

**Inclusion and Autism Spectrum Disorder: Relationships between teacher attitudes
towards inclusion, self-efficacy, stress and experience.**

Emer O' Dowd

Submitted in partial fulfilment of the requirements of the Higher Diploma in Psychology at
Dublin Business School, School of Arts, Dublin.

Supervisor: Ms. Margaret Walsh

Programme Leader: Dr Garry Prentice

March 2016

Department of Psychology

Dublin Business School

Table of Contents

Acknowledgements.....	3
Abstract.....	4
Chapter 1: Introduction.....	5
Special Classes.....	6
Autism Spectrum Disorder (ASD).....	6
Educational Provision for Pupils with ASD.....	7
Educational Inclusion.....	8
Inclusion of Pupils with ASD.....	9
Stress.....	12
Self-Efficacy.....	13
Attitudes.....	16
Summary.....	17
Rationale.....	18
Aims.....	19
Hypotheses.....	20
Chapter 2: Methodology.....	21
Participants.....	21
Design.....	21
Materials.....	22
Perceived Stress Scale.....	22
Scale of Teacher Attitudes towards Inclusion.....	23
Teacher Self-Efficacy.....	24
Procedure.....	25
Chapter 3: Results.....	27
Descriptive Statistics.....	27
Teachers who have experience of inclusion.....	28
Teachers who do not have experience of inclusion.....	28
Inferential Statistics.....	29
Hypothesis 1.....	29
Hypothesis 2.....	30

Hypothesis 3.....	30
Hypothesis 4.....	31
Hypothesis 5.....	32
Chapter 4: Discussion.....	33
Hypothesis 1.....	33
Hypothesis 2.....	34
Hypothesis 3.....	35
Hypothesis 4.....	36
Hypothesis 5.....	37
Limitations.....	37
Recommendations.....	39
Implications.....	40
Conclusion.....	42
References.....	54
Appendix 1 - Factor Loading of the STATIC.....	57
Appendix 2 – Plain Language Statement.....	58
Appendix 3 – Informed Consent Form.....	59
Appendix 4 – Questionnaire.....	60
Appendix 5 – Links to support services.....	65

Acknowledgements

I wish to express my sincere gratitude to my supervisor, Ms. Margaret Walsh, who gave so generously of her time this past year. Her continued guidance, patience and encouragement have been invaluable.

I also wish to express my sincere gratitude to the school staff for sharing their experiences with me. I wish them every success in the future.

Abstract

The aim of this study was to uncover relationships between teacher experience, attitudes towards inclusion (measured by the Scale of Teacher Attitudes towards Inclusion), self-efficacy (measured by the Teacher Self-Efficacy Scale) and perceived stress (measured by the Perceived Stress Scale), with regard to the inclusion of pupils from Autism Spectrum Disorder classes. This was a quantitative, correlational study which used a purposive sampling method. 51 primary school teachers responded to self-administered questionnaires. High self-efficacy had a strong positive correlation with teacher attitudes towards inclusion but there was no difference with length of teaching experience. There was no significant association between training and overall attitudes to inclusion, except at the attitude subscale level of logistical concerns. There was no difference in attitudes towards inclusion between teachers who had experience of including pupils with ASD and those who did not. Self-efficacy and overall attitudes towards inclusion did not predict the perceived stress levels of teachers but the attitude subscale of professional issues was found to predict perceived teacher stress. This study has generated new knowledge that can be used to improve future planning and policy development in schools with ASD classes.

Introduction

Inclusive education is increasingly becoming the focus of educational policy and legislation both internationally and in Ireland (Government of Ireland, 1998; Government of Ireland, 2004; United Nations Educational, Scientific and Cultural Organisation (UNESCO), 1994; Winter & O' Raw, 2010). The inclusion of pupils with Special Educational Needs (SEN) has been debated since it came to the public consciousness following the Universal Declaration of Human Rights in 1948. Article 26 of the Declaration stated that everyone has a right to education and that parents have the right to choose where their child will be educated (Universal Declaration of Human Rights, 1948). The Salamanca Statement further influenced this move towards inclusive education as it stated that “schools have to find ways of successfully educating all children, including those who serious disadvantages and disabilities” (UNESCO, p.6).

Within the Irish context, the Education Act 1998 was intended to standardise provision of education for all children (Government of Ireland, 1998). This Act stated that provision will be made “in the interests of the common good for the education of every person in the state including any person with a disability or who has other special educational needs” (Government of Ireland, p.5). The Education for Persons with Special Needs Act (EPSEN) provided a legislative basis for the inclusion of all learners with SEN stating that, “a child with special educational needs shall be educated in an inclusive setting with children who do not have such needs” (Government of Ireland, 2004, p.7). In order to comply with this concept many schools established special classes in accordance with Circular 9/99 as a way of providing education within an inclusive environment but not necessarily within the mainstream class (Department of Education and Science (DES), 1999).

Special Classes

In the 1995 White Paper on Education, the Government affirmed that its objective would be to ensure that educational provision for children with SEN occurred along a continuum ranging from assistance in the mainstream school to enrolment in a special class or school (Government of Ireland, 1995). The White Paper states that students should be “enabled to move as necessary and practicable from one type of provision to another” (Government of Ireland, p.24). It is recommended that schools assess how their special classes relate to the mainstream classes and “consider options such as part-time and/or time-related placement” (Ware *et al.*, 2009, p.13). This is similar to a recommendation that was made previously in the Report of the Task Force on Autism, where it was asserted that “appropriate opportunities for meaningful integration/inclusion” (p.358) should be made available for pupils with ASD enrolled in special classes (DES, 2001). A recent Irish study found that special classes are an important part of the continuum of provision for children with SEN with the most clearly stated advantage being “facilitation of inclusion within the mainstream class” (Ware *et al.*, p.9). However, it has emerged that half of the children enrolled in special classes spent their entire day in the special class and were spending no time in a mainstream class (Ware *et al.*).

Autism Spectrum Disorder (ASD)

Autism Spectrum Disorder (ASD) refers to a group of pervasive neurodevelopmental disorders that involve disrupted functioning in the areas of social skills, communication and repetitive behaviours and interests (Levy, Mandell & Schultz, 2009). The American Psychiatric Association’s (APA) Diagnostic and Statistical Manual (DSM-V) explicitly recognises the spectrum nature of autism under a ‘diad’ of impairments: social

communication and restricted, repetitive patterns of behaviour (APA, 2013). The DSM-V recognises the spectrum nature of autism and the term 'ASD' subsumes the Pervasive Developmental Disorder (PDD) categorical subgroups of autistic disorder, Asperger's disorder, pervasive developmental disorder not otherwise specified (PDD-NOS) and childhood disintegrative disorder (Lai *et al.*). ASD occurs across all racial, ethnic and socioeconomic groups and is five times more common among boys (1 in 42) than among girls (1 in 189) (Developmental, D. M. N. S. Y., & 2010 Principal Investigators, 2014). ASD was considered rare up to two decades ago, diagnosed in approximately 1 in 1,000 children (Gillberg & Wing, 1999). Current estimates place the prevalence of ASD at about 1 in 88 children (Centres for Disease Control, 2012).

Educational provision for pupils with ASD. A range of options exist in Ireland to meet the educational needs of children with ASD in Ireland. The majority of children with ASD are currently being educated in mainstream settings (Parsons *et al.*, 2009). In the school year 2008-2009, 1,904 pupils with autism were attending mainstream primary schools, representing 70% of the population of children with ASD attending a primary education setting (Parsons *et al.*). According to the allocation of resource teaching hours, there were 4,487 pupils with ASD enrolled in mainstream primary schools in Ireland in the school year 2012-2013, over three times the number of pupils enrolled just four years previously (National Council for Special Education (NCSE), 2013). However a significant number of students with ASD still attend special schools or ASD classes attached to mainstream schools (Parsons *et al.*). In the 2012-2013 school year there were 495 classes for pupils with ASD attached to mainstream primary schools, compared with 34 classes in 2001 (Parsons *et al.*). In the same year, there were 19 special schools catering for pupils with ASD with an enrolment of 507 pupils at primary level (Parsons *et al.*).

Educational Inclusion

Educational inclusion is internationally accepted as a basic human right and a matter of justice (Government of Ireland, 2004; UNESCO, 1994). Inclusion has been described as provision for all students giving adequate opportunities to receive effective education services (Farrell, 2010). It has been referred to as an educational approach where students with disabilities are educated within a mainstream class and provided with supports to facilitate participation with their peers (Humphrey, 2008). In its broadest sense, inclusion refers to the placement of a student in a mainstream school who might otherwise have been placed in a special school or class (Holt, Lea & Bowlby, 2012; Keen & Ward, 2004; Reed, Osborne & Waddington, 2012). There is a contested global policy of inclusive education for children with SEN with increasing numbers of children with SEN attending mainstream primary schools (Ainscow & César, 2006; Parsons *et al.*, 2009).

The EPSEN Act places responsibility for inclusion on schools. As there has been a 15-fold increase in the number of pupils enrolled in ASD classes between 2001 and 2009 (Parsons *et al.*, 2009), and this number continues to rise, schools need to consider how they plan and provide for the inclusion rights of these pupils. Irish policy and legislation recommends that schools assess how their special classes relate to the mainstream classes (DES, 2001; Government of Ireland, 1998; Government of Ireland, 2004) and “consider options such as part-time and/or time-related placement” (Ware *et al.*, 2009, p.13). Despite this, research indicates that there are significant shortfalls in the area of inclusion for pupils with ASD in Ireland (DES; Parsons *et al.*).

Inclusion of pupils with ASD. It is recommended that, wherever possible, the guidelines of the Revised Primary School Curriculum be used when planning curricular targets for children (DES, 2001). However, since pupils with ASD have an atypical learning profile, it is necessary for teachers to adapt this curriculum to meet their needs (DES). The characteristics of ASD can manifest in the classroom causing the pupil to have difficulty relating socially, taking turns, following changes in their routine and processing information from their environments (Helfin & Alaimo, 2007). These specific behaviours and learning needs demand specific responses from teachers as the quality of their learning is greatly impacted by the materials, activities and interactions within the classroom (Deris & Di Carlo, 2013; Guldberg *et al.*, 2011).

The inclusion of pupils with ASD is “important in improving social outcomes” (Crosland & Dunlap, 2012, p.258). Jordan (1999) highlights the importance of pupils with ASD establishing relationships with their peers and learning from them. Kruth and Mastergeorge (2010) found that pupils with ASD experienced heightened levels of social interaction and communication skills when they were educated in a mainstream class as opposed to segregated provision. A comparative study carried out by Lyons, Cappadocia and Weiss (2011) found that “students in full inclusion classrooms displayed greater social competence than students in non-full inclusion classrooms” (p.79). Students also had more friendships inside school when educated in an inclusive setting (Lyons *et al.*).

Students who are educated in special classes have a more limited range of social and educational opportunities (Cammuso, 2011; DES, 2001; Holt *et al.*, 2012). It has also been found that there are no advantages to the acquisition of language skills in a special class over

a mainstream setting (Harris, Handleman, Kristoff, Bass, & Gordon, 1990). Holt *et al.* argue that despite criticisms associated with special classes for pupils with ASD these classes act as specialist sites of knowledge not frequently found in mainstream settings and can serve as a “launching pad to reproduce more inclusionary social and communicative norms” (Holt *et al.*, p.2203).

