

**Does training matter? Exploring Teachers' Attitudes towards the Inclusion of Children  
with Autism Spectrum Disorder in Mainstream Education in Ireland.**

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### **Abstract**

Seventy-eight primary school teachers completed an online questionnaire comprised of demographic questions and a standardised measure of attitudes towards inclusion. It was found that the teachers who completed the questionnaire had predominantly negative or neutral attitudes towards the inclusion of children with Autism Spectrum Disorder (ASD) in mainstream education. Gender, number of years teaching experience, training in Special Educational Needs (SEN) and/or inclusion or type of training in SEN and inclusion did not influence attitudes. However, teachers who believed they had the adequate resources to facilitate inclusion had significantly more positive attitudes than teachers who did not believe they had the adequate resources to facilitate inclusion. Although future research is needed to further explore the impact of student profile on teacher attitudes towards the inclusion of students with ASD, thought needs to be given to the type and content of teacher training in SEN and inclusion.

## **Introduction**

The education of children with special educational needs (SEN) in Ireland has undergone considerable change in recent decades. In the past, children with SEN were segregated from their typically developing peers to be educated in special schools or special classrooms (McDonnell, 2003). The development of Inclusive education policies, including the Education for Persons with Special Educational Needs Act (2004), have been developed with the intention to transform the education of these children. Indeed, it has been reported that the focus has shifted from segregated education to inclusive education (Drudy & Kinsella, 2009) however the full impact and implications of such policies and their implementation has yet to be extensively researched. Inclusive education means providing every child with an equal opportunity to learn in a mainstream classroom irrespective of their SEN (Goodall, 2015). It involves adapting the classroom and school environment to meet the needs of the child so that they can be educated with their typically developing peers (Goodall, 2015). There are numerous benefits of inclusive education for children with SEN. Wiener and Tardif (2004) found that children with a learning disability who were educated in inclusive school settings fared better than children with a learning disability in special classrooms on various aspects of social and emotional functioning. The children in inclusive settings were less lonely, believed their school friends were better companions and that their behaviour was less problematic than children in special classrooms. Furthermore, teachers reported fewer behavioural problems in children in inclusive classrooms than those in special classrooms. More positive academic outcomes have also been identified for children with SEN who are educated in inclusive classrooms (O'Rourke, 2015).

## **Autism Spectrum Disorder (ASD) and SEN in Ireland**

In Ireland, children with a diagnosis of autism spectrum disorder (ASD) represent one category of SEN within the education system (National Council for Special Education

[NCSE], 2016). ASD is a neurodevelopmental disorder typically diagnosed in early childhood. Individuals with ASD have impaired social interaction and communication skills and display restrictive, repetitive patterns of behaviour, activities and interests (American Psychiatric Association, 2013). Individuals with ASD can also have emotional and behavioural difficulties and intellectual impairment (Totsika, Hastings, Emerson, Lancaster, & Berridge, 2011). These behavioural and psychological characteristics of ASD result in distinct ways of thinking and learning. As a spectrum disorder, the degree of difficulty or impairment experienced by individuals with ASD varies widely and this can impact on the classroom in many different ways depending on the severity to behaviours displayed. The prevalence rate of ASD in Irish children is increasing. Previous estimates suggested that 1% of Irish children had an ASD diagnosis (Sweeney, Staines, & Boilson, n.d.). More recently, the NCSE has suggested that the prevalence rate is 1.55%, that is, 14,000 children with ASD. Sixty three percent of these children are being educated in a mainstream classroom (NCSE, 2016). Furthermore, the number of children with ASD accessing resource teaching hours in mainstream education has increased. Previously, children with ASD represented 13% of children with a SEN who accessed resource teaching hours (NCSE, 2005) however more recent figures indicate that an increase to 22% in the past 10 years (NCSE, 2016). These trends indicate that increasing numbers of children with ASD are being educated in mainstream classrooms consistent with the move towards inclusive education in Ireland. Inclusive education can foster many positive academic, social and behavioural outcomes for children with ASD (Eldar, Talmor, & Wolf-Zukerman, 2010; Kurth & Mastergeorge, 2010). The increased numbers of children with ASD attending mainstream schools certainly impacts the training needs of teachers. It is not clear if existing training is appropriate or sufficient to facilitate inclusion and inclusive practices.

