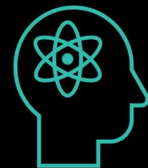
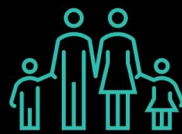


RESEARCH JOURNAL

MIDDLETOWN CENTRE
FOR AUTISM



The Middletown Centre for Autism Research Journal publishes high-quality research that has the potential to impact and improve the educational outcomes, opportunities and services for autistic people across Ireland and beyond.



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MCA Research Journal publishes high-quality research and scholarship concerning autistic children, young people and adults. The aim of the Journal is to share research which has the potential to impact and improve the educational outcomes, opportunities and services for autistic people.

Please note that the language used in this Journal is autism affirming and neurodiversity-informed. This Journal is created for autistic people, family members and professionals to learn more about research being conducted. The language chosen here is intended to be as inclusive as possible to the broad autism community.

Introduction

Stephen Douthart, CEO Middletown Centre for Autism

Welcome to the first publication of the Middletown Centre for Autism (MCA) Research Journal. Since MCA was founded in 2007, the number of children across Ireland diagnosed with autism has risen significantly, with up to 5% of school-age children having a diagnosis (Boilson *et al* 2016; DOH 2021) and an estimated 10,000 young people waiting on diagnosis (NICCY 2022). Though the governing educational bodies across the island have made positive changes to educational practice to fulfil inclusive education ambitions (Nilholm 2021), recent reports evidence that autistic children and young people are still not receiving the support they need to thrive in school (AsIAm 2019; Roberts 2015).

Schools need to have specific knowledge of autism and be capable of implementing appropriate supports and teaching approaches to accommodate the needs and celebrate the strengths of autistic students (Cook and Ogden 2020; Frederickson and Lang, 2010; Odom *et al* 2013). Research indicates that although schools support the idea of inclusion, it is not always facilitated in reality (Little 2017) as many teachers report they feel ill-equipped or have little confidence and self-efficacy in their capacity to support autistic students (Frederickson *et al* 2010; Humphrey and Symes, 2011; Lindsay *et al* 2013).

Recognizing the growing need for research, training, and guidance on autism, the Department of Education (Ireland) and Department of Education (Northern Ireland) established MCA 16 years ago. Since then, MCA has become a leading provider of training for parents and educational professionals in Ireland and Northern Ireland, offering both online and face to face trainings with local and international experts in autism. Beyond training, MCA offers a transdisciplinary support service to children and schools, as well as active research and information services.

The launch of the MCA Research Journal is a significant step forward in addressing the pressing challenges faced by autistic children and young people in the educational system across Ireland and beyond. By focusing on evidence-based practices and research that aims to support the development of environments and people around autistic individuals, the journal seeks to enhance educational outcomes, opportunities, and services for autistic children and young people.

It is our belief that through continued research, training, and guidance, we can work towards a more inclusive and supportive educational environment for all children.

Editorial

Dr Fiona McCaffrey

"Somewhere, something incredible is waiting to be known." Carl Sagan

Research is the stuff that innovation is made of. Research challenges and underpins our practice; it fuels our curiosity and it drives the development of new ideas. In autism the number of research articles published across media grows annually. Memiseviac and Djipa (2021) report almost 6000 articles published in one calendar year – a threefold increase from 2011, and this does not include web publications, blogs, unpublished academic works and policy documents. Important research is completed and published daily. However, this does not always translate into our practices, nor does it always prioritise the work of autistic academics or the issues relevant to autistic stakeholders (Roche *et al* 2021).

This is the first edition of Middletown Centre's online journal. Since 2008 the Centre has published over 40 [research bulletins](#); delving deep into peer reviewed research from across the globe and creating practice-based summaries to enhance and influence practices using research. The impetus to start publishing the Centre's own journal has been multifaceted. The Centre's graduate courses, culminating in a Master's Degree in Autism Studies has created a critical mass of high-quality Irish research, which prioritises co-production and neuro-affirming practices. The production of the MCA Journal has been a logical evolution for the Centre and is consistent with our commitment to the promotion of excellent practices in our own work and communicating excellent practices through our training, resources, and international conferences. The principal focus of the MCA Journal is on enhancing practice and on sharing the energy for progress and reflection that comes through quality research.

To this end the articles in this first journal address issues that are relevant in the here and now of the Centre's work as we support, train and advise schools and communities in all parts of the Island and beyond. In this first edition of the Middletown Research Journal we begin by establishing the responsibilities of researchers to keep the individual and community at the core of their work at every stage in the research process. It is incumbent on the research community to embed the value of 'nothing about us without us' in every aspect of research work with all communities. The research articles published in this first journal are from the here and now in Ireland; demonstrating the reality of the difficulties, the needs and hopes for the future. Research can change the present for children, young people, their siblings, families, teachers, schools and communities and it can create new futures. This journal seeks to establish a collaborative research approach where all voices are valued and the entire community collaborates to consider pathways to a different future.

I wish to express my gratitude to Fergus, Aoife, Tara, Eilís and Deirdre for their submissions and special thanks to Dr Rachel Ferguson from Middletown Centre for her work and commitment to the MCA Journal.

Autism & Scientism

Fergus Murray

There are many ways for people to come to understand the world. Many different approaches to learning about things, including minds. Scientism — the belief that science is the only route to useful knowledge — is a philosophical mistake (Hughes 2012).

I say this as someone who loves science, who teaches it for a living and who's in the middle of another science course right now, for general interest and with an eye to future research. Science is wonderful. We just need to be careful about how we apply it, and what ways of knowing we risk crowding out if we rely on it too heavily.

When it comes to autism, people sometimes rely on scientific studies to the point of disbelieving autistic people's personal experiences. Despite the low quality of much of the published research on autism, non-autistic experts are assumed to understand autistic experiences better than the people having them. This is a serious problem in a number of ways, and also an interesting case study in the limitations of science.

The scientific method, roughly speaking, consists of forming hypotheses and models, making predictions, and testing them through experiments and careful observation. There is a lot more to science than that in practice, and it can be difficult to pin down exactly what the very disparate practices in different branches really have in common, but as far as it makes sense to talk about '*the scientific method*', it's generally agreed to take something like that form.

This approach to discovering the truth about the world we live in has proved phenomenally successful. The insights of physics brought us

the industrial revolution, and drive technological innovation to this day. Modern medicine would be inconceivable without modern chemistry and biology. The successes of these fields have driven people to seek similar insights using related approaches in anthropology, economics, psychology and across the social sciences. The demand for rigorous evidence and testable hypotheses has borne many fruits.

However, the more complex the systems we study, the harder it is to capture their behaviour in models, and the more likely we are to meet emergent phenomena, and scenarios where established theories break down. Physics students get used to problems involving perfectly smooth surfaces and flawlessly spherical objects, because we know the models we use are only approximations. In the real world other factors come into play: we know that cows aren't *strictly* spherical, but let's just say they come close enough for our purposes.

Humans are *complex*. We're complex even as individuals, and we're inescapably embedded in societies that are far more complex still. Doing good science on people is *really hard*. We constantly have to rely on very heavily simplified models, because a *complete* explanation of almost any human behaviour would really have to bring in — at minimum — cellular biology, anatomy, electrophysiology, endocrinology, social and developmental psychology, evolutionary biology, anthropology, sociology and political economy.

Nobody even attempts to explain things that comprehensively, for fairly obvious reasons; instead, we get used to looking at different



levels of explanation (Owens, 1989) and doing what we can by working at one or two levels at a time and just keeping half an eye on when other levels might impinge. Sometimes we get very satisfactory results that way, but other times we might miss really important parts of the picture, or settle for explanations that are plausible but completely wrong, like when social psychology tries to explain what turn out to be innate neurological differences.

Rigorously testing models and hypotheses requires large sample sizes and control groups, and those can be very hard to come by when you are studying humans. Ideally we would look for independent replication of findings, but in practice this often fails (Wiggins and Christopherson, 2019). Partly because of those difficulties, the study of humans is vulnerable to systematic biases of various sorts, including conflicts of interest and publication bias (Mechler *et al* 2016).

None of this is to say we shouldn't try to apply scientific methods to the study of human behaviour and experience. Rigour and strong evidence bases are absolutely worth aiming for, and science is one extremely powerful way of getting them. However, not all evidence is scientific evidence. If someone tells you it hurts when they get kicked, you hopefully wouldn't hold out for peer-reviewed studies to validate their pain. That's certainly not how courts of law do it.

Similarly, if we have multiple testimonies from people who say that they were traumatised by autism interventions like Applied Behaviour Analysis (ABA), we should take that seriously. ABA is described as a scientific approach to understanding and modifying behaviour, although it based in the behaviourist paradigm, which has not been mainstream in psychology for some decades; and various meta-analyses have found the scientific evidence for ABA working at all is weak (Reichow *et al* 2018; Sandbank *et al* 2020; Strydom *et al* 2020).