Pupils with ASD have the right to a broad and balanced curriculum to meet their needs with “the issue being one of access” (Jordan, 2005, p.116). Pupils with ASD need educational interventions that are built upon a modern understanding of ASD and knowledge of the individual child (Guldberg *et al.*, 2011; Parsons *et al.*, 2009). In a recently published Irish report (Parsons *et al.*), the two important themes that emerged to support the education of young learners with ASD were early assessment and intervention and appropriate staff training. The importance placed on the professional development of teachers working with children with ASD is frequently stated in research (Cammuso, 2011; Deris & Di Carlo, 2013; Guldberg *et al.*, 2011; Jordan, 2008). Despite this, the current lack of adequate teacher training is seen as the greatest barrier to inclusion and this is reflected in many research reports on the topic (Cammuso, 2011; Elder, Talmor & Wolf-Zuckerman, 2010; NCSE, 2013; Parsons *et al.*, 2009).

An Australian study found that teachers with more teaching experience tend to have more negative attitudes to inclusion (Vaz *et al.*, 2015). The lack of training for this group has been cited as a possible reason for this. DeBoer and Simpson (2010) found that inadequate knowledge about ASD is one of the most significant challenges teachers face when working with children with ASD. An English based study found that only five per cent of teachers had

received training about ASD despite all of the teachers having a child with ASD in their class (McGregor & Campbell, 2001). This lack of training has been shown to leave teachers feeling discouraged (Allen & Cowdery, 2005; Warnock, 2005). A study of Greek special education teachers found that although participants generally considered their job to be moderately stressful, more than half of the teachers indicated that teaching children with ASD causes major stress for them, more so than teaching children with emotional and behavioural difficulties (Kokkinos & Davazoglou, 2009). Regression analysis showed that the social and academic progress as well as training in the special educational curriculum were predictors of job stress. The authors refer to the importance of teacher training and support in the area of SEN. Jennett, Harris and Mesibov's (2003) investigation using the Teacher Self Efficacy Scale results showed that there were significant differences in self-efficacy between teachers using different teaching ASD-specific teaching approaches. The main finding of this study was the importance of training for teachers working with pupils with ASD.

The provision of a Special Needs Assistant (SNA) is perceived as one of the most important supports for teachers who are including pupils with ASD (Dunleavy, 2013). However, it has been highlighted that there is a need for careful planning in relation to the SNA's role in the classroom as difficulties can arise if an SNA is not effectively directed (Logan, 2001; Lorenz, 1998; Moran & Abbott, 2002). Teachers experience stress when managing the work of an SNA in their class due the uncertainty in relation to their precise responsibilities (Dunleavy). The Value for Money Report (DES, 2011) recognised the need to clarify the role of an SNA and this resulted in the issuance of a new circular which clarified and restated the purpose of the SNA scheme (DES, 2014). Although this circular sets out the role of the SNA and the teacher, there appears to be an over-reliance on the SNA to manage pupils with ASD (Dunleavy, 2013). There is a danger that this over-reliance may lead to a

child becoming more isolated in the mainstream class (Carrig, 2004). Lewis and Norwich (2005) stress that training is essential as the mere addition of a support worker will not in itself enhance the inclusion experiences of a pupil with ASD.

Stress

Stress can be defined as a negative emotional experience which is often accompanied by cognitive, biochemical, behavioural and biochemical changes which aim to alter the stressful event or accommodate the effects of such events (Taylor, 2009). It is the physiological reaction of an individual where diverse defence mechanisms emerge in order to confront situations which are perceived as threatening or of increased demand (Pozos-Radillo, de Lourdes Preciado-Serrano, Acosta-Fernández, de los Ángeles Aguilera-Velasco & Delgado-García, 2014). Stress has been linked to negative emotions, such as depression and anxiety, and may even hinder normal development of the personality and behaviour of a person if not properly controlled and responded to (Xingmin, Lin, Jing & Jiayi, 2014).

Teacher stress can be defined as the experience of negative emotions resulting from a teacher's work (Kyriacou, 2001). The psychological demands of a job and the amount of control an individual has over their job determine how stressful a job is (Karosek & Theorell, 1990). Teaching has been listed as a high stress profession with almost one quarter of teachers reporting teaching a stressful job (Kyriacou). This type of role conflict is common for teachers as they are often expected to prevent disruptions in the classroom without support or assistance (Sutton, 1984). Role ambiguity also occurs if a teacher is given a classroom and pupils but no clear expectations regarding what to teach or how to deal with problems (Kyriacou). The outcomes of teacher's work-related stress may include burnout,

depression, absenteeism and poor performance (Betoret, 2006). Many researchers have concluded that teacher workload and student behaviour are the two major contributors to teacher stress (Boyle, Borg, Falzon & Baglioni, 1995; Chaplain, 2008; Greenglass & Burke, 2003).

Although all teachers experience stress, special education teachers have to deal with additional stressors including increased workload, managing challenging behaviours, slower progress of the children and meeting the demands of parents (Farber, 1991). Teachers of pupils with ASD are particularly at risk (Jennett, *et al.*, 2003) due to the unique sets of characteristics that sets them apart from other children with SEN including impairments in communication, interaction and a restricted repertoire of activities and interests (APA, 2013). Schwarzer and Hallum (2008) examined the relationships between self-efficacy and teacher stress and burnout in Germany and Syria. Schwarzer, Schmitz and Daytner's (1999) Teacher Self-Efficacy Scale was used to measure self-efficacy. It was found that self-efficacy predicted job stress, which in turn, predicted burnout. Moreover, this effect was moderated by age with significant effects at all age groups but a trend to be stronger for younger teachers. Similar findings were reported in another study in China, using the Perceived Stress Scale (Cohen, Kamarch & Mermelstein, 1983), which revealed that both work stress and self-efficacy were significantly correlated with job burnout for teachers (Yu, Wang, Zhai, Dai & Yang, 2015).

Self-Efficacy

Self-efficacy refers to an individual's beliefs about their ability to carry out a particular course of action successfully (Bandura, 1997). It is influential in preparing for

action as self-regulated cognitions are a major component of the motivation process (Schwarzer & Hallum, 2008). Self-efficacy levels can enhance or impede motivation and people with high self-efficacy choose more challenging tasks (Bandura; Schwarzer, 1992).

Teacher self-efficacy can be conceptualised as a teacher's belief in their ability to plan, organise and carry out activities which are necessary to attain educational goals (Skaalvik & Skaalvik, 2007). Self-efficacy can predict teacher's goals and aspirations (Muijs & Reynolds, 2002), their attitudes towards innovation and change (Fuchs, Fuchs & Bishop, 1992), their tendency to refer students experiencing difficulties to special education (Podell & Soodak, 1993) and their use of teaching strategies (Allinder, 1994). It has an influence on teaching and student's motivation and engagement which is directly linked to student outcomes (Skaalvik & Skaalvik; Tschannen-Moran & Woolfolk-Hoy, 2001). Teachers' self-efficacy also directly influences their instructional practices (Chácon, 2005; Graham, Harris, Fink & McArthur, 2001). Teachers who have confidence in their teaching ability are more likely to try innovative teaching methods than those with low self-efficacy (Rubie-Davis, Flint & McDonald, 2012). Classroom management is another important component of effective teaching and teachers with higher self-efficacy are more likely to have the motivation to manage their pupils learning environment effectively (Bandura, 1997; Stonge, Ward & Grant, 2011).

Teacher self-efficacy is of particular importance when considering the inclusion of pupils with ASD as a teacher who lacks belief in their ability to teach children with SEN may be less likely to implement appropriate teaching strategies and persevere when encountering difficulties which frequently present for these children (Brown, 2012). Teacher self-efficacy

shows a non-linear relationship with the number of years' teaching experience, increasing from 0 to twenty three years and decreasing beyond this time (Klassen & Chiu, 2010). These findings contrast with Bandura (1997) who proposed that self-efficacy beliefs remain stable once established.

Various studies have demonstrated that teachers' attitudes towards the inclusion of children with SEN are positively influenced by their sense of self-efficacy as an experienced teacher (Meijer & Foster, 1988; Sharma, Loreman, & Forlin, 2012; Soodak, Podell & Lehman, 1998; Weisel & Dror, 2006). Vaz *et al.* (2015) also found that low self-efficacy in teaching skills was associated with negative attitudes towards inclusion, a finding supported throughout much of the literature (Meijer & Foster, 1988; Savolainen, Engelbrecht, Nel & Malinen, 2012; Sharma, Loreman & Forlian, 2012). Teachers who work with children with ASD in mainstream classrooms encounter many challenges to inclusion including managing behaviour and creating an inclusive environment (Lindsay, Proulx, Thomson & Scott, 2013). Teachers with a strong sense of self-efficacy have been found to hold more positive attitudes towards educational reforms and implementation of new guidelines (Guskey, 1988). Self-efficacy has been found to have a positive impact on both attitudes to support teaching and attitudes towards the social integration of pupils with SEN (Brownell & Pajares, 1999; Weisel & Dror, 2006). DeBoer, Pijl, Post & Minnaert (2012) found that a teacher's practical experience was related to their convictions about the inclusion of pupils with SEN. This is due to the fact that individual self-efficacy is gained through active experience when managing a situation (Urton, Wilbert & Hennemann, 2014). The findings of other research studies show that teachers directly involved in the inclusion of pupils with ASD are usually favourably engaged (Rodríguez, Saldana & Moreno, 2012).

Attitudes

Attitudes are conceptualised as relatively stable constructs comprising of behavioural, affective and cognitive components (Bizer, Barden & Petty, 2003). A social attitude is a conditioned response to social stimuli. There is general agreement that attitudes are acquired through social experience and provide the individual with the ability to adjust to certain types of social situations (LaPiere, 1934). Attitudes are the greatest barrier, or greatest asset, to the development of inclusion in schools (Drudy & Kinsella, 2009).

Positive teacher expectations and attitudes are the most important predictor of the successful education of pupils with ASD (Eldar *et al.*, 2010; Rodríguez *et al.*, 2012). Ross-Hill (2009) investigated mainstream teacher attitudes towards inclusion using Cochran's (1997) Scale of Teachers' Attitudes towards Inclusive Classroom (STATIC) and found that the majority of teachers are either positively disposed or neutral towards the inclusion of pupils with SEN. However, many teachers consider pupils with ASD to be more difficult to include than learners with other SEN (Humphrey, 2008) as pupils with ASD require the "explicit teaching of skills and understanding which are not part of the conventional curriculum" (Whitaker, 2007, p.170).