### **Teacher attitudes towards inclusion**

While the Irish Government have shown commitment to inclusive education for children with SEN through policy and legislation, it is the teachers in the classrooms who are at the forefront. They are the ones who determine whether inclusive education policies are successfully implemented or not (Drudy & Kinsella, 2009). One notable factor that can influence the successful implementation of these policies is teacher attitudes. It is evident from the literature, overall, that there is a relationship between attitudes and behaviour. General attitudes towards a group of people are good predictors of behavioural patterns towards that group. Similarly, attitudes towards a specific behaviour can influence that behaviour (Ajzen & Fishbein, 2005). Therefore, teachers' attitudes towards the inclusion of children with SEN can guide their behaviour towards these children and influence acceptance of these children in a mainstream classroom (Subban & Sharma, 2005). Negative attitudes can become an obstacle to inclusive education whereas positive attitudes can promote inclusion (Butler & Shevlin, 2001; Hastings & Oakford, 2003). Teachers' attitudes towards inclusion can differ based on the type of SEN in question. Hastings and Oakford (2003) explored student teachers attitudes towards the inclusion of children with an intellectual disability or emotional and behavioural difficulties. They found that student teachers had significantly more positive attitudes towards the inclusion of children with an intellectual disability than the inclusion of children with emotional and behavioural difficulties. Similarly, O'Toole and Burke (2013) found that Irish student teachers had less positive attitudes towards the inclusion of children with emotional and behavioural difficulties compared to children with other SEN. These findings are echoed in a meta-analysis of primary school teachers' attitudes towards inclusion which concluded that the nature of a child's SEN can affect a teacher's attitude towards inclusion (De Boer, Pijl, & Minnaert, 2011). Given therefore that that the broad nature of SEN means previous research may not be focussed enough to provide specific and useful information about teacher attitudes, the

current study focused on just one SEN, ASD, given the prevalence rate and increasing numbers of children with ASD in mainstream education in Ireland. Previous research has found that teachers have positive attitudes towards the inclusion of children with ASD in mainstream education. Segall and Campbell (2012) surveyed 196 education professionals about their attitudes towards inclusion of children with ASD. Education professionals included administrators, mainstream teachers, special education teachers and school psychologists who completed the Autism Inclusion Questionnaire to assess their attitudes. Ninety-two percent of the participants had positive attitudes towards the inclusion of children with ASD. Segall and Campbell's finding is echoed in a qualitative study where second level teachers were interviewed about their perceptions of inclusive education for children with ASD (McGillicuddy & O'Donnell, 2014). McGillicuddy and O'Donnell reported that participants spoke about mainstream education as the most appropriate education for children with ASD and positive attitudes towards inclusive education were evident. Roberts and Simpson's (2016) meta-analysis provided further support for positive attitudes among teachers and other education professionals towards the inclusion of children with ASD in mainstream education.

### **Factors influencing teacher attitudes**

From the literature reviewed, it is evident that teachers have positive attitudes towards the inclusion of children with ASD in mainstream education, however, there is a scarcity of research examining the factors that might influence attitudes of mainstream teachers.

Numerous studies have examined the factors influencing teachers' attitudes towards the inclusion of children with SEN more generally, with varying results (Avramidis & Norwich, 2002). These factors include gender, length of time teaching, training in SEN and inclusion and belief about resources to facilitate inclusion. In relation to gender, Vaz and colleagues (2015) surveyed primary school teachers in Australia about their attitudes towards the

