongly to 7 = Disagree Very Strongly.

Table 4.7 Descriptive Statistics: Confidence Question

	N	%
Agree Very Strongly	65	16.5
Strongly Agree	100	25.4
Agree	139	35.3
Neither Agree nor Disagree	55	14.0
Disagree	23	5.8
Strongly Disagree	7	1.8
Disagree Very Strongly	5	1.3

The results show that 77.2% (n = 304) of respondents agreed, strongly agreed, or agreed very strongly to feeling confident with teaching an autistic learner in their classroom. A further 14% (n = 55) neither agreed nor disagreed to having an autistic learner in their classroom and 8.9% (n = 35) disagreed, strongly disagreed, or disagreed very strongly.

4.5   Summary of Findings

Descriptive and inferential statistical analysis was undertaken to analyse the data collected from the participants using SPSS. The results have been displayed above and will be discussed in the following chapter.

From the findings of the analysis, it was found that the majority of the participants held a positive attitude towards the inclusion of autistic learners in the mainstream classroom. From further analysis of the questions, it was found the participants felt that the removal of autistic learners from the mainstream classroom might be appropriate to help support individual learners. Nearly half (49.7%) of participants felt that the classroom could be modified to help support autistic learners. The concepts of team teaching as a model for helping autistic learners and their teachers was shown to be very positive and 88% of respondents felt that this model would be welcomed.

The link between demographic groups (gender, age, job role, years of teaching experience and whether they had undertaken formal training) and the participants TATIS score was explored, and inferential statistic tests were undertaken. From these tests it was found that participant's age and years of experience had a statistically significant effect on participants overall attitudes. The regression analysis indicated that age and years of experience exerted the greatest influence on participant's attitude scores with age being the greatest. Both of these results were statistically significant. The statistical analysis found that participant's current role within the school (e.g., Classroom Teacher, Principal Teacher, Deputy Head Teacher, Head Teacher or other) did not have a statistically significant effect on their attitudes according to the ANOVA but job role did exert some influence over their attitude scores based on the regression analysis. Additional training in additional support needs or autism did exert some influence over attitudes but this was not statistically significant.

Chapter 5 Discussion

This chapter discusses the results that have been presented in the previous chapter. The purpose of this study was to examine the attitude of primary school teachers in Scottish schools towards the inclusion of autistic learners and investigate the relationship between attitudes and teacher-related factors. This chapter discusses the results related to the research question and comments on identified studies within the literature review, highlighting how this data relates to other studies.

5.1 Discussion of Results

5.1.1 Teachers' Attitudes towards inclusion of Autistic Learners

The first research question of this study was to examine the attitudes of mainstream primary school teachers in Scottish schools regarding the inclusion of autistic learners in the classroom. The results from the questionnaire and analysis emphasise that participants held a positive attitude towards inclusion – as highlighted in their overall mean TATIS score being lower than the midpoint of the scale. The majority (78% of participants) held a positive attitude towards inclusion whereas 22% of participants held a negative attitude. The results in this study conclude similar positive attitudes to other studies undertaken across a range of different educational systems. Studies undertaken by Garrad *et al.* (2019) in Australia, a review by Roberts & Simpson (2016) and studies by Segall & Campbell (2012) and Park *et al.* (2010) in the USA, concluded positive attitudes towards inclusion of autistic learners amongst teachers. These results are very encouraging especially within the Scottish education system context as teachers are expected to demonstrate and practice inclusive attitudes towards all learners as embedded within Standards for Full Registration (GTCS, 2021). The results are also encouraging as the number of learners with additional support needs increases with the introduction of the presumption of mainstreaming.

By further examining data from this study, it highlights participants felt that there is often a need to remove autistic learners from the mainstream classroom to help meet their educational needs and that separate provisions might be beneficial for some learners. There are tensions here between the concept of inclusion and including everyone within the

mainstream classroom and how teachers feel about this. From the results of Question 1 in the TATIS questionnaire, 43.6% of respondents felt that ASD learners should not be fully educated in the classroom with their neurotypical peers; with 10.9% neither agreeing nor disagreeing to this statement. The participants felt that in some cases there may be a need for removing autistic learners from the classroom. Exploring the data further; 56.3% of participants felt that it was necessary to remove autistic learners from the classroom in order to meet their educational needs. Within Scotland, the focus on flexible spaces and provisions within Scottish schools is one that could be beneficial for autistic learners. The Education (Scotland) Act (1980) introduced the concept that education has to be flexible in order to fit the individual needs of all pupils in schools. The use of alternative learning spaces within schools, or flexible provisions, e.g., being educated within the mainstream classroom whilst also getting targeted support out with the mainstream classroom either through a base within the school, a specialist provision or with specialist staffing, helps to promote this flexibility to help meet the individual learners needs. Policies such as Getting It Right For Every Child (GIRFEC) allow for this flexible approach in order to suit the individual learner.