Many autistic people who have been through ABA and similar 'therapies' like Positive

Behaviour Support (PBS) say that they have experienced such interventions as abusive (Davison 2018), and we shouldn't wait around for strong scientific evidence of post-traumatic stress (Chown *et al* 2019) before taking people seriously when they tell us they have been traumatised (Leaf *et al* 2022). The fact that published studies on ABA have systematically failed to investigate harms (Dawson and Fletcher-Watson 2021) needs to be factored in to any evaluation, along with the many undisclosed conflicts of interest among the people behind those studies (Bottema-Beutel and Crowley 2021).

More generally, if a person wants to understand autistic experiences or work with autistic people, it is a profound mistake to rely solely on scientific sources. The science of autism is far from mature, and cognitive theories of autism have attained great prominence seemingly based more on their proponents being famous scientists than on solid evidence. Most of the supposed evidence for these theories lacks what's called 'face validity', in the eyes of many of the people being studied — that is, it doesn't look like it's measuring what it's supposed to be measuring at all. Too much autism research has been done without autistic input, which could have prevented data being misinterpreted, flagged up when studies' goals bore no relation to autistic wellbeing, and prevented major errors of omission (Fletcher-Watson 2021).

The failures of autism science are not random: they reflect systematic power imbalances (Botha 2021). The central imbalance here is between non-autistic people and autistic people, who are usually only included as subjects: their perspectives are treated as data, if they are reflected at all. There is also a major imbalance favouring those whose research fits in with the broader priorities of the scientific-medical establishment or the autism industry, who control most of the funding. This shapes both the kinds of questions that get asked, and the types of answers that are most likely to get published (Tincani and Travers, 2019): it



introduces systematic errors, favouring research questions and results that suit those paying for the research. These issues are related to the chronic and pervasive problems with researchers on interventions like ABA failing to disclose their conflicts of interest, and to investigate evidence of harm.

There are also more fundamental problems stemming from the framing of autism in terms of dysfunction and disorder. Suffering is assumed to follow from the simple fact of being autistic (Chapman and Carel, 2022); researchers concern themselves with reducing 'symptoms' of autism, rather than helping autistic people to thrive; differences are assumed to be deficits (Mottron, 2011). Such unexamined biases get built in to the definitions used by scientists, and end up deeply embedded in the research; but they are not, themselves, scientific in any sense. All of these considerations make it rational to approach scientific findings in the field of autism with caution, and a critical mind.

Fortunately, there are other ways to learn about autism (Kourti, 2021), just as there are other ways of learning about humans in general. By privileging science above all other modes of enquiry, scientism irrationally excludes learning from art, literature and *conversation*. Many autistic people are quite capable of communicating for ourselves: telling you about what it's like to be us, and what that means. Many of us have written books and blogs (An Autism Observer, 2017). For those who don't speak, there are often technologies which can help (AAC) (Brady *et al* 2016). The 2021 Interdisciplinary Autism Research Festival showed the extraordinary insights into the field that autistic researchers can bring, drawing on science but also humanities and the arts (Bertilsdotter Rosqvist *et al* 2023); likewise Autscope (Buckle 2019) and [The Neurodiversity Reader](#), although not all contributors are researchers in the traditional sense.

If you want to understand autism, read what autistic people have written; talk to us about


our experiences; try to understand autism at an emotional and narrative level. When it comes to autism science, look for work where autistic people have been involved at every stage, from setting priorities to evaluating findings (Fletcher-Watson *et al* 2021). Where that hasn't happened, question why not. Objectivity is valuable, but understanding subjective experience should be a priority when it comes to humans.

More and more autistic people are talking to each other; comparing notes, learning about common experiences and ways we might be unusual even within the autistic population. Sharing strategies, brainstorming about barriers. The autistic community (Kapp 2020) has collectively worked out a lot of things that we might never have got to on our own, as well as providing support networks for a population that too often lives in isolation.

There are dangers in relying on anecdotal information, of course, but in the absence of really solid science, it is often the best we can get. Weak scientific evidence doesn't trump extensive personal experience, but however we approach autism, we need to be wary of motivated reasoning and cognitive biases. Wishful thinking has led many people astray when it comes to autism — not least among them, parents desperate to do what's best for their autistic children. Unfortunately, faith in science has been no protection against these pitfalls, and may even have made some people more vulnerable to falling for things which *sound* scientific.

We might hope that one day, autism science will catch up with what autistic people already know, and science will become a truly valuable tool for understanding autism and what works for autistic people. I think it's plausible — scientific investigation remains an unparalleled tool for making sense of natural phenomena. Autism surely falls into that category, and autistic people deserve high-quality scientific evidence, rigorously evaluated. In the meantime, though, we have many other ways

of understanding humans... and autistic people fall into that category, too.

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References

An Autism Observer (2017) 'Actually Autistic Blogs List' [online] *Actually Autistic Blogs List*. Available at: <https://anautismobserver.wordpress.com/> [Accessed 29 Jul. 2023].

Bertilsdotter Rosqvist, H., Botha, M., Hens, K., O'Donoghue, S., Pearson, A. and Stenning, A. (2023) 'Being, Knowing, and Doing: Importing Theoretical Toolboxes for Autism Studies', *Autism in Adulthood*, 5(1), 15–23. doi:<https://doi.org/10.1089/aut.2022.0021>.

Botha, M. (2021) 'Academic, Activist, or Advocate? Angry, Entangled, and Emerging: A Critical Reflection on Autism Knowledge Production', *Frontiers in Psychology*, 12. doi:<https://doi.org/10.3389/fpsyg.2021.727542>.

Bottema-Beutel, K. and Crowley, S. (2021) 'Pervasive Undisclosed Conflicts of Interest in Applied Behavior Analysis Autism Literature', *Frontiers in Psychology*, 12(676303). doi:<https://doi.org/10.3389/fpsyg.2021.676303>.

Brady, N.C., Bruce, S., Goldman, A., Erickson, K., Mineo, B., Ogletree, B.T., Paul, D., Ronski, M.A., Sevcik, R., Siegel, E., Schoonover, J., Snell, M., Sylvester, L. and Wilkinson, K. (2016) 'Communication Services and Supports for Individuals With Severe Disabilities: Guidance for Assessment and Intervention', *American Journal on Intellectual and Developmental Disabilities*, 121(2), pp.121–138. doi:<https://doi.org/10.1352/1944-7558-121.2.121>.

Buckle, L. (2019) 'Autescape' in: S. Kapp, ed., *Autistic Community and the Neurodiversity Movement*. [online] Singapore: Palgrave Macmillan. Available at: https://doi.org/10.1007/978-981-13-8437-0_8 [Accessed 29 Jul. 2023].

Chapman, R. and Carel, H. (2022) 'Neurodiversity, epistemic injustice, and the good human life', *Journal of Social Philosophy*, [online] 53(5). doi:<https://doi.org/10.1111/josp.12456>.

Chown, N., Hughes, E., Leatherland, J. and Davison, S. (2019) 'Response to Leaf *et al's* critique of Kupferstein's finding of a possible link between applied behaviour analysis and post-traumatic stress disorder', *Advances in Autism*, 5(4), 318–318. doi:<https://doi.org/10.1108/aia-01-2019-0002>.

Dawson, M. and Fletcher-Watson, S. (2021) 'When autism researchers disregard harms: A commentary', *Autism*, 26(2), 136236132110314. doi:<https://doi.org/10.1177/13623613211031403>.

Davison, S. (2018) *Does ABA harm Autistic People?* [online] Autistic UK CIC. Available at: <https://www.autisticuk.org/post/does-aba-harm-autistic-people> [Accessed 27 Jul. 2023].

Fletcher-Watson, S., Brook, K., Hallett, S., Murray, F. and Crompton, C.J. (2021) 'Inclusive Practices for Neurodevelopmental Research', *Current Developmental Disorders Reports*, [online] 8, 88–97. doi:<https://doi.org/10.1007/s40474-021-00227-z>.

Hughes, A.L. (2012) 'The Folly of Scientism', *The New Atlantis*, [online] (37), 32–50. Available at: <http://www.jstor.org/stable/43152744> [Accessed 30 Jul. 2023].

Kapp, S. (2020) *Autistic Community and the Neurodiversity Movement*. [online] Singapore: Springer. Available at: <https://link.springer.com/book/10.1007/978-981-13-8437-0> [Accessed 29 Jul. 2023].

Kourti, M. (2021) 'A Critical Realist Approach on Autism: Ontological and Epistemological Implications for Knowledge Production in Autism Research', *Frontiers in Psychology*, 12. doi:<https://doi.org/10.3389/fpsyg.2021.713423>.