inclusion of children with a disability in mainstream education. They found that male teachers had more negative attitudes than their female counterparts. In contrast, male pre-service teachers in Pakistan were found to have more positive attitudes towards inclusion than female pre-service teachers (Sharma, Shaukat, & Furlonger, 2015). While research carried out in India found no difference between male and female teachers' attitudes towards inclusion of children with a disability in mainstream education (Parasuram, 2006). The second factor that may contribute to the development of teachers' attitudes towards inclusive education is the number of years teaching experience they have. Some research has shown that recently qualified teachers have more positive attitudes towards inclusion than those who have been teaching for many years, while other research challenges this. Glaubman IV and Lifshitz (2001) found that teachers who had been teaching for 1-10 years had significantly more positive attitudes towards inclusion than teachers who had been teaching for 11 years or more. In contrast, Ross-Hill (2009) found that number of years teaching experience had no significant impact on primary and second level teachers' attitudes towards inclusion in the US. Education and training in SEN and inclusion is another factor that can contribute to the development of teachers' attitudes towards inclusion. Sharma and Nuttal (2016) examined pre-service teachers' attitudes towards inclusion before and after they took part in a university course about inclusive education. During the course, the teachers learned about the concept of inclusion, legislation and teaching strategies to educate children with SEN. Teachers had significantly more positive attitudes towards inclusion after participation in the course. Similarly, pre-service teachers who completed a module in SEN and inclusion had more positive attitudes towards inclusion than pre-service teachers who did not complete the module as part of their initial teacher training (Varcoe & Boyle, 2014). Avramidis and Kalyva (2007) found that primary school teachers who engaged in professional development and training in SEN and inclusion over the course of their career had significantly more

positive attitudes towards inclusion than teachers who received little or no training.

Depending on its nature, SEN training can be costly and time consuming and the findings that overall, training in SEN and inclusion appears to promote positive attitudes towards inclusion, to an extent validates this expenditure as well as the content of the training. It seems timely to explore whether or not the effects of training in SEN extend to attitudes towards the inclusion of children with ASD specifically.

The other factor that may influence teachers' attitudes towards inclusion of children with SEN is belief about resources to facilitate inclusion. It is evident from the literature that teachers are concerned about a lack of resources and support networks to enable them to successfully implement inclusive education policies in the classroom. Chiner and Cardona (2013) surveyed teachers in Spain about their attitudes towards inclusion and their belief about resources to facilitate inclusive practices. They found no significant difference in teachers' attitudes towards inclusion based on their belief about classroom materials, however, they found a significant difference in teachers attitudes based on their belief about SNA support. Teachers who believed they had the adequate support from an SNA had significantly more positive attitudes. Furthermore, 80% of the teachers surveyed believed they did not have enough material resources to successfully implement inclusion and felt they had insufficient personal supports to do so. The teachers believed that access to special education teachers and psychologists was necessary to support inclusive education. Concern about a lack of adequate resources and support has also been found in Irish teachers (O'Toole & Burke, 2013). It is essential to identify the kinds of resources and supports teachers need to facilitate inclusion so that they can be provided for them in the classroom, thus, creating more positive attitudes towards inclusion and enabling more successful implementation of inclusive educational policy (Chiner & Cardona, 2013).



It can be concluded from the literature reviewed that gender, number of years teaching experience, training in SEN and inclusion, and belief about resources to facilitate inclusion can influence teachers' attitudes towards the inclusion of children with SEN in mainstream education. However, little research has examined whether these factors influence mainstream teachers' attitudes towards the inclusion of children with ASD specifically. What little research that has been conducted rarely focused on mainstream teachers, who may be highly affected by moves towards inclusive education. Park, Chitiyo and Choi (2010) for example, surveyed trainee teacher's attitudes towards inclusion of children with ASD and found that gender, academic major and experience with children with autism influenced ~~teacher~~ attitudes towards inclusion. ~~However, importantly, these were not individuals experienced in teaching.~~ Rodriguez, Saldana Moreno (2012) interviewed special education teachers' attitudes towards teaching children with ASD, as opposed to inclusion while Horrocks, White and Roberts (2008) examined the beliefs regarding inclusion that were held by school principals.