Teachers' attitudes to inclusion are heavily influenced by variables such as experience, training and the availability of supports (Avramidis, Bayliss & Burden, 2000; Giangreco, 1993; Harrower & Dunlap, 2001). Teacher training has a powerful influence on the development of attitudes toward inclusion, especially when it incorporates related and specific professional abilities (Avramidis & Norwich, 2002). Greater experience in inclusive

education predicts a more positive attitude towards the education of pupils with ASD in mainstream classrooms (Harrower & Dunlap). Giangreco found that teacher attitudes towards the inclusion of pupils with severe disabilities changed over time from initial resistance to a more favourable attitude. Teachers who do not participate in inclusive programs have negative feelings about inclusion and feel decision makers are out of touch with reality (Vaughn, Schumm, Jallad, Slusher & Saumell, 1996). Teachers who have active experience of inclusion have increased teacher commitment to inclusion which emerges when they have gained confidence and mastery of the professional expertise needed (LeRoy & Simpson, 1996; Villa, Thousand, Meyers & Nevin, 1996). In contrast, it is argued that improving knowledge and confidence in inclusive education is alone insufficient in producing more positive attitudes towards inclusion and reducing stress (Vaz *et al.*, 2015). A quantitative study of 162 randomly selected teachers found that although teacher attitudes are positively correlated with in-service training and experience, no clear trends exist in the data. All paired correlations failed to find any significance and the correlations were small (Jobe & Rust, 1996).

Summary

The inclusion of pupils enrolled in ASD classes is gaining popularity both internationally and in Ireland (UNESCO, 2004; Government of Ireland, 2004). Educational provision for pupils with ASD in Ireland consists of a range of inclusive and non-inclusive settings (NCSE, 2013; Parsons *et al.*, 2009). Current research states that no single school setting is appropriate for pupils with ASD but rather the opportunity to move between settings is the key to successful inclusion (DES, 2001; Government of Ireland; NCSE; Ware *et al.*, 2009). There are many benefits to the inclusion of pupils with ASD with the most

significant being developments in their social interaction and communication. However, many researchers note disadvantages to this type of inclusion including increased teacher stress and a lack of appropriate training (Dunleavy-Lavin, 2013; Farber, 1991; Jennett *et al.*, 2003; Kokkinos & Davazoglou, 2009).

Self-efficacy is considered to be of particular importance for teachers including pupils with ASD. Low levels of self-efficacy are linked to an increased number of years teaching (Klassen & Chiu, 2010). Teacher attitudes to inclusion are considered to be the most successful predictor of successful inclusion for pupils with ASD. Direct experience of including ASD-class children in a mainstream class and teacher training have been found to significantly increase attitudes to inclusion (Giangreco, 1993; Harrower & Dunlap, 2001). However, some contradictory findings have also been reported (Jobe & Rust, 1996; Vaz *et al.*, 2015).

Rationale

Inclusion for pupils with ASD has been thoroughly researched internationally. Areas of research include teacher attitudes towards inclusion, teacher self-efficacy, perceived stress, and teacher experience. The findings of previous research confirm the interplay these variables, with some contradictory findings reported. A substantial vacuum is evident in terms of the impact of inclusion for pupils enrolled in ASD-classes in terms of these psychological variables, with much of the literature focusing on ASD pupils enrolled in mainstream classes. A review of the literature highlights a lack of Irish-based research

relating to teaching experience, teacher attitudes, perceived stress and self-efficacy when including pupils enrolled in ASD classes.

The number of children enrolled in ASD classes in Ireland is rapidly increasing and for this reason, it is important to identify the various dimensions and factors which impact on teachers abilities to effectively include these children in mainstream classes. This provides a convincing rationale to uncover relationships between teacher experience, attitudes towards inclusion, self-efficacy and perceived stress with regard to the inclusion of pupils from ASD classes.

Aims

This current study will focus on the term inclusion as meaning the specific inclusion of primary school pupils, enrolled in special classes for pupils with ASD, into mainstream classes. It is intended that this research uncover relationships between teacher experience, attitudes towards inclusion, self-efficacy and perceived stress with regard to the inclusion of pupils from ASD classes.

Hypotheses

H1. There will be a significant relationship between teacher self-efficacy and teachers' attitudes towards inclusion.

H2. There will be a significant relationship between teacher self-efficacy, perceived teacher stress, teacher attitudes towards inclusion and the number of days training received

H3. There will be a significant difference in attitudes towards inclusion between teachers who have taught pupils with ASD and those who have not.

H4. There will be a significant difference between the number of years teaching experience and teacher self-efficacy.

H5. Teacher attitudes towards inclusion and self-efficacy will be predictors of perceived stress.

Methodology

Participants

Purposive sampling was used to obtain participants for this study. Two large urban mainstream primary schools with ASD classes attached, were involved in the study. The research participants were teachers working in these schools which had special classes for pupils with ASD attached. This ensured that all participants had some awareness of inclusion programmes for pupils enrolled in ASD classes. A self-report questionnaire was formulated including measures to assess teacher self-efficacy, perceived stress and attitudes towards inclusion. The questionnaires were distributed in these schools (n=80) and 51 were completed giving a response rate of 63.8%. Participation was anonymous and voluntary and the data was collected over a period of two weeks in December 2015.

Design

A quantitative correlational research design was utilised for this study using three previously validated questionnaires combined with an introductory section to elicit further information regarding the participants' teaching experience. The use of questionnaires as a data collection method allowed a large body of data to be gathered in a short space of time and also enabled the study of relationships between variables (Leedy & Ormond, 2001). The study was correlational in nature; containing both predictor and criterion variables (Table 1).

Table 1. Predictor and criterion variables

Hypotheses	Predictor Variable(s)	Criterion Variable(s)
Hypothesis 1	Self-efficacy	Attitudes towards inclusion
Hypothesis 2	Number of days training	Self-efficacy, perceived stress & attitudes towards inclusion
Hypothesis 3	Experience of inclusion	Attitudes towards inclusion
Hypothesis 4	Number of years teaching experience	Self-efficacy
Hypothesis 5	Attitudes towards inclusion & self-efficacy	Perceived stress

Materials

The first five questions in the questionnaire collected information regarding the length of teaching experience of the participants, whether or not they had experience of including pupils with ASD, the number of days training which they have completed and the level of SNA support they received when including pupils with ASD. In order to collect scale data for quantitative analysis, a combination of three established questionnaires were used. Cochran's (1997) 20 question STATIC survey determined teachers' attitudes toward inclusion and was combined with the Teacher Self-Efficacy Scale (Schwarzer *et al.*, 1999) and the Perceived Stress Scale (Cohen *et al.*, 1983). The final survey consisted of 45 items (Appendix 4).

Perceived Stress Scale. The Perceived Stress Scale (Cohen, Kamarch & Mermelstein, 1983) measures the degree to which situations in one's life are self-appraised as stressful. It is one of the most popular psychometric tests used to measure psychological stress (Lee, 2012). The original version had fourteen items, seven negatively stated and seven

positively stated. Two short forms are available, one with 10 items (six negatively stated and four positively stated items) and the other with four items (two negatively stated and two positively stated). These questions evaluate the degree to which an individual believes their life to have been uncontrollable, overloaded and unpredictable over the past month, for example, “in the last month, how often have you felt things were going your way?”. This study uses the shortened version (PSS-10) which consists of ten items rated on a 5-point Likert Scale from 0-4 (0= never; 4 = very often). The scores are obtained by reversing the scores on positively stated items and summing the scores across all 10 items with a possible total score from zero to forty. The psychometric properties of the PSS-10 are superior to those of the PSS-14. Therefore, it is recommended that the PSS-10 be used to measure perceived stress, both in practice and research (Lee). The Perceived Stress Scale has a good reliability with Cronbach’s alpha ranging from 0.84 to 0.86, and the test-retest correlation is 0.85 (Cohen *et al.*, 1983). A review of the psychometric evidence of the PSS concluded that it is an easy-to-use questionnaire with established acceptable psychometric properties (Lee).

Scale of Teacher Attitudes towards Inclusion (STATIC). The STATIC was developed by Cochran (1997) to measure the attitudes of teachers who teach students with special needs and to identify relationships between the attitudes of teachers toward inclusion and towards special needs people in general. Cochran indicated a consistent Cronbach alpha reliability coefficient of .89 which held consistent for the total group as well as individual groups of elementary/secondary and regular/special education teachers. A recent factor analytic validation study of the STATIC found the internal consistency of the instrument was strong with an alpha of .89 (Nishimura & Busse, 2015). The measure demonstrated excellent test-retest reliability ($r = .99$) and a dependent t-test was non-significant, indicating mean group temporal stability.

The STATIC is a 20-item survey instrument consisting of statements regarding students with disabilities in the general education classroom, for example, “I am confident in my ability to teach children with ASD”. Individuals surveyed indicate their agreement level for each statement using a six point Likert scale with a range of responses 0 – 5 (0= strongly disagree; 5 = strongly agree). Following reverse scoring for negatively stated items, individuals with higher scores are considered to have a more positive attitude toward inclusion, while lower scores are considered to have less positive or more negative attitude toward inclusion. Four subscales comprise the STATIC questionnaire including the advantages and disadvantages of inclusive education, professional issues, philosophical issues, and logistical concerns (Appendix 1). Cochran conducted a factor analysis to affirm the validity of the STATIC and the results proved that, based on the reliability coefficients, both the overall and subscale STATIC scores are adequate measurements (Cochran, 1998). The STATIC has been used in a numerous research studies investigating teacher attitudes to inclusion (Wogamon, 2013).

Teacher Self-Efficacy Scale. The Teacher Self-Efficacy Scale (Schwarzer, *et al.*, 1999) assesses teacher’s sense of self-efficacy in their work environment (Hoy, 1993). This measurement tool was developed over three stages. The different job skills required for teaching were identified and then twenty seven items were used to assess the four major areas of job skills. Finally, a questionnaire was administered to approximately 300 German teachers in order to extract the ten items necessary to assess teacher self- efficacy (Schwarzer *et al.*, 1999), for example, “when I try really hard, I am able to reach even the most difficult students”. Responses to the ten questions are measured on a four-point Likert scale ranging from 1-4 (1 = not at all true; 4 = exactly true). Individuals with higher total scores are

considered to have greater teacher self-efficacy, while lower scores are considered to have lower teacher self-efficacy. Cronbach's alpha was found to be between .76 and .82 and test-retest reliability resulted in .67 (n=158) and .76 (n=193) respectively, for one year. For the period of two years, it was found to be .65 (n=161) (Schwarzer & Hallum, 2008). This scale identifies job skills and groups them into four major areas including job accomplishment, skill development on the job, social interaction with students, parents and colleagues, and coping with job stress. These items were designed to reflect Bandura's social cognitive theory (Bandura, 1997).

Procedure

Ethical approval was granted by the ethics board of the Psychology Department within Dublin Business School. Written e-mail consent was then sought and received from the principals of the two participating schools. Teachers were informed about the research project during an after-school meeting in which all teaching staff were present. Questionnaires were distributed at the meeting and teachers were given time to read through the documents and reminded that participation was voluntary and anonymous. The researcher also made reference to the links to support services which were detachable from the survey booklet (Appendix 5). Willing participants were asked if they had any questions and were given an opportunity to speak individually with the researcher. Following this, the participants were asked to sign the informed consent form (Appendix 3) and were reminded of their right to withdraw as outlined in their Information Leaflet (Appendix 2). The questionnaires were distributed and participants were informed that a sealed box would be placed in the school's office from that date for two weeks and were asked to return their completed questionnaires before this date. The participants were informed that a hard copy of

the study would be given to their school following submission of the thesis. The same procedure was followed for the second school.