Leaf, J.B., Cihon, J.H., Leaf, R., McEachin, J., Liu, N., Russell, N., Unumb, L., Shapiro, S. and Khosrowshahi, D. (2022) 'Concerns About ABA-Based Intervention: An Evaluation and Recommendations', *Journal of Autism and Developmental Disorders*, 52(6). doi:<https://doi.org/10.1007/s10803-021-05137-y>.

Mechler, K., Hoffmann, G.F., Dittmann, R.W. and Ries, M. (2016) 'Defining the hidden evidence in autism research. Forty per cent of rigorously designed clinical trials remain unpublished - a cross-sectional analysis', *International Journal of Methods in Psychiatric Research*, 26(4), 1546. doi:<https://doi.org/10.1002/mpr.1546>.



Mottron, L. (2011) 'The power of autism', *Nature*, [online] 479(7371), 33–35. doi:<https://doi.org/10.1038/479033a>.

Owens, D. (1989) 'Levels of Explanation', *Mind*, [online] 98(389), 59–79. Available at: <https://www.jstor.org/stable/2255061> [Accessed 30 Jul. 2023].

Reichow, B., Hume, K., Barton, E.E. and Boyd, B.A. (2018) 'Early intensive behavioral intervention (EIBI) for young children with autism spectrum disorders (ASD)', *Cochrane Database of Systematic Reviews*, 5(5). doi:<https://doi.org/10.1002/14651858.cd009260.pub3>.

Sandbank, M., Bottema-Beutel, K., Crowley, S., Cassidy, M., Dunham, K., Feldman, J.I., Crank, J., Albarran, S.A., Raj, S., Mahbub, P. and Woynaroski, T.G. (2020) 'Project AIM: Autism intervention meta-analysis for studies of young children', *Psychological Bulletin*, 146(1), 1–29. doi:<https://doi.org/10.1037/bul0000215>.

Strydom, A., Bosco, A., Vickerstaff, V., Hunter, R. and Hassiotis, A. (2020) 'Clinical and cost effectiveness of staff training in the delivery of Positive Behaviour Support (PBS) for adults with intellectual disabilities, autism spectrum disorder and challenging behaviour - randomised trial', *BMC Psychiatry*, 20(1). doi:<https://doi.org/10.1186/s12888-020-02577-1>.

Tincani, M. and Travers, J. (2019) 'Replication Research, Publication Bias, and Applied Behavior Analysis', *Perspectives on Behavior Science*, [online] 42(1), 59–75. doi:<https://doi.org/10.1007/s40614-019-00191-5>.

Wiggins, B.J. and Christopherson, C.D. (2019) 'The replication crisis in psychology: An overview for theoretical and philosophical psychology', *Journal of Theoretical and Philosophical Psychology*, 39(4), 202–217. doi:<https://doi.org/10.1037/teo0000137>.

Systemic Barriers to Mainstream Education Provision as Experienced by Autistic Girls: An Executive Summary of the Literature

Aoife Munroe

Abstract

The commitment to a fully inclusive model of education remains at the fore of national and international policy. Increasingly, autistic pupils are being educated in mainstream settings, however, there is evidence to suggest a mismatch between the needs of autistic pupils and mainstream provision. Many of the difficulties faced by autistic individuals in mainstream provision are exacerbated by the structures and systems designed to suit a neurotypical profile. It could be argued that the experiences of autistic girls are influenced to a greater extent due to their marginalised identity in the current educational climate. Some autistic girls experience a more internal presentation of autism which has resulted in under identification, with many receiving a diagnosis later than their male peers. As a result of differences in autistic expression, the needs of autistic girls are often unrecognised or misunderstood in the education context with many receiving minimal or inadequate support based on their distinct needs. This paper will review literature pertinent to autistic girls' experiences of mainstream education in an effort to determine the structures and systems embedded in mainstream provision that act as a barrier to successful inclusion. Four key barriers including Teaching and Learning Procedures, Specialist Provision and Systems, the Physical and Sensory Environment, and Teacher Knowledge and Understanding were identified. Further research exploring autistic girls' experiences of mainstream provision is required. In addition, there is scope for greater emphasis to be placed on the school and system wide factors that influence experience rather than the intrinsic characteristics of autism in order to facilitate more inclusive changes.

Background

Autism is characterised by differences in social communication and interaction as well as restrictive or repetitive interests, activities and patterns of behaviour and sensory processing differences (APA 2013). In the context of education, research has also identified other differences and difficulties that are present more prominently in the school setting and impact school experiences (Fleury *et al* 2014).

Most recent data on the prevalence of autism in Ireland has reported a prevalence rate of 1 to 1.5% (Boilson *et al* 2016). In the context of the current paper, it is noteworthy to highlight the gender disparity that currently exists in diagnostic prevalence between males and females with a ratio of 4:1 commonly cited (Fombonne 2009). However, more recent research estimates that this ratio may be closer to 3:1 (Loomes *et al* 2017). This disparity has been attributed to the androcentrism of the diagnostic criteria and subtle differences in presentation (Kirkovski *et al* 2013; Kopp and



Gillberg 1992). Some research proposes that the presentation of autism is qualitatively different in females, an explanation known as the 'female autism phenotype' (Hull *et al* 2020). On the other hand, it is believed that the differences in presentation in some autistic females can be better explained as an internal presentation of autism (Wassell and Burke 2022). Due to limited knowledge of the internal presentation of autism, expression of autistic traits consistent with this presentation are often not recognised. This paper seeks to address a gap in research and examine the experiences of autistic girls in mainstream education, many of whom will demonstrate an internal presentation of autism. However, it is important to recognise that autistic individuals are more likely to be gender diverse than non-autistic individuals (Warrier *et al* 2020) and therefore it is imperative that autism knowledge cannot and should not be reduced to binary understandings. The internal presentation of autism is not exclusive to females and can be experienced by some autistic males and other broader minority genders (Wassell and Burke 2022), but exploration of this is beyond the scope of the current paper.

International discourse has advocated that it is the right of all children to be fully included in the mainstream education context, regardless of their differences (UN 1989; 2006). However, research suggests that there exists a dissonance between the rights-based philosophy of inclusion and the enactment of that philosophy into practice, an issue which can negatively impact autistic students' experiences of inclusion (Goodall 2020; Horgan *et al* 2022). The 'spiky' profile (Milton 2012) associated with autism can result in a discrepancy between academic strengths and the ability to cope in the mainstream context, however, full inclusion is rarely questioned in the case of some learners and assumptions are often made based on academic performance alone (Morewood *et al* 2011).

In the Irish education context, approximately 1.5% of school-aged children have a diagnosis of autism with 86% of these students attending mainstream schools (DOH 2018; NCSE 2016). It is important to consider that these figures may be inaccurate and there is a need to reflect on the individuals who remain undiagnosed due to gender biased knowledge (Carpenter *et al* 2019). There is a dearth of research on the school experiences of autistic girls but there is evidence to suggest that autistic girls often go unrecognised and unsupported in education and experience barriers to inclusion and learning in the mainstream setting (Goodall and MacKenzie 2019; Gould and Ashtown-Smith 2011; Hebron 2019; Moyses and Porter 2015). Autistic girls' experiences of mainstream provision are undeniably influenced by their intrinsic characteristics of autism, however, other broader, systemic factors within the school context play a significant role in shaping their experiences (Goodall and MacKenzie 2019; Jacobs *et al* 2020; Moyses and Porter 2015). Addressing the research priorities of the autistic community, Pellicano *et al* (2014; 2018) emphasise the need to understand the difficulties of daily experience and more specifically, school experience, faced by autistic individuals. Therefore, in order to fully meet the criteria of inclusion set out by the United Nations Convention on the Rights of Persons with Disabilities (UN 2006), policy makers and schools need to be aware of the barriers faced by autistic individuals within the mainstream context, from the perspective of autistic individuals, in order to make the required changes to ensure a fully inclusive system for all. Considering the unique experiences of autistic girls as an under researched group, this paper will focus on identifying the systemic barriers to mainstream inclusion, as faced by this cohort.

Method

This paper presents a narrative review of literature pertinent to autistic girls' experiences of mainstream education. The review was focused on identifying the systemic barriers that influence the experiences of autistic girls in relation to their mainstream educational provision. Search term combinations using *autis** AND *girls* AND *education*, *mainstream education*, *schools*, *mainstream provision* were used. The search was refined to peer-reviewed, English language

articles published between 2015 and 2023. Additional studies were considered from article reference lists. The articles were required to include the perspective of the autistic girl through the use of traditional or alternative methods. Seven articles met the criteria for inclusion. The articles were critically reviewed and will guide the remainder of the paper. Table 1 provides a summary of the papers included.