A review by Her Majesty's Inspectorate of Education (HMIe) (2006) found educational authorities in Scotland should have a varied range of different educational provision for autistic learners so that the most suitable and appropriate provision can be used by the individual learners. The main concern for participants in the present study was ensuring that autistic learners' needs were met more appropriately out with the mainstream classroom as opposed to the individual learners not having the appropriate skills to access mainstream education. The data highlights that respondents felt that autistic learners had the social skills (70.5%) and academic skills (83.3%) for mainstream education. There is a lack of data, however, in the literature about how teachers feel about the academic and social skills that autistic learners have in order to succeed in the mainstream classroom. The diagnosis of autism means that the individual has varied social skills which could impact on their social interactions within the mainstream classroom such as the inability to join in play with other children, lack of awareness of classroom norms or being easily overwhelmed by social interactions (Autism Toolkit Working Group, 2020). These results are very encouraging and highlight the pro-inclusive attitude that the participants held towards the inclusion of autistic learners.

5.1.2 Relationships between Attitudes and Demographic Data

The results from this study found that the participants' age and years of experience influenced their attitudes towards inclusion. One of the key findings from this study was those participants with the least teaching experience, those who were newly qualified teachers (NQTs) held a more inclusive attitude towards autistic learners than those who had been teaching for longer. Other studies conducted also found that NQT's and pre-service teachers often held pro-inclusive attitudes (Ediyanto *et al.,* 2020; Forlin, 2012; Park *et al.,* 2010).

Another finding from this study was that the age of participants had an impact on their attitudes towards inclusion of autistic learners. Participants in the younger age groups (18 – 25 years old, 25 – 30 years old and 30 – 40 years old) all had low attitude scores which would indicate a more inclusive attitude towards inclusion. Although all age groups held a mean score of below the midpoint on the TATIS which highlights that all groups had a pro-inclusive attitude. The youngest group (18 – 25 years old) were potentially more inclusive which could be related to having less years of experience teaching and therefore having more understanding of inclusive pedagogy from their Initial Teacher Education than those in older age groups. The results from this study are consistent with other studies that were identified in the literature review. Saloviita (2020) found that younger participants held more inclusive attitudes and Rakap & Kaczmarek (2010) concluded that their youngest and oldest participants held the most inclusive attitudes within their study. Forlin *et al.* (2009) studied the attitudes of pre-service teachers in Australia, Canada, Hong Kong, and Singapore and found that younger teachers were more likely to change their attitudes towards learners with special needs whereas other studies such as Garrad *et al.* (2019) and Monsen *et al.* (2014a) found that age does not have an effect on attitudes.

One of the Autism in Schools Short Life Working Group (Scottish Government, 2020a) main themes was to ensure content on autism was common across Initial Teacher Education (ITE) programmes in Scotland. They concluded that the focus within ITE programmes was based on the inclusive pedagogy approach and how to support all learners rather than focusing on specific conditions, such as autism spectrum disorder (ASD). Further action needs to be undertaken across the ITE system, alongside the General Teaching Council of Scotland, as to

how to embed specific autism input within the ITE programmes. However, the research undertaken in this project has shown that those participants within the early years of their career tend to have a more inclusive attitude than those who have been teaching for longer. The focus of inclusive pedagogy in ITE programmes seems to be influencing the attitudes of participants within this study. More focus needs to be placed on the professional development opportunities available to teachers once they are in post in order to develop positive attitudes towards the inclusion of autistic learners. A report by the Educational Institute for Scotland highlighted that teachers must feel confident that they are "*prepared and capable*" (Educational Institute of Scotland, 2019, p. 10) to teach all children and young people within their classroom. However, there are a range of studies that concluded that mainstream teachers do not feel prepared to support ASD learners in the classroom (Able *et al.,* 2015; Bond *et al.,* 2017; Emam & Farrell, 2009; Higginson & Chatfield, 2012; Rodríguez *et al.,* 2012; Soto-Chodiman *et al.,* 2012). From this study however, 77.2% of respondents felt somewhat confident with having an autistic child within their classroom.

Within Scotland, the National Autism Implementation Team (NAIT) (2020) suggested teachers in Scotland need forms of high-quality training in how to support autistic learners in the classroom and have created a professional development framework to support this. The "*Edinburgh model*" is a model of professional development created in collaboration with City of Edinburgh Council and NAIT to "*provide a practical and multi-disciplinary autism training*" model (pg. 1). This is a very encouraging starting point in developing opportunities for professional development for teachers. Teachers also have access to the Autism Toolbox (Autism Toolkit Working Group, 2020) which is a resource bank for supporting autistic learners across the educational settings in Scotland. This resource needs to be made accessible to all teachers as well as ensuring the information in the toolbox is the most up to date (Scottish Government, 2020a). Other resources such as online introductory modules into autism and inclusive practice and online professional learning opportunities are being developed by Education Scotland to help support teacher's professional development.