### **The current study**

Considering the move towards inclusive education for children with SEN in Ireland and the increasing numbers of children with ASD who are being educated in mainstream classrooms, the current study aimed to identify primary school teachers' attitudes towards the inclusion of children with ASD in mainstream education. Furthermore, the current study addressed the gap in the international literature surrounding the factors that influence teachers' attitudes towards the inclusion in mainstream education of children with ASD specifically, rather than all children with additional educational needs. The research questions addressed therefore were, do gender, number of years teaching experience, training in SEN and/or inclusion and teachers' belief about resources to facilitate inclusion influence this attitude? In addition, what are the type of resources teachers believe they need to facilitate the inclusion of children with ASD? A survey was deemed the most appropriate means of

answering these questions, particularly the questions regarding the influence of gender experience and training, which would be difficult to measure using alternate means.

## **Materials and Methods**

### **Participants**

Seventy-eight primary school teachers employed in primary schools with ASD units in the Republic of Ireland participated in the current study. The participants were aged 18 years and over, were teaching in a mainstream classroom, and had experience teaching a child with ASD in a mainstream classroom. Of the total participants, 62 were female teachers and 12 were male teachers. Four participants did not indicate gender. During the recruitment process, 107 mainstream primary schools in Ireland with special education needs units were identified through an online google search. These schools were contacted by email and were asked to forward a recruitment e-mail to the teachers in their school. Snowball sampling was also used to recruit participants. The e-mail briefly outlined the nature of the study and included the link to the online questionnaire. A copy of the plain language statement, which outlined the study in more detail, was attached to the e-mail. Participants were asked to confirm that they had read and understood the statement, that they were over 18 and that by continuing on they were consenting to their data being used for research purposes.

### **Materials**

Participants responded to an online survey which was hosted on the survey platform Qualtrics ®. The survey comprised of two sections. In the first section participants were asked demographic questions pertaining to gender, length of general teaching experience (not ASD specific experience), completion of training in SEN and inclusion, and perceived adequacy of resources. In the second section participants attitudes towards the inclusion of

children with ASD in mainstream education were measured using the Impact of Inclusion Questionnaire (IIQ) designed by Hastings and Oakford (2003).

*Impact of Inclusion Questionnaire.* The IIQ consists of 24 items which correspond to four domains; the impact of inclusion on the child with ASD, the impact of inclusion on other children in the classroom, the impact of inclusion on the teacher and the impact of inclusion on the school or classroom environment. Items in the IIQ include “Having a child with ASD in my class physically wears me out” and “Having a child with ASD in my class benefits their personal development”. The IIQ had a good level of internal consistency ( $\alpha = 0.92$ ) in Hastings and Oakford (2003) study. In line with the presentation of the questionnaire on Qualtrics® participants responded to each item on a seven point Likert scale (from 1 = “very strongly agree” to 7 = “very strongly disagree”). Twelve items were positively phrased. These items were reverse scored so that higher scores were indicative of more positive attitudes. The summed score of 23 items in the IIQ was the total scale score, with possible scores ranging from 23 to 161 (item 24 was excluded). For a detailed account of why item 24 was excluded from analyses see Hastings and Oakford (2003). The IIQ was found to be reliable measure, with a Chronbach’s alpha of 0.92 for the total scale score.

## **Procedure**

Teachers who received the recruitment e-mail and wanted to participate in the study clicked on the link in the e-mail, opened up the questionnaire and completed it. Participants could complete the questionnaire on any device with access to the internet.

## **Data Analysis**

The independent variables (IVs) were gender, number of years teaching experience, training in SEN and/or inclusion, type of training in SEN and/or inclusion, and belief about resources to facilitate inclusion. The dependent variable (DV) was attitude towards inclusion

of children with ASD. The majority of questions were close ended. Two open ended questions were coded to form categorical data on the types of training participants received in SEN and inclusion, and the types of resources they have and/or need to facilitate inclusion in the classroom.