Table 1: Details of studies included in the review

Title	Authors	Area	Methods	Sample	Education Setting Attended
Autistic girls and emotionally based school avoidance: supportive factors for successful re-engagement in mainstream high school	O'Hagan <i>et al</i> (2022)	UK	Qualitative Multiple Case Study	3 autistic girls	Mainstream Post-Primary (Re-engaging following EBSA)
The mainstream school experiences of adolescent autistic girls	Tomlinson <i>et al</i> (2021)	UK	Qualitative Multiple Case Study Semi-Structured Interviews	3 autistic girls	Mainstream Post-Primary
Please listen to us: Adolescent autistic girls speak about learning and academic success	Jacobs <i>et al</i> (2020)	Australia	Mixed Methods Quant Survey informing Qual Semi-Structured Interviews	5 autistic girls (and their mothers)	Mainstream Post-Primary
The social experiences and sense of belonging in adolescent females with autism in mainstream school	Myles <i>et al</i> (2019)	UK	Qualitative Semi-Structured Interviews	8 adolescent females	Mainstream Post-Primary
What about my voice? Autistic young girls' experiences of mainstream school	Goodall and MacKenzie (2019)	UK	Qualitative Semi-Structured Interviews with Participatory Methods	2 female pupils	Mainstream
Autistic girls and school exclusion: Perspectives of students and their parents	Sproston <i>et al</i> (2017)	UK	Qualitative Semi-Structured Interviews	8 autistic girls (and their parents)	Mainstream Post-Primary / Alternative Provision
The experience of the hidden curriculum for autistic girls at mainstream primary schools	Moyse and Porter (2015)	UK	Qualitative Observation and Semi-Structured Interview with Alternative Methods	3 autistic girls	Mainstream Primary



Teaching and Learning Procedures in the Mainstream Classroom

A number of factors were identified as contributing to academic engagement and performance in the mainstream classroom for autistic girls. Autistic girls in a study by Jacobs *et al* (2021) identified their difficulties with organisation, task initiation and time management in the context of engaging with assigned tasks. Furthermore, it was reported that making sense of written assignments and understanding verbal instructions could further compound difficulties. This theme is replicated in findings shared by Moyses and Porter (2015) with task completion and collaborative/group work identified as significant challenges in the mainstream context. The girls attributed their difficulties engaging in learning activities to lack of clarity. It was reported that teacher instructions were confusing and often lacking in rationale. These challenges were exacerbated by inconsistent rules and procedures in the classroom with the girls unsure how to ask for help or unclear on the expectations for task completion.

Autistic girls who had experienced school exclusion from mainstream settings commented on the lack of support they received in terms of accessing the curriculum (Sproston *et al* 2017). They commented on the pressure they felt in the mainstream environment in relation to their learning. They reported experiencing performance anxiety and often felt judged when they sought help. The pressure to meet expectations was also identified in participants in a study by Tomlinson *et al* (2021), with the girls commenting on the lack of flexibility towards teaching and learning in the mainstream setting. They spoke of the emphasis placed on remembering information and the unified approach that was adopted in the mainstream setting toward examination preparation. Similarly, in research by Goodall and

MacKenzie (2019) the girls discussed the worry and anticipation they felt in relation to completing their work and the stress they felt at the thoughts of falling behind, concerns consistent with participants in research by Jacobs *et al* (2021) who also mentioned that this anxiety further exacerbated their ability to concentrate and complete the work. A consistent thread of anxiousness relating to academic workload is woven throughout the narratives of autistic girls with their experiences demonstrating a universal, one-size fits all approach that appears to be adopted to teaching and learning within the mainstream context.

A contrasting view is presented in the research carried out by Jacobs *et al* (2021) with autistic girls highlighting the good practice of some teachers that embedded support for all through the use of rubrics, timelines, expectations of performance and progress in a clear and structured manner. Furthermore, one girl noted that she was provided with opportunities to complete tests in a different format that allowed her to demonstrate her knowledge in a more appropriate way than the traditional written response (Jacobs *et al* 2021). The positive experiences shared by autistic girls in the study carried out by Jacobs *et al* (2021) very much reflect the underpinning principles of Universal Design for Learning (UDL) (CAST 2018) and emphasise the impact of minor supports embedded in whole-class practices and procedures in the mainstream setting. UDL is a framework that seeks to improve the educational experiences of all students. It supports teachers to attend to diversity in the classroom by adopting flexible methods of teaching and assessment (CAST 2018). It is informed by scientific insights into how humans learn and is guided by the principles of multiple means of engagement, representation and expression. Based on the barriers identified by the autistic girls in



relation to their learning in the mainstream setting, it is worthwhile considering the potential of UDL as an inclusive and flexible approach that would better enable educators to facilitate positive learning experiences for this cohort.

Specialist Provision and School Systems

While all of the studies reviewed were focused on mainstream education settings, the girls received varying degrees of support, dependent on individual school-wide SEN systems. The experiences shared by the autistic girls in relation to this aspect of mainstream provision were mixed. Flexible provision which reflected individual student needs was praised and identified as hugely beneficial for autistic girls (O'Hagan *et al* 2022; Tomlinson *et al* 2021). It is interesting to note the context of research studies where experiences of flexible provision were discussed; research conducted by Tomlinson *et al* (2021) was based within a school context that was identified for its good autism practice while O'Hagan *et al* (2022) focused on autistic girls who had successfully re-engaged in mainstream. Autistic girls in research by Tomlinson *et al* (2021) discussed personalised accommodations including passes to leave lessons, flexibility in exam arrangements, provision of designated spaces for support for learning, all of which were noted as beneficial in reducing anxiety. Similarly, girls included in the study carried out by O'Hagan *et al* (2022) commented on access to alternative sessions such as gardening, personal development and extended project time. In one instance one of the girls attended one day a week at a specialist school where she got to work with animals, access to this alternative provision was positive and reduced pressure of attendance at mainstream for the entire week. The aforementioned studies are therefore situated within a context which is actively focused on positive outcomes, however, even these settings were not without their flaws. It was noted that not all staff were

familiar with the girls' pupil passports and were unaware of their need for individualised supports (Tomlinson *et al* 2021) while in other instances the girls' individualised supports e.g. time out cards, were not honoured by staff or girls felt embarrassed to use it with some staff (O'Hagan *et al* 2022).

Other barriers emerged in research conducted in more general mainstream settings with research carried out by Sproston *et al* (2017) highlighting the 'impersonal' environment of mainstream provision as inconsistent with the needs of the girls. However, it was disclosed that their experiences of support provision within the mainstream school was isolating and ineffective. Other experiences of support being limited or restricted were also noted. One autistic girl was chastised for availing of the SEN support room too often (Sproston *et al* 2017) while in another instance the SENCo withdrew the option to avail of the time-out space as the girl was spending too much time there (Moyses and Porter 2015). These reports raise larger concerns in relation to the suitability of the mainstream setting more broadly and why the girls needed to spend larger amounts of time in quieter areas reserved for support. Findings from O'Hagan *et al* (2022) highlighted the narrow and restricted nature of SEN systems. In being formally identified, one student in the study benefitted from SEN funded transport, however, in availing of this service the student was unable to attend the after-school clubs that she enjoyed and deemed a safe space. The regimented nature of formal supports inhibited the flexible approach so often reported as desirable when working with autistic young people.

The Physical and Sensory Environment of the Mainstream Setting

The physical and sensory environment within the mainstream context was identified as a significant barrier in the majority of papers reviewed. Participants made reference to the



challenge of attending a large, busy school, identifying both the classroom spaces and the general-purpose areas as stressful (Goodall and MacKenzie 2019; Myles *et al* 2019; Tomlinson *et al* 2021). The girls in the studies conducted by Goodall and MacKenzie (2019) and Tomlinson *et al* (2021) made reference to the noise and overcrowding in the canteen and corridors, which made classroom changes and lunchtime very difficult. In addition to causing challenges during unstructured periods, the environment also impacted classroom experiences and hindered learning (Moyle and Porter 2015; Sproston *et al* 2017; Tomlinson *et al* 2021). It was shared that the large class numbers, and the noise combined with the big rooms made it difficult to attend to learning (Sproston *et al* 2017; Tomlinson *et al* 2021). In addition to the sensory challenges of the mainstream classroom, girls in a study by Moyle and Porter (2015) expressed difficulties with the physical environment and their need to control their physical space. They reflected on the inherent routines of classroom life such as lining up, sitting on the carpet, collecting items, moving around the room and discussed how they had to learn to navigate these activities and make their own accommodations to cope.

There was an overwhelming consensus that the environment resulted in increased anxiety and overwhelm for autistic girls. It was apparent that the girls often had to make their own accommodations and personal adjustments to be able to overcome their difficulties with these situations (Moyle and Porter 2015; Tomlinson *et al* 2021). While the findings from Moyle and Porter (2015) revealed that some teachers built in opportunities for the girls to gain control during stressful periods through allocation of jobs, for the most part the girls drew from their personal repertoire of coping strategies to regulate their sensory input, fulfil their sensory needs and organise their interactions with the physical environment.