The questionnaires were identical and had no identifying features. The questionnaires are stored in a locked filing cabinet which only the researcher has access to and will be shredded one year after the submission of the thesis. As no ID keys were used, the participants were informed that they could not withdraw their data once it was submitted. The researcher has responsibility for the computer data generated by the questionnaires and the supervisor has access to this data. Following the collection of all questionnaires the data was input to a computer. The data will be kept on a password protected computer which only the researcher has access to. As part of the study information, participants were informed how the data will be stored and destroyed.

Results

Descriptive Statistics

Data from 51 completed questionnaires was analysed. The results show that the participants are relatively inexperienced with almost half of the sample reporting 1-5 years teaching experience (Figure 1). The mean score for self-efficacy in the current study is 32.84 (SD = 2.95) with the possible scores for the Teacher Self-Efficacy Scale ranging from 10 to 40 (Schwarzer *et al.*, 1999). Therefore, the participants' mean scores may indicate a high level of self-efficacy. The results show that perceived stress amongst the total sample is slightly above the average score of thirteen (mean = 15.45, SD = 5.96). With regard to attitudes towards inclusion, the sample had a mean of 71.19 (SD = 10.49) out of a possible score of 120 indicating that there may be some negative attitudes towards the inclusion of pupils from ASD classes into mainstream classrooms.

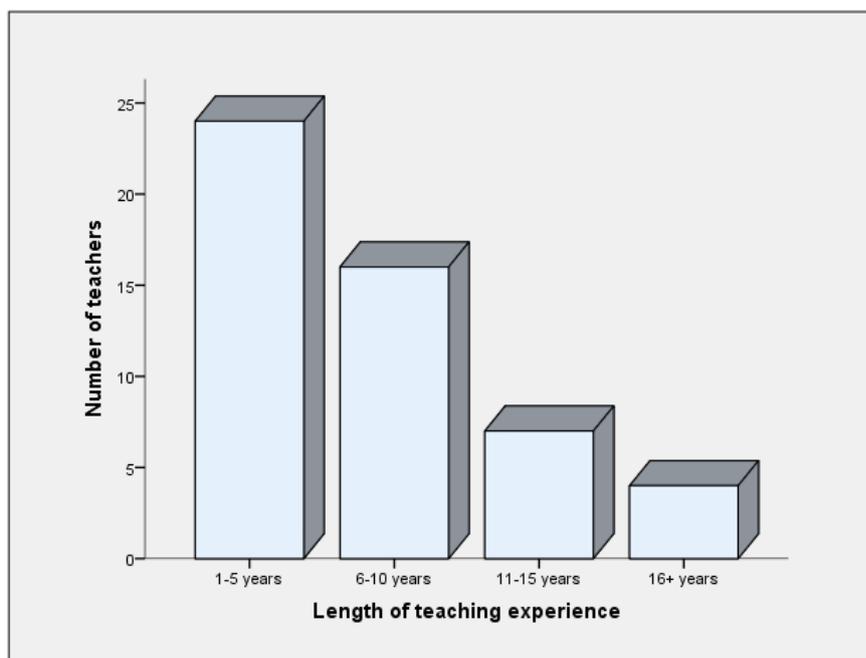


Figure 1. Number of years teaching experience of participants

Teachers who have experience of teaching pupils enrolled in ASD classes. Twenty four participants have taught pupils, enrolled in ASD classes, in a mainstream class. Of these participants, almost half (n = 11) have less than five years teaching experience and over 80% (n=20) have been teaching ten years or less. All of the teachers reported receiving SNA support when including children from an ASD class, the majority (n=19) stated that the children are always supported and the remainder (n=5) reported that the children were sometimes supported. One third of these respondents (n=8) have received training to include pupils with ASD and, of this cohort, over half only received 1-2 days training with the remainder receiving ten days or more of training. Mean scores for self-efficacy, perceived stress and attitudes towards inclusion for this group of participants (Table 2) appear quite similar to the mean scores reported for the total sample of participants.

Table 2. Descriptive statistics for teachers who have taught ASD-class pupils in mainstream

Variable	Frequency	Mean	Standard Deviation
Perceived Stress	24	14.75	6.58
Self-Efficacy	22	33.14	2.32
Attitudes towards Inclusion	21	68.52	10.49

Teachers who do not have experience of teaching pupils enrolled in ASD classes. Twenty six participants have no previous experience of teaching pupils enrolled in ASD classes. Of these participants, half (n = 11) have less than five years teaching experience and over seventy per cent (n=19) have been teaching ten years or less. One teacher from this group reported receiving 1-2 days training to include children with ASD. Table 3 outlines the

mean scores for self-efficacy, perceived stress and attitudes towards inclusion for this group of participants. These scores are quite similar to the mean scores reported for participants who do have experience of including pupils with ASD.

Table 3. Descriptive statistics for teachers who have not taught ASD-class pupils

Variable	Frequency	Mean	Standard Deviation
Perceived Stress	26	16.00	5.50
Self-Efficacy	26	32.69	3.42
Attitudes towards Inclusion	25	73.00	8.96

Inferential Statistics

The aim of this study was to uncover relationships between teacher experience, attitudes towards inclusion (measured by the Scale of Teacher Attitudes towards Inclusion), self-efficacy (measured by the Teacher Self-Efficacy Scale) and perceived stress (measured by the Perceived Stress Scale), with regard to the inclusion of pupils from ASD classes.

H1. There will be a significant relationship between teacher self-efficacy and teachers' attitudes towards inclusion. A two-tailed Pearson correlation coefficient found that there was a positive relationship between teacher self-efficacy ($M=32.84$, $SD=2.95$) and teacher attitudes towards inclusion ($M=71.19$, $SD=9.86$) ($r(43) = .424$, $p<.01$). As teacher self-efficacy increased, their attitudes towards inclusion became more positive. Therefore the null hypothesis can be rejected. This relationship can account for 18% of variation of scores.

H2. There will be a significant relationship between teacher self-efficacy, perceived teacher stress, teacher attitudes towards inclusion and the number of days training received. A two-tailed Spearman's rho correlation found that there was no significant association between amount of teacher training (1-2 days, 3-5 days, 5-10 days, 10+ days) and perceived teacher stress ($r_s(9) = .37, p=.332$), attitudes towards inclusion ($r_s(8) = .57, p=.140$) or self-efficacy ($r_s(8) = -.12, p=.783$). Therefore, the hypothesis is rejected. Attitudes towards were then analysed at a subscale level in relation to levels of training using Spearman's rho correlation. No significant association was found between teacher training and philosophical issues ($r_s(9) = .546, p=.233$), professional issues ($r_s(9) = .37, p=.327$), or the advantages and disadvantages of inclusion ($r_s(8) = .317, p=.444$). However, a significant association was found, at the $p<.05$ level, between the number of days training and the logistical concerns surrounding attitudes ($r_s(9) = .782, p=.013$).

H3. There will be a significant difference in attitudes towards inclusion between teachers who have taught pupils with ASD and those who have not. An independent samples t-test found that there was no statistical significant difference in attitudes towards inclusion between teachers who have included pupils with ASD ($M=69.14, SD=10.63$) and those who have not ($M=73, SD=8.96$) ($t(43) = -1.35, p=.183, CI(95\%) -9.62 - 1.89$). Further analysis found no significant difference in the four subscales of attitudes towards inclusion between teachers who have included pupils with ASD and those who have not (Table 4). Therefore the null hypothesis must be accepted.

Attitude Var.	Groups	Mean	SD	t	df	p
Advantages/	Yes	3.33	.52	-1.60	.118	.118
Disadvantages	No	3.61	.66			
Professional	Yes	3.24	.83	-.35	-.35	.730
Issues	No	3.32	.80			
Philosophical	Yes	3.95	.72	-.48	-.48	.635
Issues	No	4.04	.61			
Logistical	Yes	3.44	.78	-1.46	-1.46	.150
Concerns	No	3.74	.66			

Table 4: Relationship between attitude subscales and experience of including ASD children

Note: *p* significant at .05 level

H4. There will be a significant difference between the number of years teaching experience and teacher self-efficacy. A one-way analysis of variance showed that self-efficacy did not differ significantly between the four groups (1-5 years, 6-10 years, 11-15 years, 16+ years) ($F(3, 45) = .065, p=.978$). Therefore, the hypothesis must be rejected. Figure 2 illustrates a positive relationship between reported teacher self-efficacy and years of experience. The lack of significance may be explained by the fact that 78% of participants had ten years or less experience

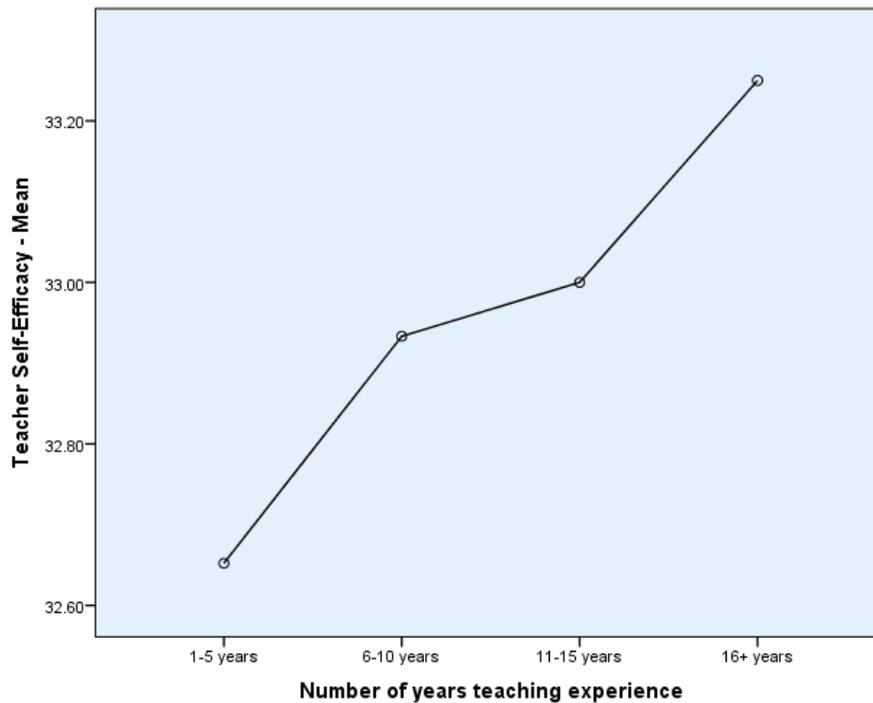


Figure 2. Relationship between teacher self-efficacy and length of teaching experience.

H.5 Teacher attitudes towards inclusion and self-efficacy will be predictors of stress. Multiple regression analysis was used to test whether perceived stress and self-efficacy were predictors of teacher attitudes towards inclusion. The results of the regression indicated that the two predictors indicated 2.6% of the variance ($R^2 = .026$, $F(2, 42) = 1.60$, $p = .215$). It was found that neither attitudes towards inclusion ($\beta = -.17$, $p = .310$, 95% CI = $-.33 - .11$) nor self-efficacy ($\beta = -.146$, $p = .379$, 95% CI = $-.96 - .37$) significantly predicted perceived teacher stress. Therefore, the null hypothesis must be accepted. Attitudes towards inclusion were then analysed at a subscale level in terms of predicting perceived stress. Results showed that teachers attitudes about the professional issues surrounding inclusion significantly predicted perceived stress ($\beta = -.40$, $p = .024$, 95% CI = $-5.66 - -.42$).