All statistical analyses were performed using IBM SPSS version 23. The variable number of years teaching experience was collapsed from nine groups into three groups; 1-5 years, 6-20 years and 21 or more years' experience. This was to allow for the appropriate statistical analysis to be performed. The groups were formed based on previous research that had used number of years teaching experience as a variable (Darmody & Smyth, 2011). Descriptive statistics were used to describe the sample, to identify participant's attitudes towards inclusion, to describe the type of training in SEN and/or inclusion participants had received and to describe the kinds of resources necessary to facilitate inclusion. Inferential statistical analyses were conducted on the IVs to assess their effect, if any, on attitudes towards inclusion. Independent samples t-tests were used to assess the effect of gender and belief about resources on the DV because gender and belief about resources were categorical variables with two levels. Three Kruskal-Wallis H tests (Kruskal, & Wallis, 1952) were performed to assess the effect of number of years teaching experience, training in SEN and/or inclusion and type of training in SEN and inclusion on the DV because these variables were categorical with three or more levels. These variables violated the assumptions of normality and homogeneity of variance, thus, were not suitable for parametric statistical analysis.

## **Results**

The data from all 78 participants were analysed. As outlined previously, participants were working in one of the 107 primary schools in Ireland with associated special education needs units. Participant scores on the IIQ ranged from 45 to 144 with a mean score of 92.60 (SD = 18.03). Ten percent of participants had a positive attitude (IIQ score of 115-161)

towards inclusion of children with ASD while 54% of participants had a negative attitude (an IIQ score of 23-28). Additional statistical analyses were conducted to investigate if participants' attitudes differed based on their gender, number of years teaching experience, training in SEN and inclusion or belief about resources to facilitate inclusion.

### **Gender**

An independent samples t-test indicated no significant difference in IIQ score between males ( $M = 99.17$ ,  $SD = 17.63$ ) and females ( $M = 91.08$ ,  $SD = 18.23$ ),  $t(72) = 1.41$ ,  $p = .16$ . Therefore, gender was not included in subsequent analyses.

### **Number of Years Teaching Experience**

Preliminary analysis of the data on number of year's teaching experience showed that it was not normally distributed, therefore, the data was analysed using non-parametric statistics. A Kruskal-Wallis H test was therefore conducted to determine if teachers' attitudes towards the inclusion of children with ASD differed based on the number of years teaching experience they had (1-5 years' experience,  $n = 29$ , 6-20 years' experience,  $n = 28$ , 21 or more years' experience,  $n = 21$ ). There was no significant difference in attitudes towards inclusion across the three groups,  $X^2(2) = 3.52$ ,  $p = 0.17$  indicating that participants' attitudes towards the inclusion of children with ASD did not differ based on the number of years teaching experience they had.

### **Training in SEN and/or Inclusion**

The majority of participants had received training in SEN, inclusion or both. However, a large minority indicating they had received no relevant training. Preliminary analysis of the data showed that it violated the assumptions of normality and homogeneity of variance, therefore, a Kruskal-Wallis H test was conducted to investigate whether training in SEN and/or inclusion influenced teachers' attitudes towards the inclusion of children with

ASD in mainstream education (training in SEN, n = 10, training in inclusion, n = 3, training in SEN and inclusion, n = 40, no training, n = 25). There was no significant difference in attitudes towards inclusion across the four groups,  $X^2(2) = 3.81, p = 0.28$ . Participants' attitudes towards the inclusion of children with ASD in mainstream education were not significantly influenced by training in SEN and/or inclusion or a lack of training in these areas.

The participants who had received SEN or inclusion training were also asked an open ended question to explore the types of training they had received. Thirty-five (of 43) answered this question and responses included a module in SEN or inclusion as part of their initial teacher training, postgraduate studies in SEN or courses as part of their continuous professional development. A Kruskal-Wallis H test was conducted to determine if teachers' attitudes (as measured by the IIQ) differed based on the type of training they had received (module in SEN or inclusion, n = 17, postgraduate studies, n = 9, continuous professional development, n = 9). There was no significant difference in attitudes towards inclusion of children with ASD across the three groups (Mean rank 17.88, 21.83, 14.39, respectively),  $X^2(2) = 2.38, p = 0.30$ . Participants' attitudes towards inclusion were not significantly different based on the type of training they received; a module in SEN and inclusion, postgraduate studies in SEN or courses as part of their continuous professional development.