It could be argued that more streamlined systems of organising the environment are warranted during unstructured periods in general purpose areas of the school. Additionally, as recommended by some of the autistic girls, having access to a safe, calm area within the school during the unstructured periods would be hugely beneficial and allow them to escape the unpredictable, chaotic environment (Myles *et al* 2019; O'Hagan *et al* 2022). It was noted that having access to quieter spaces and opportunities to engage with familiar peers and staff members was desired (Myles *et al* 2019). Furthermore, it was shared that smaller classroom environments would better support engagement in learning (Sproston *et al* 2017), reminiscent of findings relating to support provision previously explored.

Knowledge and Understanding of Autism

While autism awareness has increased in recent years, these developments are often based on diagnosis being known, which may not always be the case for all autistic girls. Additionally, knowledge of the diagnosis may not translate easily into strategies (Tomlinson *et al* 2020). Moreover, educators may not be familiar with the internal presentation of autism and lack knowledge relating to autistic expression. This gap in teacher knowledge has been reported in research with autistic girls, adding another layer of marginalisation to their experience (Moyle and Porter 2015; Tomlinson *et al* 2019). Research has revealed that educator knowledge of autism is gender-biased and based on male-based stereotyped behaviours (Gray *et al* 2021; Ward *et al* 2022; Whitlock *et al* 2020).

It could be argued that many of the systemic barriers faced by the autistic girls in the research reviewed could be attributed to lack of knowledge and understanding on the part of teachers and school staff. This relates not only to knowledge of how autism may present in some girls but also in terms of general



understanding of the autistic experience and the interplay between the characteristics associated with autism and the environment. Research by Hiller *et al* (2014) revealed that teachers are less likely to identify autistic girls' difficulties compared to autistic boys, raising concerns in relation to the support and provision made available to girls. A number of studies supported this through lived experience, with the autistic girls reporting that teachers didn't understand their diagnosis as it presented for them as females (Moyses and Porter 2015; O'Hagan *et al* 2022). As expected, this had implications for teaching and learning with girls falling under the radar, but it also resulted in the use of inappropriate sanctions arising from staff perceptions of autism in girls. Girls in the study conducted by Sproston *et al* (2017) emphasised the need for teachers to have a strong knowledge base in autism as they shared their experiences of feeling threatened and misunderstood. The girls felt that their teachers didn't get to know them and therefore had a lack of understanding in relation to their individual needs. Additionally, they reported that teachers' expectations were sometimes too high and didn't take into account the daily challenges that the girls faced in mainstream provision. On the other hand, the girls in a study carried out by Myles *et al* (2019) expressed frustration at the differential treatment they received following their diagnosis and felt that teachers misunderstood their needs and underestimated their abilities. These contrasting findings reiterate the issue of staff knowledge and understanding of autism as a spectrum but also highlights inadequacies in teachers' knowledge of the varied profile of autism in girls. Concerns relating to teacher knowledge are reflected more broadly in the other research studies with inconsistencies in teacher knowledge, lack of awareness, inadequate understanding of needs and unrealistic and/or inappropriate expectations cited (Goodall and MacKenzie 2019; Jacobs *et al* 2021; Tomlinson *et al* 2021). From the research, it is undeniable that teacher knowledge and understanding can be a barrier

to positive experiences in the mainstream setting for autistic girls and has a significant influence of the support provided in terms of teaching and learning.

Implications for Policy, Practice and Research

This review highlights the systemic barriers that influence autistic girls' experiences of mainstream education. While some of these barriers can be addressed at individual school level, others require changes at policy level. The findings of the review therefore have significant implications for policy, professional practice and research going forward.

The papers examined highlighted challenges with the enactment of inclusive provision for autistic girls in mainstream settings. This has implications for policy makers in terms of decisions being made at macro level. Greater collaboration between policy makers and practitioners is necessary to ensure adequate measures are being taken to attend the issues. There is no denying that greater resourcing is required to facilitate successful inclusive provision. Considering the positive experiences shared, enhanced flexible provision options and reduced class sizes may be extremely impactful ways to facilitate positive change in the education system.

The experiences shared by autistic girls in the research reviewed revealed that many teachers do not possess adequate knowledge and understanding of a more internal presentation of autism or its implications for teaching and learning. This indicates a need for training in this area for teachers. It is essential that individuals and organisations responsible for the provision of continuous professional development for teachers in the area of autism update their training to ensure it addresses the internal presentation of autism. Similarly, it is imperative that providers of Initial Teacher Education programmes at third level review content of undergraduate and postgraduate programmes to ensure pre- and in-service



teachers receive input in this area. Examples of good practice in mainstream provision highlighted the potential of UDL in supporting the academic success of autistic girls. The application of UDL in primary and post-primary contexts should be supported and training for educators facilitated. In addition to the above, autistic girls also emphasised the importance of their unique, individual needs being met. Some of the studies reported that the girls felt teachers could not provide adequate support as they did not get to know them, nor did they ask them about their needs in the classroom. Self-advocacy has been deemed an important skill for autistic individuals and its role identified as essential in classroom contexts to ensure more effective and inclusive educational opportunities (Zuber and Webber 2019); however, this must be facilitated by teachers and school staff. Findings indicate that student voice is not being afforded due consideration, which ultimately raises concerns in relation to the fulfilment of Article 12 of the UNCRC (1989) in school contexts. In preparing teachers to support autistic students a two-fold approach, including autism specific content knowledge combined with input on inclusive methods for eliciting child voice, should be considered.

Going beyond the individual teacher level, it is apparent from the findings of this review that school communities more broadly lack understanding of the needs of autistic girls attending mainstream provision. It is clear from the insights gathered from autistic girls that the development of whole-school supportive systems are necessary. Consideration should be afforded to the provision of safe spaces, the implementation of systems to minimise anxiety in unstructured spaces or during unstructured times, and the facilitation of opportunities to engage with familiar staff. Moreover, the power of consistency should not be underestimated, and schools should ensure approaches to support are consistent throughout the school with all staff made

aware of accommodations and individualised supports to be implemented.

Lastly, further research is required to enhance understanding of the internal presentation of autism that some autistic girls may experience. Autistic girls are often misunderstood and go unsupported due to lack of knowledge of a varied autism presentation. Additionally, it is appreciated that some boys and other minority gender groups may also demonstrate an internal presentation of autism. It is essential that the experiences of these groups are also sought in research to facilitate a more comprehensive understanding of the school experiences of autistic individuals.

Conclusion

It is well evidenced that inadequate support is provided to autistic individuals, and this negatively impacts their educational experiences. Much of the research to date has placed emphasis on the characteristics of autism as challenges in the education setting, however, little focus is placed on the systemic barriers that are embedded within education systems and school settings that exacerbate the difficulties experienced. This paper reviewed the current body of research on autistic girls' experiences of mainstream provision and identified four systemic barriers that impeded their ability to thrive in the mainstream educational context, namely, Teaching and Learning Procedures, Specialist Provision and Systems, the Physical and Sensory Environment, and Teacher Knowledge and Understanding. It appears full inclusion as it is currently conceptualised does not provide adequate support and opportunity for autistic individuals to benefit from and enjoy their educational experiences. Mainstream provision in its current iteration remains driven by attainment standards and its systems and structures in place are not facilitative of flexible and supportive provision. The author made several recommendations informed by the research when discussing each barrier, but to



briefly summarise, the experiences of the girls emphasise the importance of individualised and flexible approaches underpinned by a strong knowledge base and supported through positive, trusting relationships between staff and students. Moreover, the author argues that there is a need to appreciate that the difficulties experienced by autistic individuals are largely a result of a mismatch between the neurodivergent processing style and a world designed for the neurotypical individuals. It is therefore necessary to identify and reflect on the factors external to the autistic individual that influence their experiences in order to create positive change with the intention of developing a more inclusive system of education provision for all.