Discussion

The majority of children with ASD in Ireland are currently being educated in mainstream classes (Parsons *et al.*, 2009). However, an increasing number of pupils are attending special classes for pupils with ASD attached to mainstream schools. It is recommended that schools assess how these special classes relate to mainstream classes and that appropriate opportunities for meaningful inclusion should be made available (DES, 2001; Government of Ireland, 2004; Ware *et al.*, 2009). The aim of this study is to uncover relationships between teacher experience, training, and attitudes towards inclusion, self-efficacy, and perceived stress with regard to the inclusion of pupils from ASD classes.

H1. There will be a significant relationship between teacher self-efficacy and teachers' attitudes towards inclusion

Results obtained from a Pearson correlation coefficient found that there was a positive relationship between teacher self-efficacy and teacher attitudes to inclusion ($r(43) = .424, p < .01$) and so the hypothesis must be accepted. As teacher self-efficacy increased, teachers' attitudes towards inclusion became more positive. This result is in line with previous findings which have reported that self-efficacy has a positive impact on both attitudes to support teaching and attitudes towards the social integration of pupils with SEN (Brownell & Pajares, 1999; Weisel & Dror, 2006). Teachers with a strong sense of self-efficacy have also been found to hold more positive attitudes towards educational reforms and the implementation of new guidelines (Guskey, 1988). Low self-efficacy in teaching skills was associated with negative attitudes towards inclusion (Savolainen *et al.*, 2012; Sharma *et al.*, 2012; Vaz *et al.*, 2015). Further analysis of the scores demonstrates that although the sample had a high level of self-efficacy (Schwarzer *et al.*, 1999) (Mean=32.84),

lower teacher attitude towards inclusion scores (Cochran, 1997) (Mean = 71.19) indicate that some participants may have negative attitudes towards inclusion. This is indicative that perhaps not all participants with high teacher self-efficacy hold positive attitudes about the inclusion of pupils with ASD.

H2. There will be a significant relationship between teacher self-efficacy, perceived teacher stress, teacher attitudes towards inclusion and the number of days training received

Results obtained from a two-tailed Spearman's rho correlation indicated that there was no significant association between the number of days training completed and perceived teacher stress ($r_s(9) = .37, p=.332$), attitudes towards inclusion ($r_s(8) = .57, p=.140$) or self-efficacy ($r_s(8) = -.12, p=.783$). Therefore, the null hypothesis must be accepted. These findings are in contrast with much of the previous research. Kokkinos & Davazoglou (2009) indicated that over half of the teacher participants considered working with pupils with ASD to be a major source of stress and the authors referred to the importance of training to reduce this perceived stress. However, Vaz *et al.* (2015) argue that improving knowledge and confidence in inclusive education is alone insufficient in producing more positive attitudes towards inclusion and reducing perceived stress. Similar findings to this current study have been reported by Jobe and Rust (1996) whose quantitative study reported that although teacher towards attitudes are positively correlated with in-service training, no clear trends exist in the data. As attitudes to inclusion have been shown to be influenced by self-efficacy both in this current study and previous research (Guskey, 1988; Vaz *et al.*, 2015), it could be inferred that Jobe and Rust's findings may explain the lack of significance between teacher self-efficacy and training in this current study.

Attitudes towards inclusion were then analysed at a subscale level in relation to levels of training using Spearman's rho correlation. No significant association was found between teacher training and philosophical issues ($r_s(9) = .546, p=.233$), professional issues ($r_s(9) = .37, p=.327$), or the advantages and disadvantages of inclusion ($r_s(8) = .317, p=.444$). However, a significant association was found, at the $p<.05$ level, between the number of days training completed and logistical concerns ($r_s(9) = .782, p=.013$). This subscale of logistical concerns highlights issues regarding accommodating the physically disabled, making special physical arrangements, material/equipment being easily acquired and the principal being supportive. This significant association between attitudes towards inclusion and training is highlighted in the literature (Giangreco, 1993; Vaz *et al.*, 2015). Teacher training is considered to have a powerful influence on the development attitudes towards inclusion, especially when it incorporates related and specific abilities (Avramidis *et al.*, 2000).

H3. There will be a significant difference in attitudes towards inclusion between teachers who have taught pupils with ASD and those who have not

An independent samples t-test found that there was no statistically significant difference in attitudes towards inclusion between teachers who have included pupils with ASD and those who have not ($t(43) = -1.35, p=.183, CI(95\%) -9.62 - 1.89$). Therefore, the hypothesis was rejected. Further analysis found no significant difference in the four subscales of attitudes towards inclusion between teachers who have included pupils with ASD and those who have not (Table 3). In line with the findings of this current study, Vaz *et al.* (2015) argue that improving knowledge is insufficient in producing more positive attitudes towards inclusion. A quantitative study of 162 randomly selected teachers found that although there was a positive correlation between attitudes towards inclusion and experience, no clear trends exist in the data.

In contrast, the majority of research reports that greater experience in inclusive education predicts a more positive attitudes towards the education of pupils with ASD in mainstream classes (Harrower & Dunlap, 2001). Teacher attitudes towards inclusion have been found to change with experience, from initial resistance to a more favourable attitude (Giangreco, 1993). Teachers who do not participate in inclusive programmes have negative feelings about inclusion (Vaughn *et al.*, 1996).

H4. There will be a significant difference between the number of years teaching experience and teacher self-efficacy

This hypothesis was rejected as a one-way analysis of variance showed that self-efficacy did not differ significantly between the four groups ($F(3, 45) = .065, p=.978$). This could be due to the fact that the groups were not equally represented in the small sample with 78% of participants having less than 10 years teaching experience. There are contradictory findings on the influence of the length of teaching experience on self-efficacy. Klassen and Chiu (2010) reported that teacher self-efficacy shows a non-linear relationship with the number of years teaching experience, increasing from 0-23 years and decreasing after this time. These findings contrast with Bandura (1997) who proposed that self-efficacy beliefs remain stable once they are established. Teacher self-efficacy in the current sample shows an upward trend for self-efficacy alongside an increasing number of years' experience (Figure 2). However, as there are no significant differences between the groups, the findings in this current may be explained by Bandura's theory. It must also be noted that the current study does not specify the exact number of years teaching experience beyond 16 and so teacher self-efficacy may show a drop in teachers with 23 or more years teaching experience, in line with Klassen and Chiu's findings.

H5. Teacher attitudes towards inclusion and self-efficacy will predict perceived stress

Multiple regression analysis was used to test whether perceived stress and self-efficacy were predictors of teacher attitudes towards inclusion. It was found that neither attitudes towards inclusion ($\beta=-.17$, $p=.310$, 95% CI = $-.33 - .11$) nor self-efficacy ($\beta= -.146$, $p=.379$, 95% CI = $-.96 - .37$) significantly predicted perceived teacher stress. Therefore, the hypothesis was rejected. Schwarzer and Hallum (2008) examined the relationships between self-efficacy and perceived stress using the Teacher Self-Efficacy Scale (Schwarzer *et al.*, 1999). It was found that self-efficacy predicted job stress and this effect was moderated by age with significant effects at all age groups but a trend to be stronger for younger teachers. These findings were not supported by this current study as no relationship was found between the variables.

Attitudes towards inclusion were then analysed at a subscale level to test whether they predicted perceived stress. It was found that teachers attitudes about the professional issues surrounding inclusion significantly predicted perceived stress ($\beta=-.40$, $p=.024$, 95% CI = $-5.66 - -.42$). This subscale of professional issues includes confidence in ability, confidence in training, frustration/tolerance when teaching special education students, anxiety towards teaching special education students and problems teaching children with cognitive deficits (Cochran, 1997). These findings highlighting the importance of training when including pupils with ASD are in contrast with previous findings in this current study which did not find a significant association between teacher training and perceived stress (Hypothesis 2).

Limitations

The preliminary findings of this current study were based solely on self-report questionnaires. These results should be interpreted with caution as the questionnaires used

were standardised, hence they could not be modified in line with the hypotheses being tested. The information gathered by questionnaires was also reported after the event and so participants may have been swayed by the wording of the questions as opposed to reflecting on their true feelings or experience.

A further limitation was the small size of the study sample. It is not possible to generalise findings beyond the sample. A broader field of participant experience, with teachers who have more years teaching experience would have been beneficial to this current study. The schools chosen were large urban schools and, hence, the study findings did not reflect the process of inclusion in smaller, rural schools.

Reliability refers to the extent to which a method of data collection produces similar results under constant conditions over a period of time (Bell, 2010). Validated instruments were used in the questionnaires in this current study to maximise reliability. However, as these instruments were not validated in Ireland, this may reduce their reliability in this study. The participants involved and the instruments of data collection are factors which may affect the reliability of any study, in turn affecting the possibilities of generalisation to a wider public (Robson, 2011). As purposive sampling was used for the purposes of data collection, generalisations cannot be formulated.

Validity is a more complex concept than reliability (Bell, 2010). Sapsford and Jupp (as cited in Bell, 2010), refer to validity as the “the design of research to provide credible conclusions” (p.120). Robson (2011) defines validity as the testing for truth and accuracy. As the researcher was central to data collection, researcher bias is an issue in this study (Robson). Socially desirable responding by respondents is a major issue in questionnaire data

collection as people have the tendency to ‘‘present themselves favourable according to current cultural norms (Mick, 1996, p.106). This type of limitation may have been present in this study as the teachers participating may have wanted to present themselves as capable and inclusive-minded. This is despite the researcher’s best efforts to confirm anonymity and confidentiality. The use of reliable questionnaires and the identification of key research questions in line with current research, heightened the validity of this study. However, online questionnaires may produce more valid results as they may increase feelings of anonymity and make participants more likely to express themselves honestly. Paper questionnaires were used in this study as schools are currently inundated with requests to participate in online research.

Recommendations for Future Research

Previous research and the findings of this current study have illustrated the influence of self-efficacy on teacher attitudes towards inclusion. Given that attitudes towards inclusion are seen as the most important predictor of successful inclusion for pupils with ASD (Rodríguez *et al.*, 2012), future research should investigate the factors that influence teacher self-efficacy. Demographic factors such as gender should also be investigated in relation to self-efficacy. Contradictory findings reported in the literature regarding the influence of the length of teaching experience on self-efficacy should be the focus of Irish-based longitudinal research (Bandura, 1997; Klassen & Chiu, 2010). All future research should involve participants with different lengths of teaching experience as this was a major limitation of this current study.

It is generally accepted that the inclusion of pupils with ASD increases stress levels for teachers but there is no comparative research to illustrate if there is a significant

difference in stress levels between teachers including pupils with ASD and those who are not. A large randomised study investigating these variables would be beneficial to the future of inclusion in Irish schools as work stress is significantly correlated with burnout for teachers (Yu *et al.*, 2015).

All participants in this study had some form of SNA support when including children with ASD. Research highlights that many teachers do not generally receive such high levels of SNA support and experience stress when managing the work of an SNA in their class (Dunleavy, 2013). Future research should compare the relationship between the levels of stress experienced by teachers in Ireland who receive support when including a child with ASD and those who do not receive support.