### **Belief about Resources to Facilitate Inclusion**

Sixty six percent of participants did not believe they had the adequate resources to facilitate the inclusion of children with ASD in their classroom compared to 34% who did believe they had the adequate resources. One participant did not respond to this question. Participants were also asked an open ended question to explore the kinds of resources they believed they needed to facilitate the inclusion of children with ASD in mainstream education. Fifty eight participants responded to this question with the majority outlining

human resources (74%) and classroom materials (55%) as necessary to facilitate inclusion. Indicative comments included “ We need more human resources to ensure the children are adequately supported in the mainstream classroom and actually benefit from the experience” and “Resources I have are Theraputty, visual timetable, ... Resources I would need if the child had more severe ASD would be an SNA, cushions, sensory items etc” In addition, 33% of respondents indicated that additional or dedicated spaces were necessary, with teachers reporting the need for “quiet room” lights room” or multi-sensory room” or simply “space”. Training (13%), a dedicated ASD unit (3%) and team communication (2%) were also deemed by others to be necessary for successful integration. In order to investigate whether participants’ beliefs about resources to facilitate inclusion had an effect on their attitudes towards inclusion, an independent samples t-test was performed. The Bonferroni adjusted alpha level  $p < 0.025$  was used to control for Type 1 error due to two t-tests being performed. The t-test indicated a significant difference in IIQ score between participants who believed they had the adequate resources to facilitate inclusion ( $M = 103.38, SD = 18.43$ ) and those who did not believe they had the adequate resources to facilitate inclusion ( $M = 87.20, SD = 15.40$ ),  $t(75) = 4.06, p < .001$ . Participants who believed they had the adequate resources to facilitate inclusion had significantly more positive attitudes towards inclusion than those who did not believe they had the adequate resources.

### **Summary of Findings**

The current study aimed to identify the attitudes of primary school teachers in Ireland towards the inclusion of children with ASD in mainstream education. Furthermore, it aimed to investigate if gender, number of years teaching experience, training in SEN and/or inclusion or belief about resources to facilitate inclusion can influence this attitude. It was found that over half of primary school teachers had ~~predominantly~~ negative attitudes towards the inclusion of children with ASD in mainstream education. A further 36% held neutral

attitudes while 10% viewed inclusion positively. Gender and number of years teaching experience did not influence teachers' attitudes towards inclusion. Teachers who had training in SEN and/or inclusion did not have significantly different attitudes towards inclusion than teachers who had no training in these areas. Of those teachers who had training in SEN and/or inclusion, the majority had completed a module in SEN and inclusion as part of their undergraduate degree or initial teacher training. Some teachers had completed postgraduate studies in SEN while others had participated in short term courses (e.g., applied behaviour analysis) as part of their continuous professional development. Teachers' attitudes towards inclusion did not differ significantly based on the type of training they had received. Finally, primary school teachers' belief about the adequacy of resources to facilitate inclusion influenced their attitude towards inclusion of children with ASD. Teachers who believed they had the adequate resources to facilitate inclusion had significantly more positive attitudes than teachers who did not believe they had the adequate resources to facilitate inclusion. Teachers spoke about human resources (e.g., SNAs and educational psychologists) and classroom materials (e.g., sensory toys, visual schedules and reward charts) as necessary resources to facilitate the inclusion of children with ASD in a mainstream classroom.

## **Discussion**

### **Teacher attitudes towards inclusion**

One interesting finding of the present study was that only 10% of the primary school teachers had ~~negative or neutral~~ positive attitudes towards the inclusion of children with ASD. This finding contrasts with previous studies which suggest that teachers and other education professionals have predominantly positive attitudes towards the inclusion of children with ASD in mainstream education. Segall and Campbell (2012) found that the majority of education professionals (92%) they surveyed had positive attitudes towards the inclusion of children with ASD, only 8% had a neutral attitude. This can be compared with