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References

- American Psychological Association (2013) *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed., Washington: American Psychiatric Association.
- Boilson, A.M., Staines, A., Ramirez, A., Posada, M. and Sweeney, M.R. (2016) 'Operationalisation of the European Protocol for Autism Prevalence (EPAP) for Autism Spectrum Disorder Prevalence Measurement in Ireland', *Journal of Autism and Developmental Disorders*, 46, 3054-3067.
- Carpenter, B., Happé, F. and Egerton, J. eds. (2019) *Girls and Autism: Educational, Family and Personal Perspectives*, London: Routledge.
- CAST (2018) *Universal Design for Learning Guidelines version 2.2*, available: <http://udlguidelines.cast.org>
- Department of Health [DoH] (2018) *Estimating Prevalence of Autism Spectrum Disorders (ASD) in the Irish Population: A review of data sources and epidemiological studies*, available: <https://www.gov.ie/pdf/?file=https://assets.gov.ie/10707/ce1ca48714424c0ba4bb4c0ae2e510b2.pdf#page=null> [accessed 17 July 2023].
- Fleury, V.P., Hedges, S., Hume, K., Browder, D.M., Thompson, J.L., Fallin, K., El Zein, F., Klein Reutebuch, C. and Vaughn, S. (2014) 'Addressing the Academic Needs of Adolescents with Autism Spectrum Disorder in Secondary Education', *Remedial and Special Education*, 35(2), 68-79.
- Fombonne, E. (2009) 'Epidemiology of Pervasive Developmental Disorders', *Pediatric Research*, 65, 591-598.
- Goodall, C. (2020) 'Inclusion is a feeling, not a place: a qualitative study exploring autistic young people's conceptualisations of inclusion', *International Journal of Inclusive Education*, 24(12), 1285-1310.
- Goodall, C. and MacKenzie, A. (2019) 'Title: what about my voice? Autistic young girls' experiences of mainstream school', *European Journal of Special Needs Education*, 34(4), 499-513.
- Gould, J. and Ashtown-Smith, J. (2011) 'Missed diagnosis or misdiagnosis? Girls and women on the autism spectrum', *Good Autism Practice (GAP)*, 12(1), 34-41.
- Gray, L., Bownas, E., Hicks, L., Hutcheson-Galbraith, E. and Harrison, S. (2021) 'Towards a better understanding of girls on the Autism spectrum: educational support and parental perspectives', *Educational Psychology in Practice*, 37(1), 74-93.
- Hebron, J. (2019) 'Managing the Transition from Primary to Secondary School for Autistic Girls' in Hebron, J. and Bond, C., eds., *Education & Girls on the Autism Spectrum: Developing an Integrated Approach*, London: Jessica Kingsley Publishers.
- Hiller, R.M., Young, R.L. and Weber, N. (2014) 'Sex differences in autism spectrum disorder based on DSM-5 criteria: evidence from clinician and teacher reporting', *Journal of Abnormal Child Psychology*, 42(8), 1381-1393.
- Horgan, F., Kenny, N. and Flynn, P. (2022) 'A systematic review of the experiences of autistic young people enrolled in mainstream second-level (post-primary) schools', *Autism*, 27(2), 526-538.
- Hull, L., Petrides, K.V. and Mandy, W. (2020) 'The Female Autism Phenotype and Camouflaging: a Narrative Review', *Review Journal of Autism and Developmental Disorders*, 7, 306-317.
- Jacobs, P., Beamish, W. and McKay, L. (2020) 'Please listen to us: Adolescent autistic girls speak about

learning and academic success', *Improving Schools*, 24(3), 196-209.

Kirkovski, M., Enticott, P.G. and Fitzgerald, P.B. (2013) 'A Review of the Role of Female Gender in Autism Spectrum Disorders', *Journal of Autism and Developmental Disorders*, 43, 2584-2603.

Kopp, S. and Gillberg, C. (1992) 'Girls with social deficits and learning problems: Autism, atypical Asperger syndrome or a variant of these conditions', *European Child and Adolescent Psychiatry*, 1(2), 89-99.

Loomes, R., Hull, L. and Mandy, W. (2017) 'What Is the Male-to-Female Ratio in Autism Spectrum Disorder? A Systematic Review and Meta-Analysis', *Journal of the American Academy of Child and Adolescent Psychiatry*, 56(6), 466-474.

Milton, D. (2012a) 'On the Ontological Status of Autism: the 'Double Empathy Problem'', *Disability and Society*, 27(6), 883-887.

Morewood, G.D., Humphrey, N. and Symes, W. (2011) 'Mainstreaming autism: Making it work', *Good Autism Practice (GAP)*, 12(6), 62-68.

Moyses, R. and Porter, J. (2015) 'The experiences of the hidden curriculum for autistic girls at mainstream primary schools', *European Journal of Special Needs Education*, 30(2), 187-201.

Myles, O., Boyle, C. and Richards, A. (2019) 'The social experiences and sense of belonging in adolescent females with Autism in mainstream school', *Educational and Child Psychology*, 36(4), 8-21.

National Council for Special Education [NCSE] (2016) *NCSE Press Release 15th July 2016: Major education report finds 14,000 students have autism diagnosis* [press release], available: https://ncse.ie/wp-content/uploads/2016/07/6_Press_release_ASD.pdf [accessed 17 July 2023]

United Nations (1989) *United Nations Convention on the Rights of the Child*, available: <https://www.unicef.org/child-rights-convention/convention-text> [accessed 3 January 2023].

United Nations (2006) *United Nations Convention on the Rights of Persons with Disabilities*, available: <https://www.un.org/development/desa/disabilities>

[s/convention-on-the-rights-of-persons-with-disabilities/convention-on-the-rights-of-persons-with-disabilities-2.html](#) [accessed 3 January 2023].

O'Hagan, S., Bond, C. and Hebron, J. (2022) 'Autistic girls and emotionally based school avoidance: supportive factors for successful re-engagement in mainstream high school', *International Journal of Inclusive Education*, Accepted/in press.

Pellicano, E., Dinsmore, A. and Charman, T. (2014) 'What should autism research focus upon? Community views and priorities from the United Kingdom', *Autism*, 18(7), 756-770.

Pellicano, L., Mandy, W., Bölte, S., Stahmer, A., Lounds Taylor, J. and D.S., M. (2018) 'A new era for autism research, and for our journal', *Autism*, 22(2), 82-83.

Sproston, K., Sedgewick, F. and Crane, L. (2017) 'Autistic girls and school exclusion: Perspectives of students and their parents', *Autism and Developmental Language Impairments*, 2, 1-14.

Tomlinson, C., Bond, C. and Hebron, J. (2020) 'The school experiences of autistic girls and adolescents: a systematic review', *European Journal of Special Needs Education*, 35(2), 203-219.

Tomlinson, C., Bond, C. and Hebron, J. (2021) 'The mainstream school experiences of adolescent autistic girls', *European Journal of Special Needs Education*, 37(2), 323-339.

Ward, T.B., Curtis, C. and Seehagen, S. (2022) 'Investigating the effects of perceived student gender on primary school teachers' recognition of autism', *Psychology in the Schools*, 59(7), 1363-1376.

Warrier, V., Greenberg, D.M., Weir, E., Buckingham, C., Smith, P., Lai, M., Allison, C. and Baron-Cohen, S. (2020) 'Elevated rates of autism, other neurodevelopmental and psychiatric diagnoses, and autistic traits in transgender and gender-diverse individuals', *Nature Communications*, 11, 1-12.

Wassell, C., and Burke, E. (2022) 'Autism, Girls & Keeping It All Inside: Autistic Girls Network', *Autistic Girls Network*, <https://autisticgirlsnetwork.org/wp-content/uploads/2022/03/Keeping-it-all-inside.pdf>

Whitlock, A., Fulton, K., Lai, M., Pellicano, E. and Mandy, W. (2020) 'Recognition of Girls on the

Autism Spectrum by Primary School Educators: An Experimental Study', *Autism Research*, 13(8), 1358-1372.

Zuber, W.J. and Webber, C. (2019) 'Self-advocacy and self-determination of autistic students: a review of the literature', *Advances in Autism*, 5(2), 107-116.

Factors and Characteristics Associated with Persistent School Absence for Autistic Students: An Executive Summary of the Literature.

Tara Vernon

Abstract

Persistent school absence (PSA) is a significant concern in the autistic student population, yet relatively little research in this area has been carried out to date. A total of 3,921 records were screened and four quantitative studies were included. This executive summary of a systematic review sought to identify factors and characteristics associated with persistent school absence in autistic students attending mainstream educational settings. Bullying, anxiety and difficulties with executive function emerged as the main associations with PSA.

Background

Whilst more commonly referred to as 'school refusal' in the research to date (Adams 2021; Bitsika *et al* 2021; McClemon *et al* 2021; Munkhaugen *et al* 2017), this paper will utilise the term persistent school absence to acknowledge the multiplicity of variables affecting school attendance for students on the autism spectrum, and to shift the responsibility of school attendance from lying solely with the autistic student.

Persistent school absence refers to non-attendance that is connected to the child or young person's emotional distress associated with attending school, in the knowledge of the parent, and despite efforts by the parent to support attendance (Heyne *et al* 2019 cited in Totsika *et al* 2020). Research by McClemon *et al* (2021) highlights that school non-attendance is far greater for autistic students than for non-autistic students with up to 53% of autistic students not attending versus 28-35% of non-autistic students. Whilst data

pertaining to Ireland is scarce, in a report by AsIAM in 2019, 32% of respondents had children out of school for at least a year.