The importance of training for including pupils with ASD is the concept most frequently referred to throughout the literature and reports in terms of attitudes towards inclusion and stress (Kokkinos & Davazoglou, 2009; Ware *et al.*, 2011). The influence of training on self-efficacy, perceived stress and attitudes towards was not significant in this study. However, a large Irish-based randomised study may demonstrate a significant relationship between these variables. This type of research would be very beneficial to the process of inclusion as the findings may be used to persuade government agencies to invest funding in professional development for teachers.

Implications

The findings of this study contrasted with much of the previous research in this area. Few of the hypotheses tested showed significance but the results are nonetheless important in informing future research needs.

One of the findings in this current study is supported by previous research which demonstrated that there is a strong positive relationship between teacher self-efficacy and teacher attitudes towards inclusion (Vaz *et al.*, 2015). This result highlights the important role of school management in supporting teachers and creating an environment whereby teachers are empowered and encouraged to use their own professional expertise to accommodate learners with ASD in a supportive environment. Although there was no significant difference between the number of years teaching experience and attitudes towards inclusion in this study, the downward trend for attitude scores as years teaching increases is something which should be noted. The lack of training for teachers at this stage in their career, having qualified at least 23 years previously, has been discussed as a possible reason for this (Vaz *et al.*). School management should ensure that more experienced members of staff are kept up to date with modern teaching interventions to ensure that the inclusion of learners with ASD is not beyond their perceived and actual ability.

Although this study did not find any significant association between training and any of the psychological variables of self-efficacy, attitudes towards inclusion or perceived stress, the previous research outlined in this study has highlighted the need for the Department of Education and Skills to provide compulsory in-service training for all schools with ASD classes attached. This would ensure that all members of staff have access to expertise and knowledge in the area of ASD. The findings of this research do not reflect the previous literature that was used to formulate hypotheses for this study. However, the limitation outlined in this current study may explain this lack of significance. Copies of this study will be sent to the National Council for Special Education (NCSE) who carry out much of the research in the area of inclusion for pupils with ASD in Ireland. It is hoped that the findings

of this study will inform future research and also policy development in the area of inclusion for pupils enrolled in ASD classes.

Conclusion

This research study aimed to uncover relationships between teacher attitudes towards inclusion, self-efficacy, perceived stress, and experience with regard to the inclusion of pupils from ASD classes. Previous research and this current study have found that high self-efficacy has a positive correlation with teacher attitudes towards inclusion. The literature reported a relationship between self-efficacy and the number of years teaching experience. However, in this current study, self-efficacy did not vary with the length of teaching experience. Previous research highlighted the influence of training on perceived teacher stress, and attitudes towards inclusion. However, this current study only found the attitudes subscale of logistical concerns to be significantly associated with the amount of training received by teachers. Despite research supporting the influence of experience in determining attitudes towards inclusion, there was no difference in attitudes towards inclusion, in this current study, between teachers who had experience of including pupils with ASD and those who did not. Self-efficacy and overall attitudes towards inclusion did not predict the perceived stress levels of teachers but the attitude subscale of professional issues was found to predict perceived teacher stress.

The limitations outlined in this study may have played a factor in the non-significance of several of the hypotheses in this study. However, the implications of this study are still numerous and diverse. A greater understanding of the role of self-efficacy when including pupils with ASD and an awareness of the importance of training throughout

teachers' careers may contribute to future educational planning both at national and school level.

References

- Ainscow, M., & César, M. (2006). Inclusive education ten years after Salamanca: Setting the agenda. *European Journal of Psychology of Education, 21*(3), 231-238.
- Allen, E. & Cowdery, S. (2005). *The exceptional child: Inclusion in early childhood education*. Albany, NY: Delmar.
- Allinder, R.M. (1994). The relationship between efficacy and the instructional practices of special educational teachers and consultants. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children, 17*(2), 86-95.
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Arlington, VA: American Psychiatric Publishing.
- Avramidis, E. Bayliss, P. & Burden, R. (2000). A survey into mainstream teachers' attitudes towards the inclusion of children with special educational needs in the ordinary school in one local education authority. *Educational Psychology, 20*(2), 191–211.
- Avramidis, E. & Norwich, B. (2002). Teachers' attitudes towards integration/inclusion: A review of the literature. *European Journal of Special Needs Education, 17*(2), 129-147.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W.H. Freeman.
- Bell, J. (2010). *Doing your research project: A guide for first-time researchers in education, health and social science* (5th ed.). Buckingham: Open University Press.
- Betoret, F.D. (2006). Stressors, self-efficacy, coping resources and burnout among secondary school teachers in Spain. *Educational Psychology, 26*(4), 519-539.

- Bizer, G.Y., Barden, J.C. & Petty, R.E. (2003). Attitudes. In L. Nadel (ed.), *Encyclopaedia of Cognitive Science*, 1, 247-253.
- Boyle, G.J., Borg, M.G., Falzon, J.M. & Baglioni, A.J., Jr. (1995). A structural model of the dimensions of teacher stress. *British Journal of Educational Psychology*, 65(1), 49-67.
- Brown, C.G. (2012). A systematic review of the relationship between self-efficacy and burnout in teachers. *Educational & Child Psychology*, 29(4), 47-63.
- Brownell, M.T. & Pajares, F. (1999). Teacher efficacy and perceived success in mainstreaming students with learning and behaviour problems. *Teacher Education and Special Education*, 22(3), 154-164.
- Burke, K. & Sutherland, C. (2004). Attitudes towards inclusion: Knowledge vs. experience. *Education*, 152(2), 163-172.
- Cammuso, K. (2011). Inclusion of students with autism spectrum disorders. *The Brown University Child and Adolescent Behaviour Letter*, 27(11), 3-6.
- Carrig, M. (2004). Changing role of the special needs assistant: Perspectives of a special school staff. *REACH Journal of Special Needs Education in Ireland*, 17(2), 119-126.
- Centres for Disease Control. (2012). Prevalence of autism spectrum disorders: Autism and developmental disabilities monitoring network, 14 sites, United States, 2008. *Morbidity and Mortality Weekly*, 61, 1-19.
- Chacón, C. T. (2005). Teachers' perceived efficacy among English as a foreign language teachers in middle schools in Venezuela. *Teaching and Teacher Education*, 21(3), 257- 272.
- Chaplain, R.P. (2008). Stress and psychological distress among trainee secondary teachers in England. *Educational Psychology*, 28(2), 195-209.

- Cochran, H. K. (1997). *The development and psychometric analysis of the Scale of Teacher's Attitudes Toward Inclusion (STATIC)*, Doctoral dissertation, The University of Alabama, Tuscaloosa.
- Cochran, H. K. (1998, October). *Differences in teachers' attitudes toward inclusive education as measured by the scale of teachers' attitudes toward inclusive classrooms (STATIC)*. Paper presented at the meeting of the Mid-Western Educational Research Association, Chicago, IL.
- Cohen, S., Kamarch, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behaviour*, 24(4), 385-396.
- Crosland, K. & Dunlap, G. (2012). Effective strategies for the inclusion of children with autism in general education classrooms. *Behaviour Modification*, 36(3), 251-269.
- DeBoer, A., Pijl, S.P., Post, W. & Minnaert, A. (2012). Which variables relate to the attitudes of teachers, parents and peers towards with special educational needs on regular education? *Educational Studies*, 38(4), 433-448.
- DeBoer, S. & Simpson, R. (2009). *Successful inclusion for pupils with autism: Creating a complete, effective ASD inclusion programme*. San Francisco: CA: Jossey-Bass.
- Department of Education and Science (1999). *Applications for special classes for children with disabilities*. Dublin: The Stationery Office. Circular SP ED 9/99.
- Department of Education and Science. (2001). *Educational provision and support for persons with autistic spectrum disorders: The report of the task force on autism*. Dublin: The Stationery Office.

- Department of Education and Skills (2011). *The special needs assistant scheme: A value for money review of expenditure on the special needs assistant scheme 2007/8-2010*. Dublin: The Stationery Office.
- Department of Education and Skills (2014). *The Special Needs Assistant (SNA) scheme to support teachers in meeting the care needs of some children with special educational needs, arising from a disability*. Dublin: The Stationery Office. Circular 0030/2014.
- Deris, A.R. & Di Carlo, C. (2013). Back to basics: working with young children with autism in inclusive classrooms. *British Journal of learning Support*, 28(2), 52-56.
- Developmental, D. M. N. S. Y., & 2010 Principal Investigators. (2014). Prevalence of autism spectrum disorder among children aged 8 years-autism and developmental disabilities monitoring network, 11 sites, United States, 2010. *Morbidity and mortality weekly report. Surveillance summaries (Washington, DC: 2002)*, 63(2), 1.
- Drudy, S. & Kinsella, W. (2009). Developing an inclusive system in a rapidly changing society. *International Journal of Inclusive Education*, 13(6), 647-663.
- Dunleavy, L. (2013). *The inclusion of pupils with autistic spectrum disorder in mainstream primary schools in Ireland* (unpublished doctoral thesis). Trinity College, Dublin.
- Eldar, E., Talmor, R. & Wolf-Zuckerman, T. (2010). Successes and difficulties in the individual inclusion of children with autism spectrum disorder (ASD) in the eyes of their coordinators. *International Journal of Inclusive Education*, 14(1), 97-114.
- Farber, B.A. (1991). *Crisis in education: Stress and burnout in the American teacher*. San Francisco: Jossey-Bass.
- Farrell, M. (2010). *Debating special education*. Oxon: Routledge.

- Fuchs, L.S., Fuchs, D. & Bishop, N. (1992). Instructional adaptation for students at risk. *The Journal of Educational Research*, 86(2), 70-84.
- Giangreco, M.F. (1993). Using creative problem solving methods to include students with severe disabilities in general education classroom activities. *Journal of Educational and Psychological Consultation*, 4(2), 113–135.
- Gillberg, C. & Wing, L. (1999). Autism: Not an extremely rare disorder. *Acta Psychiatrica Scandinavica*, 99(6), 399– 406.
- Government of Ireland. (1995). *Charting our education future: White paper on education*. Dublin: The Stationery Office.
- Government of Ireland. (1998). *The Education Act*. Dublin: The Stationery Office.
- Government of Ireland. (2004). *Education for Persons with Special Needs Act (EPSEN)*. Dublin: The Stationery Office.
- Graham, S., Harris, K. R., Fink, B., & MacArthur, C. A. (2001). Teacher efficacy in writing: A construct validation with primary grade teachers. *Scientific Studies of Reading*, 5(2), 177-202.
- Greenglass, E.R. & Burke, R.J. (2003). Teacher stress. In M.F. Dollard, A. H. Winefield & H.R. Winefield (Eds.). *Occupational stress in the service professions* (pp. 213-236). New York: Taylor & Francis.
- Guldberg, K., Parsons, S., MacLeod, A., Jones, G., Prunty, A. & Balfe, T. (2011). Implications for practice from ‘International review of the evidence on best practice in educational provision for children on the autistic spectrum’. *European Journal of Special Needs education*, 26(1), 65-70.