The results from this study found that other demographic groupings such as gender did not have an effect on participants' attitudes towards inclusion. Regarding the effects of gender towards attitudes, the academic literature is mixed on the results of the impact that gender

plays. Studies such as Avramidis & Kalyva (2007); Boyle *et al.* (2013); Ediyanto *et al.* (2020); Galović *et al.* (2014); Leonard & Smyth (2020) and Monsen *et al.* (2014a) found that gender does not influence attitudes towards inclusion. Saloviita (2020) however found that female teachers held a more inclusive attitude than males in their study and Rakap & Kaczmarek (2010) found that male teachers are more inclusive than female teachers. The study by Boyle *et al.* (2013) which is the only study within Scotland, found that gender did have an influence on inclusive attitudes. The role of gender has some mixed results, and this should be explored further in other studies.

5.1.3   Collaborative Teaching

One of the key findings from this study was participants felt that opportunities such as team teaching and implementing a consultant teacher model could help support their willingness to include autistic learners in the classroom. Participants in this study indicated that they would be willing to engage in team teaching with more experienced members of teaching staff to help support the inclusion of autistic learners in the classroom.

The concept of Consultant Teacher model was introduced to participants in the TATIS questionnaire. The concept was defined as the opportunity for regular collaborative meetings between specialised teachers and mainstream teachers to help address the needs of autistic learners (Cullen *et al.,* 2010). This was highly welcomed by participants; with 88% of respondents agreeing they would welcome this opportunity. The concept of consultant teacher and team teaching is one that participants felt could help promote inclusion more widely within the classroom as 75.2% of respondents felt that all students would benefit from team teaching opportunities in the classroom. These results are very encouraging and align with the findings from Able *et al.* (2015) which found that teachers felt that collaborative approaches between general education teachers and special education teachers would help to support their own professional development of how to support autistic learners in the classroom.

5.2   Attitude Questionnaires

Ewing *et al.* (2018) argues it is important to be able to measure attitudes towards the inclusion of all children so that barriers to the implementation of successful inclusion can be identified and addressed. The use of questionnaires to measure attitudes has been identified as being an effective method for capturing this type of data. This study used the Teachers Attitude Towards Inclusion Scale (TATIS) developed by Cullen *et al.* (2010). The original scale was designed to assess the attitudes of teachers towards learners who had mild to moderate disabilities. This specific scale was used in this study, rather than one designed for autistic learners, as it was easy to recreate and due to the number of questions within the scale it did not require participants to spend lots of time answering questions regarding their own attitudes. The calculation of the TATIS score was also easy to calculate for the researcher and The TATIS had specific questions regarding collaborative teaching approaches.

The data that was collected from this study allowed for the research questions to be answered using quantitative data. The TATIS score allowed for an overall inclusion score to be calculated for each participant. The TATIS scale was adapted for this study to update the terminology, focusing on autistic learners, as well as including terminology used within the Scottish educational system. There are some scales that have been created to gather the attitudes of teachers in regards to autistic learners, such as the Autism Attitude Scale for Teachers (AAST) used by Garrad *et al.* (2019) and Park *et al.* (2010). The scale focused more on the life skills of autistic learners and the impact this may have on their inclusion in the mainstream classroom, rather than the academic and social skills that the individual learner may have.

Chapter 6 Conclusion

This chapter will make recommendations for future research and for current practice, as well as discussing the limitations of the study and will provide an overall conclusion for this dissertation.

The purpose of this study was to examine the attitudes of mainstream primary school teachers in Scotland regarding the inclusion of autistic learners and to examine whether demographic factors of the teachers had an impact on their attitudes. The study found that the participants held a pro-inclusive view with 78% of respondents holding a positive attitude towards inclusion based on the Teacher Attitudes Towards Inclusion Scale (TATIS) score. The study also found that newly qualified teachers were one of the most inclusive group of teachers when examining years of experience and the impact that has on inclusion. The study found that age and years of experience had a significant impact on participants attitude scores whilst other demographic groups, such as gender, held no impact and the literature is often mixed regarding the impact of gender on attitude development. The study discovered that participants felt that there is often a need to remove autistic learners from the classroom to ensure that they are receiving the appropriate educational support. The use of collaborative teaching models, such as the Consultant Teacher model, was well received by participants with 88% of respondents welcoming the use of this to help aid the inclusion of autistic learners.