10% and 36% respectively in the current study with the remaining 54% self-reporting negative attitudes. Similarly, Irish second level teachers perceived mainstream education to be the most appropriate setting for children with ASD and they expressed positive attitudes towards educating these students (McGillicuddy & O'Donnell, 2014). The neutral and negative attitudes towards inclusion evident in this cohort of primary school teachers may be explained by their understanding and beliefs about the nature of ASD. Children with ASD can have elevated emotional and behavioural difficulties compared to children with other SEN or their typically developing peers (Totsika et al., 2011). It is possible that the teachers in this study primarily associated ASD with emotional and behavioural difficulties resulting in less positive attitudes. Previous research has found that teachers have less positive attitudes towards children with emotional and behavioural difficulties (Hastings & Oakford, 2003; O'Toole & Burke, 2013).

### **Does training matter?**

Training in SEN and/or inclusion did not significantly influence teachers' attitudes towards the inclusion of children with ASD in mainstream education. Furthermore, teachers' attitudes were not influenced by the type of training they received; module in SEN and inclusion, postgraduate studies in SEN or continuous professional development. This finding differed from previous research in relation to SEN more generally which has shown that training in SEN and inclusion can have a positive influence on teachers' attitudes. Indeed, Avramidis and Kalyva (2007) found that teachers who engaged in professional development and training in SEN and inclusion over the course of their career had more positive attitudes towards inclusion than teachers who received little or no training. Similarly, pre-service teachers who had completed a module in SEN and inclusion as part of their initial teacher training had more positive attitudes towards inclusion of children with SEN than pre-service teachers who did not complete the module (Varcoe & Boyle, 2014).

### **Limitations, Implications, and Future Research**

The current study surveyed teachers working in primary schools in Ireland with special education units attached (N=107). Though small, our small sample should be representative of that group although it is to be acknowledged that opt-in survey methods may result in response bias. However, it is less clear how well the findings generalise to teachers in Ireland working in primary schools with no units attached, or teachers internationally. One additional limitation of the current study is that participants were not asked about the severity of ASD they have experienced in a mainstream classroom. It is possible that teachers who had experience of children with mild ASD in a mainstream classroom had more positive attitudes towards inclusion than those who had experience of a child with severe ASD and co-morbid intellectual and behavioural difficulties. More research is warranted to investigate if teachers' attitudes towards the inclusion of children with ASD are influenced by the nature and severity of ASD they have experienced in a mainstream classroom. Furthermore, the negative and neutral attitudes towards inclusion of children with ASD observed in the current study may have implications for the child with ASD and their experience of inclusion in the mainstream classroom. Negative attitudes towards inclusion can promote more negative behaviours towards the child and become a barrier to successful inclusion for them (Subban & Sharma, 2005). However, there is also considerable evidence that the relationship between attitudes and behavior is a complex one (Fishbein & Ajzen, 1975). Attitude or intention does not always lead to action and so negative attitudes towards inclusion may not impact classroom practice. Further research is undoubtedly needed to examine this specific issue.

One possible explanation for the discrepancy between the findings of the current study and other studies is the way in which the questions pertaining to training in SEN and/or inclusion were asked. First, teachers were asked whether they had received training in SEN,

in inclusion, in both SEN and inclusion or no training. Second, teachers were asked to describe the type of training they received in an open ended question. While 53 participants indicated they had received training, only 35 of them actually described the type of training they received. As a result, the data obtained from the first question only allowed us to investigate whether or not training in SEN and inclusion, or a lack of training, influenced teachers' attitudes. In addition, there was only a small subset of data available to investigate whether different types of training in SEN and inclusion could influence teachers' attitudes. Avramidis and Kalyva (2007) asked participants in their study to report the type of training they received in SEN and inclusion using three categories; short term professional development (e.g., one or two day seminars), long term professional development (e.g., postgraduate studies in SEN) or no training. This could be a more effective way to obtain information about whether or not teachers have training in SEN and inclusion, and to identify the type of training they have received. It is also possible that the training in SEN and/or inclusion the teachers received did not influence their attitudes towards the inclusion of children with ASD, specifically. Previous research was aimed at investigating the impact of training in SEN and inclusion on teachers' attitudes towards the inclusion of children with SEN more generally. Further research should examine what types of training, if any, influence teachers' attitudes towards the inclusion of children with ASD in mainstream education with a larger sample. The questions raised here about the level of questioning regarding level of training and previously about severity of ASD symptoms of pupils raise the possibility that our survey more generally could have focussed on more in-depth questioning. For example, future research should focus on ASD specific training rather than SEN training in general in order to offer further understanding of this complex issue. However, it is our contention that, as a first study examining inclusion for children with

ASD specifically, the current study provides a very interesting and critically useful starting point.