- Guskey, T. R. (1988). Teacher efficacy, self-concept, and attitudes toward the implementation of instructional innovation. *Teaching and Teacher Education*, 4(1), 63–69.
- Harris, S.L., Handleman, J.S., Kristoff, B., Bass, L. & Gordon, R. (1990). Changes in language development among children with autism and peer children in segregated preschool settings. *Journal of Autism and Development Disorders*, 20(1), 23-31.
- Harrower, J.K. & Dunlap, G. (2001). Including children with autism in general education classrooms: A review of effective strategies. *Behavior Modification*, 25(5), 762–784.
- Helfin, L.J. & Alaimo, D.F. (2007). *Students with autism spectrum disorders: Effective instructional practices*. New Jersey: Pearson.
- Holt, L., Lea, J. & Bowlby, S. (2012). Special units for young people on the autistic spectrum in mainstream schools: sites of normalisation, abnormalisation, inclusion and exclusion. *Environment and Planning A*, 44, 2191-2206.
- Hoy, W. K. (1993). Teachers sense of efficacy and the organisational health of schools. *The Elementary School Journal*, 93(4), 356-372.
- Humphrey, N. (2008). Including pupils with autistic spectrum disorders in mainstream schools. *Support for Learning*, 23(1), 42-47.
- Jennett, H.K., Harris, S.L. & Mesibov, G.B. (2003). Commitment to philosophy, teacher efficacy and burnout amongst teachers of children with autism. *Journal of Autism and Developmental Disorders*, 33(6), 583-593.
- Jobe, D. & Rust, J. O. (1996). Teacher attitudes towards inclusion of students with disabilities into regular classrooms. *Education*, 117(1), 148.

Jordan, R. (1999). *Autistic spectrum disorders: An introductory handbook for practitioners*. London: David Fulton.

Jordan, R. (2005). Autistic Spectrum Disorders. In Lewis, A. & Norwich, B. (Eds.) *Special teaching for special children? Pedagogies for inclusion?* (pp. 110-122). Berkshire: Open University.

Jordan, R. (2008). Autistic spectrum disorders: A challenge and a model for inclusion in education. *British Journal of Special Education*, 35(1), 11-15.

Keen, D. & Ward, S. (2004). Autistic spectrum disorder: A child population profile. *Autism*, 8(1), 39-48.

Klassen, R.M. & Chiu, M.M. (2010). Effects of teachers' self-efficacy and job satisfaction: teacher gender, years of experience and job stress. *Journal of Educational Psychology*, 102(3), 741-756.

Kokkinos, C. M., & Davazoglou, A. M. (2009). Special education teachers under stress: Evidence from a Greek national study. *Educational Psychology*, 29(4), 407-424.

Kruth, J.A. & Mastergeorge, A.M. (2010). Academic and cognitive profiles of students with autism: Implications for classroom practice and placement. *International Journal of Special Education*, 25(2), 8-14.

Kyriacou, C. (2001). Teacher stress: Directions for future research. *Educational Review*, 53(1), 27-35.

Lai, M.C., Lombardo, M.V., Chakrabarti, B. & Baron-Cohen, S. (2013). Subgrouping the autism "spectrum": Reflections on DSM-5. *PLOS Biology*, 11(4), 1-7.

LaPiere, R. T. (1934). Attitudes vs. actions. *Social forces*, 13(2), 230-237.

- Lee, E.H. (2012). Review of the psychometric evidence of the Perceived Stress Scale. *Asian Nursing research*, 6(4), 121-127.
- Leedy, D. & Ormond, J.E. (2001). *Practical research: Planning and design* (7th ed.). Merrill Prentice-Hall: New Jersey.
- LeRoy, B. and Simpson, C. (1996). Improving student outcomes through inclusive education. *Support for Learning*, 11(1), 32–36.
- Levy, S. E., Mandell, D. S. & Schultz, R. T. (2009). Autism. *The Lancet*, 374(9701), 1627–1638.
- Lewis, A., & Norwich, B. (Eds.) (2005). *Special teaching for special children? Pedagogies for inclusion?* London: Oxford University Press.
- Lindsay, S., Proulx, M., Thomson, N. & Scott, H. (2013). Educators' challenges of including children with autism spectrum disorder in mainstream classrooms. *International Journal of Disability, Development and Education*, 60(4), 347-362
- Logan, A. (2001). Collaboration between teachers and special needs assistants in mainstream primary schools. *REACH Journal of Special Needs Education on Ireland*, 15(1), 33-42.
- Lorenz, S (1998) *Effective in-class support: The management of support staff in mainstream and special schools*. David Fulton: London.
- Lyons, J., Cappadocia, M.C. & Weiss, J.A. (2011). Brief report: Social characteristics of students with autism spectrum disorders across classroom settings. *Journal on Developmental Disabilities*, 17(1), 77-82.
- McGregor, E. & Campbell, E. (2001). The attitudes of teacher in Scotland to the integration of children with autism into mainstream schools. *Autism*, 5(2), 189-207.

- Meijer, C.J.W. & Foster, C.F. (1988). The effect of teacher self-efficacy on referral chance. *The Journal of Special Education, 31*(4), 480-497.
- Mick, D.G. (1996). Are studies of dark side variables confounded by socially desirable responding? The case of materialism. *Journal of Consumer Research, 23*(2), 106-119.
- Moran, A. & Abbott, L. (2007). Developing leadership and a new language of learning. *International Journal Leadership in Education, 10*(1), 31-48.
- Muijs, D. & Reynolds, D. (2002). Teacher's beliefs and behaviours: What really matters? *Journal of Classroom Interaction, 37*(2), 3-15.
- National Council for Special Education. (2013). *Supporting students with special educational needs in schools*. Meath: National Council for Special Education.
- Nishimura, T.S. & Busse, R.T. (2015). A factor analytic validation study of the scale of teachers' attitudes towards inclusive classrooms (STATIC). *International Journal of Special Education, 30*(3), 1-8.
- Parsons, S., Guldberg, K., MacLeod, A., Jones, G., Prunty, A. & Balfe, T. (2009). *International review of the literature of evidence of best practice provision in the education of persons with autistic spectrum disorders*. Trim: National Council for Special Education.
- Podell, D.M. & Soodak, L.C. (1993). Teacher efficacy and bias in special educational referrals. *The Journal of Educational Research, 86*(4), 247-253.
- Pozos-Radillo, B. E., de Lourdes Preciado-Serrano, M., Acosta-Fernández, M., de los Ángeles Aguilera-Velasco, M., & Delgado-García, D. D. (2014). Academic stress as a predictor of chronic stress in university students. *Psicología Educativa, 20*(1), 47-52.

- Reed, P., Osborne, L.A. & Waddington, E.M. (2012). A comparative study of the impact of mainstream and special school placement on the behaviour of children with autism spectrum disorders. *British Educational Research Journal*, 38(5), 749-763.
- Robson, C. (2011). *Real world research* (3rd ed.). West Sussex: John Wiley & Sons.
- Rodríguez, I.R., Saldana, D. & Moreno, F.J. (2012). Support, inclusion and special education teachers' attitudes toward the education of students with autism spectrum disorders. *Autism Research and Treatment*, 1, 1-8.
- Ross-Hill, R. (2009), Teacher attitude towards inclusion practices and special needs students. *Journal of Research in Special Educational Needs*, 9(3), 188–198.
- Rubie-Davies, C. M., Flint, A., & McDonald, L. G. (2012). Teacher beliefs, teacher characteristics, and school contextual factors: What are the relationships? *British Journal of Educational Psychology*, 82(2), 270-288.
- Savolainen, H., Engelbrecht, P., Nel, M. & Malinen, P. (2012). Understanding teachers' attitudes and self-efficacy in inclusive education: Implications for pre-service and in-service teacher education. *European Journal of Special Needs Education*, 27(1), 51-68.
- Schwarzer, R. (Ed.) (1992). *Self-efficacy: Thought control of action*. Washington, DC: Hemisphere.
- Schwarzer, R. & Hallum, S. (2008). Perceived teacher self-efficacy as a predictor of job stress and burnout: Meditation analyses. *Applied Psychology: An International Review*, 57, 152-171.
- Schwarzer, R., Schmitz, G.S & Daynor, G.T. (1999). The Teacher Self-Efficacy Scale [Online publication]. Available at: http://www.fu-berlin.de/gesund/skalen/t_se.htm.

- Sharma, U., Loreman, T., Forlian, C. (2012). Measuring teacher efficacy to implement inclusive practices. *Journal of Research in Special Educational Needs*, 12(1), 12-21.
- Skaalvik, E.M. & Skaalvik, S. (2007). Dimensions of teacher self-efficacy and relations with strain factors, perceived collective teacher efficacy and teacher burnout. *Journal of Educational Psychology*, 99(3), 611-625.
- Soodak, L., Podell, D., & Lehman, L. (1998). Teacher, student and school attributes as predictors of teachers' responses to inclusion. *Journal of Special Education*, 31(4), 480-497.
- Stronge, J. H., Ward, T. J., & Grant, L. W. (2011). What makes good teachers good? A crosscase analysis of the connection between teacher effectiveness and student achievement. *Journal of Teacher Education*, 62(4), 339-355.
- Sutton, R. I. (1984). Job stress among primary and secondary schoolteachers: Its relationship to ill-being. *Work and Occupations*, 11(1), 7-28.
- Taylor, S. (2009). *Health Psychology* (7th ed.). Berkshire: McGraw-Hill.
- Tschannen-Moran, M. & Woolfolk-Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education*, 17(7), 783-805.
- Urton, K., Wilbert, J. & Hennemann, T. (2014). Relationship between principals 'and teachers' attitudes toward inclusion and self-efficacy. *Empirical Special Education*, 6(1), 3-16.
- United Nations Educational, Scientific and Cultural Organisation (UNESCO). (1994). *The Salamanca Declaration and Framework for Action*. Paris: Author.

- Universal Declaration of Human Rights (1948), United Nations General Assembly, Paris, 10th December 1948.
- Vaughn, S., Schumm, J., Jallad, B., Slusher, S., & Saumell, L. (1996). Teachers' views of inclusion. *Learning Disabilities Research and Practice, 11*(2), 96-106.
- Vaz, S., Wilson, N., Falkmer, M., Sim, A., Scott, M., Cordier, R. & Falkmer, T. (2015). Factors associated with primary school teachers' attitudes towards the inclusion of students with disabilities. *PlosOne 10*(8): e0137002.
- Villa, R.A., Thousand, J.S., Meyers, H., & Nevin, A. (1996). Teacher and administrator perceptions of heterogeneous education. *Exceptional Children, 63*(1), 29-45.
- Ware, J., Balfe, T., Butler, C., Day, T., Dupont, M., Harten, C., Farrell, A.M., MacDaid, R., O' Riordan, M., Prunty, A & Travers, J. (2009). *Research report on the role of special schools and special classes in Ireland* (NCSE Research Reports No: 4). Meath: National Council for Special Education.
- Warnock, M. (2005). *Special educational needs: A new look*. London: Philosophy of Education Society of Great Britain.
- Weisel, A. & Dror, O. (2006). School climate, sense of efficacy and Israeli teachers' attitudes towards inclusion of students with special needs. *Education, Citizenship and Social Justice, 1*(2), 157-174.
- Whitaker, P. (2007). Provision for youngsters with autistic spectrum disorders in mainstream schools: What parents say – and what parents want. *British Journal of Special Education, 34*(3), 170-178.
- Winter, E. & O' Raw, P. (2010). *Literature review of the principles and practices relating to inclusive education for children with special educational needs*. NCSE: Trim.