6.1   Recommendations for Current Practice

Research has shown that teacher's attitudes towards inclusion has a large impact on the effectiveness of inclusion in educational systems (Ewing *et al.,* 2018). Successful implementation of inclusive education, therefore, depends on the attitudes and knowledge of teachers that are in practice within the classroom. Due to this, it is therefore important that teachers feel confident to support all learners within the classroom. However, many studies have concluded that teachers do not feel prepared with dealing with the increasing diversity of learners needs within the mainstream classroom (Brennan *et al.,* 2019; Emam & Farrell, 2009; Leonard & Smyth, 2020; Norwich, 2010; Rodríguez *et al.,* 2012; Soto-Chodiman *et al.,* 2012). There are some groups of learners, and some autistic learners, who require

additional support in order to help access the mainstream classroom. More professional development opportunities need to be developed in order to help support mainstream teachers with developing their understanding of autism spectrum disorder (ASD) and how to best support ASD learners within the classroom.

Within Scotland, there are resources, such as the Autism Toolbox or the National Autism Implementation Team (NAIT) resources, currently available to teachers but this needs to be further advertised to all teachers and time allocated to teachers to access this material.

The study also found that participants felt that collaborative teaching methods, such as the Consultant Teacher method, would be beneficial in developing understanding of autism and how best to support autistic learners in the classroom. The literature suggests that the use of collaborative and co-teaching methods can help to support inclusion and inclusive practices in schools and as such the effectiveness of these within the Scottish context should be explored. Opportunities for collaborative teaching should be used within current practice to help support the research on their effectiveness as well as developing teachers' knowledge of autism.

6.2   Limitations of this Study

The survey instrument used in this study, the Teacher Attitudes Towards Inclusion Scale (TATIS) was initially designed by Cullen *et al.* (2010) to address the lack of appropriate scales for measuring inclusive attitudes amongst teachers within the United States. The TATIS scale was created to address this and attempted to introduce more up to date terminology used within inclusive education. The TATIS was not initially designed specifically for gathering attitudes towards autistic learners, rather it used the terminology of mild and moderate disabilities. This study adapted the terminology and focus of the scale towards autistic learners and used the identity first language.

Another limitation of this study was the small sample size of Scottish primary school teachers and thus generalisations to the whole population is limited. Within Scotland, there are 25,651 primary school teachers as reported in the 2020 school census (Scottish Government, 2021b).

The sample size for this study was 394 teachers, which represents 1.5% of all teachers. It is difficult, therefore, to generalise the results from this study to the whole population of primary school teachers. A larger research project, with a larger sample size, would help to generalise the results.

6.3   Recommendations for Future Research

At the end of the online questionnaire, the participants were given the opportunity to leave any additional comments as an open-ended question. This allowed participants to submit any additional views that they had towards inclusion of autistic learners in the mainstream classroom. The response rate for this was exceptionally high with most participants leaving a detailed comment. Overall, 288 responses were given by participants but due to the time constraints of this dissertation project the comments could not be analysed. A future study could use this qualitative data to identify the themes and trends in the responses and further explore the attitudes of the participants. An initial reading of this data allowed me to identify as two key themes: the need for additional support and additional resources to aid inclusion within the classroom.

Further investigation should be undertaken to research the use of collaborative teaching approaches used in schools in Scotland. The research literature suggests that the use of these methods help to promote inclusive practices within the classroom (Pancsofar & Petroff, 2016) and should be utilised where appropriate. Future research should evaluate collaborative teaching methods and identify which model is the most beneficial to use within Scottish primary schools and whether any barriers exist to its implementation.

Resources, such as the Autism Toolbox (Autism Toolkit Working Group, 2020) and materials from Education Scotland exist to help support professional development of teachers. It would be beneficial to examine whether all teachers are aware of these resources and how helpful they are in developing professional understanding of the issues raised in them. This should be done in addition to investigating what support teachers would welcome in helping them develop their understanding of autism and how to support autistic learners.

6.4   Conclusion

In conclusion, understanding the attitudes of teachers towards the inclusion of autistic learners in the classroom is important in understanding how best to develop inclusion across the education system in Scotland. This study was interested in examining the attitudes that mainstream teachers had towards the inclusion of autistic learners into mainstream classrooms in Scottish primary schools. The study also examined whether teacher's demographic factors had an impact on their attitudes. This study found that 78% of respondents held a pro-inclusive attitude towards the inclusion of autistic learners in the mainstream classroom and 77% of respondents felt confident in teaching autistic learners. By examining the data further, it showed that teachers felt that there is a need to remove autistic learners from the classroom when it would be appropriate to offer additional support that cannot be achieved within the mainstream classroom.

Another key finding from this study was the participants' willingness to engage in collaborative teaching methods to help support inclusion of all pupils within the classroom as well as promoting professional development. Although this is not common practice within Scottish schools at present, the effectiveness of these approaches should be explored to determine whether they would be beneficial.

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