### **Resources and attitudes**

As highlighted previously, primary school teachers' beliefs about the adequacy of resources to facilitate inclusion influenced their attitude towards inclusion of children with ASD. Teachers who believed they had the adequate resources to facilitate inclusion had significantly more positive attitudes than teachers who did not believe they had the adequate resources. There have been similar findings in the literature reviewed. Although Chiner and Cardona (2013) found no significant difference in teachers' attitudes towards inclusion based on their belief about classroom materials, they found a significant difference in teachers' attitudes based on their belief about human resources. Specifically, teachers who believed they had adequate support from a SNA in the classroom had more positive attitudes than those teachers who did not believe they had enough support. The present study demonstrates that an individual's own perception (e.g., belief about resources) can have an impact on their attitude. This has implications for the Department of Education and Skills, the NCSE and others who provide resources to teachers to facilitate inclusion. It is important to provide teachers with the resources they believe are necessary to facilitate the inclusion of children with ASD. These can include a SNA in the classroom, access to resource teaching for the child, sensory toys, visual schedules and iPads, as outlined by teachers who participated in the current study. The results suggest that teachers who believe they have the adequate resources to facilitate inclusion have more positive attitudes towards inclusion, however beliefs are subjective, and it is difficult to determine what constitutes the actual adequate resources to facilitate inclusion. Nonetheless, it is evident from the results of the current study and other literature that teachers are concerned about a lack of resources to facilitate inclusion (Chiner & Cardona, 2013; O'Toole & Burke, 2013). Increased communication between the

NCSE, Department of Education and Skills and schools may help teachers to access some of the resources they need to facilitate inclusion. Also, more research is needed to establish the kinds of resources that are most important so that they can be provided for teachers in the classroom or school. It is the provision of these additional resources that will alleviate teachers' real concerns about the lack of resources that is currently observed.

### **Conclusion**

Overall, 54% of primary school teachers had negative attitudes towards the inclusion of children with ASD in mainstream education, only 10% had positive attitudes. Gender and number of years teaching experience did not influence these attitudes. Interestingly, teachers who had training in SEN and/or inclusion did not have more positive attitudes towards inclusion than teachers who had little or no training in these areas. This contrasted with findings from previous research. More research is warranted to explore what type of training in SEN and/or inclusion, if any, can influence teachers' attitudes towards the inclusion of children with ASD in mainstream education. In addition, teachers who believed they had the adequate resources to facilitate inclusion had more positive attitudes than those who did not believe they had the adequate resources. While this finding highlights the need to provide teachers with the resources they believe they need to facilitate inclusion to foster more positive attitudes, it should be interpreted with caution. It is difficult to discern what constitutes the adequate resources for all based on individual teacher's own perceptions and beliefs, and near impossible for resource providers to consult with each individual teacher to provide them with the resources they believe they need. Increased communication between the Department of Education and Skills, the NCSE and schools may help teachers to access some additional resources. Nevertheless, the current study adds to the literature on teachers' attitudes towards the inclusion of children with ASD, and the factors that can influence this attitude. The findings have implications for children with ASD and their successful inclusion

in mainstream education, and for the Department of Education and Skills, the NCSE and others who can implement changes in teacher training, schools and classrooms to foster more positive attitudes towards inclusion.

### **Compliance with Ethical Standards**

This study was self-funded and conducted as part of the first author's studies. The authors declare no conflict of interest. This study was conducted in accordance with full ethical approval granted by XXXX's research ethics committee.

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