Wogamon, L. (2013). Examining the Relationships between Secondary General Education Teachers' Attitudes toward Inclusion, Professional Development, and Support from Special Education Personnel. *Doctoral Dissertations and Projects*. Paper 773.

<http://digitalcommons.liberty.edu/doctoral/773>

Xingmin, W., Lin, C., Jing, Q. & Jiayi, P. (2014). Social support moderates stress effects on depression. *International Journal of Mental Health Systems*, 8(1), 1-12.

Yu, X., Wang, P., Zhai, X., Dai, H., & Yang, Q. (2015). The effect of work stress on job burnout among teachers: The mediating role of self-efficacy. *Social Indicators Research*, 122(3), 701-708.

Appendix 1

Summary of the content by factor loading of the STATIC

<p>Factor 1</p> <p>Advantages and Disadvantages of Inclusive Education</p>	<p>Special education students should be in special education classes</p> <p>Special education students learn social skills from regular education</p> <p>Special education students have higher academic achievements when included</p> <p>Achievement is difficult for special education students when included</p> <p>Special education students have higher self-esteem when included</p> <p>Special education students hinder academic progress of general education classes</p> <p>Special education students should be in general education classes</p>
<p>Factor 2: Professional Issues Regarding Inclusive Education</p>	<p>Confidence in ability</p> <p>Confidence in training</p> <p>Frustration/tolerance when teaching special education students</p> <p>Anxiety towards teaching special education students</p> <p>Problems teaching children with cognitive deficits</p>
<p>Factor 3: Philosophical Issues Regarding Inclusive Education</p>	<p>All students can learn</p> <p>Special education students can learn</p> <p>Handling behaviour problems</p> <p>Training for teaching special education students</p>
<p>Factor 4: Logistical Concerns of Inclusive Education</p>	<p>Accommodating the physically disabled</p> <p>Making special physical arrangement</p> <p>Material/equipment easily acquired</p> <p>Principal supportive</p>

Appendix 2

Information Leaflet

Teacher attitudes towards the inclusion of pupils with autism spectrum disorder (ASD)
--

Dear Teacher,

My name is Emer O' Dowd and I am conducting research in the Department of Psychology in Dublin Business School that explores attitudes to inclusion. This research is being conducted as part of my studies and will be submitted for examination.

You are invited to take part in this study and participation involves completing and returning the attached anonymous survey. While the survey asks some questions that might cause some minor negative feelings, it has been used widely in research. If any of the questions do raise difficult feelings for you, contact information for support services are included on the final page.

Before commencing the study I need your written permission to indicate your willingness to complete a questionnaire. I want you to know that participation is voluntary and that you may withdraw from the exercise at any time without giving any reason for your decision to withdraw. Participation is anonymous and confidential. Thus responses cannot be attributed to any one participant. For this reason, it will not be possible to withdraw from participation after the questionnaire has been collected. The questionnaires will be securely stored and data from the questionnaires will be transferred from the paper record to electronic format and stored on a password protected computer.

I will take all necessary precautions to ensure that your confidentiality is respected. In reporting my work, I will use a pseudonym for the school. No personal details, no details of the school and no identifying features will be recorded in my written account of the findings of the questionnaire or in my completed project. All questionnaires will be shredded when the research process is complete.

It is important that you understand that by completing and submitting the questionnaire that you are **consenting** to participate in the study.

I can provide you with detailed analysis of the data collected from these questionnaires upon request. This data will be available from April 2016 onwards

Should you require any further information about the research, please contact Emer O' Dowd, XXXXX@mydbs.ie or (0XX) XXXXXX. My supervisor can be contacted at XXXX.

I would be very grateful if you would agree to assist me in my studies and facilitate me by completing this questionnaire.

Signature:

Date: 30/11/15

Appendix 3

Informed consent form

I agree to complete a questionnaire on teachers' attitudes towards the inclusion of pupils with autism spectrum disorder (ASD) in mainstream classes.

I also agree that you may use the findings from the questionnaire for the purpose of analysis for your research project.

I am aware that if I agree to take part in this study, I can withdraw from participation at any stage before returning my questionnaire. Once my questionnaire is returned, I understand that it cannot be withdrawn as there are no identifying marks. There will be no penalty for withdrawing before all stages of the research assignment have been completed.

Arrangements to protect confidentiality have been explained to me.

I have read the letter (Information Leaflet) which accompanies this consent form and I have had an opportunity to discuss the proposed questionnaire with you.

Participant's Signature: _____ Date: _____

Participant's Name in Print: _____

Appendix 4

Teacher attitudes towards the inclusion of children with autism spectrum disorder

The purpose of this brief questionnaire is to elicit the views of teachers towards the inclusion of pupils with ASD who are enrolled in autistic classes.

Q1. How many years teaching experience do you have? Please tick 1 box.

- | | |
|-------------|--------------------------|
| 1-5 years | <input type="checkbox"/> |
| 6-10 years | <input type="checkbox"/> |
| 11-15 years | <input type="checkbox"/> |
| 16+ years | <input type="checkbox"/> |

Q2. Have you taught pupils with ASD who were enrolled in an ASD class, in a mainstream class? Please tick 1 box.

- | | |
|-----|--------------------------|
| Yes | <input type="checkbox"/> |
| No | <input type="checkbox"/> |

If no, please proceed to Q6.

Q3. Please tick which box applies to the level of SNA support which your child from ASD class received when being included in your class.

- | | |
|---------------------|--------------------------|
| Always supported | <input type="checkbox"/> |
| Sometimes supported | <input type="checkbox"/> |
| Never supported | <input type="checkbox"/> |

Q4. Have you had any in-service training specifically relating to the inclusion of pupils with ASD in mainstream classes? Please tick 1 box.

- | | |
|-----|--------------------------|
| Yes | <input type="checkbox"/> |
| No | <input type="checkbox"/> |

If no, please proceed to Q6.

Q5. In the case of this in-service training, please indicate how many days training you received by ticking 1 box.

(1day = 5 hours)

- | | |
|------------|--------------------------|
| 1 – 2 days | <input type="checkbox"/> |
| 3 – 5 days | <input type="checkbox"/> |
| 5-10 days | <input type="checkbox"/> |
| 10+ days | <input type="checkbox"/> |

Q. 6 the questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

0 = Never

1 = Almost Never

2 = Sometimes

3 = Fairly Often

4 = Very Often

- | | | | | | |
|--|---|---|---|---|---|
| 1. In the last month, how often have you been upset because of something that happened unexpectedly? | 0 | 1 | 2 | 3 | 4 |
| 2. In the last month, how often have you felt that you were unable to control the important things in your life? | 0 | 1 | 2 | 3 | 4 |
| 3. In the last month, how often have you felt nervous and “stressed”? | 0 | 1 | 2 | 3 | 4 |
| 4. In the last month, how often have you felt confident about your ability to handle your personal problems? | 0 | 1 | 2 | 3 | 4 |
| 5. In the last month, how often have you felt that things were going your way? | 0 | 1 | 2 | 3 | 4 |
| 6. In the last month, how often have you found that you could not cope with all the things that you had to do? | 0 | 1 | 2 | 3 | 4 |
| 7. In the last month, how often have you been able to control irritations in your life? | 0 | 1 | 2 | 3 | 4 |
| 8. In the last month, how often have you felt that you were on top of things? | 0 | 1 | 2 | 3 | 4 |
| 9. In the last month, how often have you been angered because of things that were outside of your control? | 0 | 1 | 2 | 3 | 4 |
| 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? | 0 | 1 | 2 | 3 | 4 |

Q.7 Please circle the number that is most accurate.

1 = Not at all true

2 = Barely True

3 = Moderately true

4 = Exactly true

- | | | | | |
|--|---|---|---|---|
| 1. I am convinced that I am able to successfully teach all relevant subject content to even the most difficult students. | 1 | 2 | 3 | 4 |
| 2. I know that I can maintain a positive relationship with parents even when tensions arise. | 1 | 2 | 3 | 4 |
| 3. When I try really hard, I am able to reach even the most difficult students. | 1 | 2 | 3 | 4 |
| 4. I am convinced that, as time goes by, I will continue to become more and more capable of helping to address my students' needs. | 1 | 2 | 3 | 4 |
| 5. Even if I get disrupted while teaching, I am confident that I can maintain my composure and continue to teach well. | 1 | 2 | 3 | 4 |
| 6. I am confident in my ability to be responsive to my students' needs even if I am having a bad day. | 1 | 2 | 3 | 4 |
| 7. If I try hard enough, I know that I can exert a positive influence on both the personal and academic development of my students. | 1 | 2 | 3 | 4 |
| 8. I am convinced that I can develop creative ways to cope with system constraints (such as budget cuts and other administrative problems) and continue to teach well. | 1 | 2 | 3 | 4 |
| 9. I know that I can motivate my students to participate in innovative projects. | 1 | 2 | 3 | 4 |
| 10. I know that I can carry out innovative projects even when I am opposed by skeptical colleagues. | 1 | 2 | 3 | 4 |

Q.8 Please respond to each of the following statements by circling the answer that reflects your opinion most closely:

0 = *Strongly Disagree*

1 = *Disagree*

2 = *Not sure, but tend to disagree*

3 = *Not sure, but tend to agree*

4 = *Agree*

5 = *Strongly Agree*

Please place an X in the appropriate box for your response.

	0	1	2	3	4	5
1. I am confident in my ability to teach children with autism spectrum disorder (ASD).						
2. I have been adequately trained to meet the needs of pupils with ASD						
3. I become easily frustrated when teaching pupils with ASD.						
4. I become anxious when I learn that a pupils with ASD will be in my classroom.						
5. Although children differ intellectually, physically, and psychologically, I believe that all children can learn in most environments.						
6. I believe that academic progress is possible in children with ASD.						
7. I believe that children with special needs should be place in special education classes.						
8. I am comfortable teaching a child that is moderately physically disabled.						
9. I have problems teaching a student with cognitive deficits.						
10. I can adequately handle students with mild to moderate behavioural problems.						
11. Students with special needs learn social skills that are modelled by regular education students.						
12. Students with special needs have higher academic achievements when included in the regular education classroom.						
13. It is difficult for children with special needs to make strides in academic achievement in the regular education classroom.						
14. Self-esteem of children with special needs is increased when included in the regular education classroom.						

15. Students with special needs in the regular education classroom hinder the academic progress of the regular education student.						
16. Special in-service training in teaching special needs students should be required for all regular education teachers.						
17. I don't mind making special physical arrangements in my room to meet the needs of students with special needs.						
18. Adaptive materials and equipment are easily acquired for meeting the needs of students with special needs.						
19. My principal is supportive in making needed accommodations for teaching children with special needs.						
20. Students with special needs should be included in regular education classrooms.						

Thank you for taking the time to complete this questionnaire.

Appendix 5

Links to Support services

www.autismireland.ie

www.autismspeaks.org

www.specialneedsparents.ie/national-support-groups-orgs

www.friendshipcircle.org