Yet despite persistent school absence being a significant concern in the autistic student population it remains an area that is under researched in autism research (Adams 2021; Ochi *et al* 2020; Totsika *et al* 2020). This, and the importance of schooling on academic and social-emotional development (Munkhaugen *et al* 2017) supports the value of a systematic review that seeks to identify external factors and internal characteristics of autistic students who are persistently absent from school.

Recent research carried out by the Department of Education in Ireland on autism good practice in schools highlights not only the importance of supporting autistic students to achieve good educational and life outcomes, but also the importance of creating school environments that support the learning, participation and wellbeing of autistic students (2022).

That schools play a core role in promoting the wellbeing of their students is further emphasised in the Wellbeing Policy Statement and Framework for Practice 2018-2023 (Ireland, Department of Education and Skills 2018). Revised in 2019, this policy document emphasises the significance of wellbeing, the importance of resilience, having a sense of purpose, connection and belonging and also highlights the role of all members of the education community in acknowledging the importance of the individual and their social relationships (Ireland, Department of Education and Skills 2018).

However, autistic students in mainstream education remain more likely than their non-autistic peers to have negative school experiences that adversely impact on their wellbeing (Goodall 2018), suggesting that improvement is needed in the implementation of current policy to ensure equity of experience for all students (AsIAM 2021). Indeed, research confirms that the current system of inclusion is not meeting the needs of many autistic students in the mainstream school environment (Goodall 2018; Pellicano *et al* 2018).

Understanding the variables that influence non-attendance at school would positively influence strategies and interventions that could serve to decrease school absences in autistic students (Munkhaugen *et al* 2019). Additionally, a wider knowledge of the barriers to school attendance for autistic students would enable earlier intervention for students who are beginning to avoid school and safeguard against long-term persistent school absence and the associated negative outcomes (Bitsika *et al* 2021).

Research carried out by the James Lind Alliance (2016) states that one of the top five research priorities for the autistic community is to identify supports and environments that are most appropriate in terms of achieving the best educational outcome. Identifying appropriate supports and environments can help mitigate

against persistent school absence which can have a long-term negative impact on the quality of life of the autistic person including unemployment, social exclusion and mental health difficulties (Preece and Howley 2018). Working collaboratively with the autistic community to understand the needs of autistic students, the challenges they experience, and the changes that are required is of critical importance (Pellicano *et al* 2018).

Aims

The aims of this study are to identify:

- Factors associated with persistent school absence amongst the mainstream primary or post-primary autistic student population.
- Characteristics associated with persistent school absence amongst the mainstream primary or post-primary autistic student population.
- The limitations of the research studies reviewed.
- Recommendations for future research e.g., the inclusion of the autistic voice.

Information sources and search strategy

A comprehensive literature search was undertaken between December 14th 2021 and January 13th 2022. All searches were rerun from January 14th 2022 up to March 3rd 2022. The search encompassed various databases, including Academic Search Complete, APA PsychArticles, APA PsychInfo, British Education Index, Cambridge Journals, CINAHL Complete, Education Source, Education Full Text (H. W. Wilson), ERIC (Education Resources Information Centre), MEDLINE, MEDLINE with Full Text, ProQuest (Social Sciences Collection), SAGE Journals, Science Direct, and Taylor & Francis Online.

The inclusion criteria for the study, identified using the PICO framework (Boland *et al* 2017),



encompassed articles published between 2017 and 2021, ensuring that they were full-text publications in peer-reviewed journals, and that they focused on children and/or adolescents diagnosed with autism with an IQ above 70. These studies needed to consider factors and characteristics related to persistent school absence and be conducted in mainstream primary or post-primary educational settings.

In contrast, the exclusion criteria excluded studies not meeting these publication and content standards. Additionally, systematic reviews and meta-analyses were excluded, as were studies that focused on children and/or adolescents with autism but with an IQ below 70, and studies that did not address factors and characteristics associated with persistent school absence or were conducted outside mainstream educational settings. The search utilized key terms and Boolean connectors, such as "autism" or "autistic" instead of "autis*" and included phrases related to school attendance and refusal.

Study selection

The electronic search strategy yielded a total of 3,921 records. Following the removal of duplicates, the titles and abstracts of 3,750 articles were assessed against the inclusion and exclusion criteria, leaving 24 articles for a full text review. On closer inspection only four articles remained for inclusion in the systematic review. The most common reason for exclusion was the inclusion of autistic participants with a co-occurring intellectual difference. Previous research has highlighted that absences from school for autistic students with an intellectual difference are typically related to medical or therapy appointments (Adams 2021; Totsika *et al* 2020). This review seeks to highlight the external factors and internal characteristics that impact on the autistic student's capacity to attend school.

Table 1: Details of studies included in the review

Title	Authors	Country	Research type & study design	Sample	Education Setting
Individual characteristics of students with autism spectrum disorder and school refusal behaviour	Munkhaugen <i>et al</i> (2019)	Norway	Quantitative research using a cross-sectional study design.	62 autistic students aged 9 - 16	Mainstream Primary or Post-Primary
School refusal and bullying in children with autism spectrum disorder	Ochi <i>et al</i> (2020)	Japan	Quantitative research using a retrospective chart study design	237 children and young people with PSA aged 6-18; 94 were on the autism spectrum, 143 were not	Mainstream Primary or Post-Primary
Is bullying associated with emerging school refusal in autistic boys?	Bitsika <i>et al</i> (2020)	Australia	Quantitative research using a correlational study design	67 autistic male students aged 7-18	Mainstream Primary or Post-Primary
Risk for school refusal among autistic boys bullied at school investigating associations with social phobia and separation anxiety	Bitsika <i>et al</i> (2021)	Australia	Quantitative research using a correlational study design	71 autistic male students aged 6-18	Mainstream Primary or Post-Primary

Findings

This comprehensive review of the available literature encompasses four quantitative studies conducted in Norway (Munkhaugen *et al* 2019), Japan (Ochi *et al* 2020) and Australia (Bitsika *et al* 2020; Bitsika *et al* 2021), that address the issue of persistent school absence in autistic students within mainstream

educational settings. The review is motivated by the paucity of qualitative research on this specific topic, shedding light on the quantitative investigations that have been undertaken. These studies collectively concentrated on the mainstream school experiences of autistic children and young individuals between the ages of six and 18



(Bitsika *et al* 2020; Bitsika *et al* 2021; Ochi *et al* 2020; Munkhaugen *et al* 2019;).

Notably, the sample sizes in these studies varied, ranging from 62 participants (Munkhaugen *et al* 2019) to 94 participants (Ochi *et al* 2020), the latter of which also included a comparison group of 143 non-autistic students. Regarding the gender distribution, two of these studies exclusively focused on autistic boys (Bitsika *et al* 2020; Bitsika *et al* 2021), leading to gender imbalances in the participant samples.

All participants attended inclusive primary or secondary schools, emphasizing the mainstream educational context. In three of the four studies (Bitsika *et al* 2020; Bitsika *et al* 2021; Munkhaugen *et al* 2019), participants exhibited an intelligent quotient (IQ) of at least 70, reflecting the diversity of the autistic population. While IQ was not measured in Ochi *et al*'s (2020) study, the fact that participants were placed in inclusive classrooms, rather than "special education rooms," implies IQ levels above 70. All participants were confirmed to have an autism spectrum condition, ensuring the homogeneity of the target population across these studies.

The most utilised method of collecting data was through questionnaires which were employed across all studies with the exception of Ochi *et al* (2020) which obtained data from outpatient charts and interviews where possible. It is acknowledged that interview data would likely elicit richer data however the use of self-reports from the autistic boys in two studies (Bitsika *et al* 2020; Bitsika *et al* 2021) is a positive step toward the inclusion of the autistic voice (Pelicano *et al* 2013). Additionally, Bitsika *et al* (2021) adopted a neurodiversity-affirmative approach, acknowledging the preferences of the autistic community (AsIAm, 2019), in contrast to the other three studies that leaned toward a more medical model approach.

Each of the four selected studies contributes to our understanding of PSA in autistic students.

Munkhaugen *et al*'s 2019 study found that challenges in social functioning and in particular low social motivation was a characteristic of autistic students with PSA alongside executive difficulties in initiation, planning/organising and shifting. In addition the students with PSA had higher levels of depressed and withdrawn behaviour which links in with the research carried out by Bitsika *et al* (2020) which reported that anxiety and depression were significantly higher in students with emerging PSA. Furthermore separation anxiety was found to be significantly higher in the autistic students presenting with emerging PSA where social phobia was not found to be significantly correlated with emerging PSA (Bitsika *et al* 2021).

Three of the four studies included in the review found that a significant association between being bullied and PSA or emerging PSA in autistic boys and girls (Bitsika *et al* 2020; Bitsika *et al* 2021; Ochi *et al* 2020). Other factors for PSA in autistic girls was poor adjustment in school transitions and physiological symptoms (Ochi *et al* 2020). Additionally, while age was a significant factor for PSA in one study (Ochi *et al* 2020), age was not found to be a variable in emerging PSA in the study conducted by Bitsika *et al* (2021), nor was it found to be a variable in separation anxiety or social phobia in the same study.

Despite their methodological differences these findings contribute to a more comprehensive understanding of the complex factors influencing PSA in autistic individuals.

Discussion

Bullying and PSA

The aim of the systematic review was to ascertain external factors and internal characteristics that are associated with persistent school absence in autistic children and young people enrolled in mainstream primary and post-primary school settings. The



experience of being bullied at school was identified as an external factor in three of the four studies reviewed in this paper (Bitsika *et al* 2020; Bitsika *et al* 2021; Ochi *et al* 2020) with prevalence rates of reported bullying 85.1% (Bitsika *et al* 2020) and 81.7% (Bitsika *et al* 2021). Both Bitsika *et al* (2020) and Bitsika *et al* (2021) reported that the experience of being bullied 'almost every school day' led to avoidance of school the following day. While the aforementioned studies focus solely on autistic boys, the findings in Ochi *et al* (2020) highlight that autistic girls are also affected by bullying with being bullied at school significantly associated with not attending school across both genders in this study. That autistic students experience bullying at school more often than their non-autistic peers is supported by other studies (Altomare *et al* 2017; McClemon *et al* 2021; Sagers *et al* 2017).

Age and PSA

Age was highlighted as a PSA factor in the study carried out by Ochi *et al* (2020) who found that non-attendance at school occurred earlier for autistic students than their non-autistic peers though age was not found to be associated with PSA in Bitsika *et al* (2021). However age has been found to be an associated factor in PSA in research carried out by Adams (2021) and Totsika *et al* (2020).

School Transitions and PSA

Another factor related to PSA, and highlighted in Ochi *et al* (2020) is school transitions. Whilst the results of Ochi *et al*'s 2020 study only found this association for autistic girls, previous research has highlighted the transition from primary to secondary education as a negative experience for both genders (Costley *et al* 2021; Makin *et al* 2017).

Anxiety, Wellbeing and PSA

Physical symptoms were also found to be a factor in PSA for girls (Ochi *et al* 2020) which could be a result of anxiety, a characteristic experienced by many on the autism spectrum (Preece and Howley 2018). Anxiety in the forms of generalised anxiety (Bitsika *et al* 2020) and separation anxiety (Bitsika *et al* 2021) was reported in two studies. That autistic children and young people experienced heightened levels of anxiety is widely acknowledged (Adams *et al* 2019; Adams 2021; Preece and Howley 2018) but of interest in this review is its association to persistent school absence with both generalised anxiety and separation anxiety significantly correlated with PSA (Bitsika *et al* 2020; Bitsika *et al* 2021).

The School Environment and PSA

That anxiety is linked to the school environment is corroborated by Costley *et al* (2021). This study, based on personal accounts of autistic students, highlighted the school environment as a main cause of high levels of anxiety in autistic students and anxiety as a key factor in the degree of challenges and successes in mainstream school settings (Costley *et al* 2021). Correspondingly, Munkhaugen *et al*'s 2019 study reported that students with PSA had higher levels of depressed and withdrawn behaviour with depression also being reported in Bitsika *et al* (2020). Findings from Munkhaugen *et al* (2019) suggest that students with PSA experience great challenges in social functioning but that these challenges are more related to low social motivation than social communication which may be as a result of prior unpleasant social experiences (Goodall 2018).

Executive Differences

This study found that higher levels of executive difficulties were experienced by students with



PSA in particular in their ability to initiate, plan, and shift which may then impact for example, on their ability to ask for help in school when needed, or the completion of their morning routine (Munkhaugen *et al* 2019). Efficient executive function is known to be difficult for many autistic individuals and can impact success across contexts and environments (Fletcher-Watson and Happé 2019).

Implications for Practice

That autistic students, particularly those attending mainstream primary or post-primary educational settings, are at greater risk for PSA is widely acknowledged (Adams 2021; Munkhaugen *et al* 2017; Preece and Howley 2018). Multiple factors and characteristics that can lead to PSA have been identified in this systematic review however these are not exhaustive. Indeed, autistic student's personal accounts across two studies which looked at autistic student's mainstream educational experience identified other potentials for example: the uncertainty of the school day; social relationships; managing academic work; being on time; noise; crowds; other people's behaviour (including bullying); isolation and loneliness; breaktime; and feeling unsupported (Costley *et al* 2021; Goodall 2018) all of which led to increased anxiety.

From the results of this review it is evident that a major area of focus going forward needs to be in decreasing the instances and frequency of bullying. That bullying is a wellbeing risk factor is reported in Wellbeing Policy Statement and Framework for Practice 2018-2023 (Ireland, Department of Education and Skills 2018) however there is a need for an autism specific response to bullying that focuses on peer understanding and acceptance and involves a whole-school collaborative approach such as that detailed in the report 'Preventing school bullying of children with Special Educational Needs or Disability' (National Disability Authority 2014). Indeed peer education and awareness is

acknowledged to underpin acceptance (Williams *et al* 2017 cited in Goodall 2018).

Reducing anxiety for autistic students is another area of need identified through this systematic review. As detailed in the recently published 'Autism Good Practice for Schools' building positive relationships across students, teachers, parents and peers, adapting the school and learning environment, appropriate and ongoing professional learning are all needed to ensure effective education provision for autistic students (Department of Education 2022). That these practices can help mitigate against heightened anxiety is evidenced by the responses given in Costley *et al* (2021) wherein the autistic participants reported positive relationships and an understanding of their needs as protective factors. The importance of a whole school approach, teacher education and education for non-teaching staff has also been highlighted by the National Council for Special Education (2016).

In addition difficulties with executive functioning, in particular with initiation, planning and shifting were found to be associated with PSA in Munkhaugen *et al* (2019). Given that executive functioning difficulties are often experienced by the autistic population and can significantly impact adaptive, social and school functioning it may be of benefit to explicitly highlight the association with PSA to parents and teachers (Munkhaugen *et al* 2019).

Given the dearth of research in the area of PSA, future research is needed to broaden our scope of understanding as to the reasons that underlie PSA for both male and female students so that we may make the changes necessary to better ensure that autistic students remain in school and meet their potential. Any research undertaken needs to consider the priorities of the autistic community, and focus research on what is important to the autistic population and their families (Pelicano *et al* 2013; Pelicano *et al* 2014). Furthermore it is important that the

terminology used in any research study is respectful of the preferences of the autistic community and the wider neurodiversity movement (Guldborg *et al* 2019). That autism research should actively include autistic researchers and participants cannot be understated (Chown *et al* 2017).

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References

- Adams, D. (2021) 'Child and parent mental health as correlates of school non-attendance and school refusal in children on the autism spectrum', *Journal of Autism and Developmental Disorders*, available: <https://doi.org/10.1007/s10803-021-05211-5>
- Adams, D., MacDonald, L. and Keen, D. (2019) 'Teacher responses to anxiety-related behaviours in students on the autism spectrum', *Research in Developmental Disabilities*, 11-19, available: <https://doi.org/10.1016/j.ridd.2018.12.009>
- Altomare, A. A., McCrimmon, A. W., Cappadocia, M. C., Weiss, J. A., Beran, T. N. and Smith-Demers, A. D. (2017) 'When push comes to shove: how are students with autism spectrum disorder coping with bullying?', *Canadian Journal of School Psychology*, available: <https://doi.org/10.1177/0829573516683068>
- AslAm (2019) *Autism & language – what's the best word?* Available online: <https://asiam.ie/wp-content/uploads/2019/04/Autism-Language.pdf> [accessed 08 Dec 2021]
- AslAm (2019) *Invisible children survey on school absence & withdrawal in Ireland's autism community*, available: <https://asiam.ie/wp-content/uploads/2019/04/Invisible-Children-Survey-on-School-Absence-Withdrawal-in-Irelands-Autism-Community-April-2019.pdf> [accessed 03 Mar 2022]
- AslAm (2021) *Reforming the education for persons with special educational needs act 2004 – a green paper from AslAm*, available: <https://asiam.ie/advocacy/our-work-policy-and-campaigns/education/special-education-reform-epsen-act/> [accessed 03 Mar 2022]
- Bitsika, V., Heyne, D.A. and Sharpley, C.F. (2020) 'Is bullying associated with emerging school refusal in autistic boys?', *Journal of Autism and Developmental Disorders*, 51, 1081-1092, available: <https://doi.org/10.1007/s10803-020-04610-4>
- Bitsika, B., Sharpley, C. and Heyne, D. (2021) 'Risk for school refusal among autistic boys bullied at school: investigating associations with social phobia and separation anxiety', *International Journal of Disability, Development and Education*, available: <https://doi.org/10.1080/1034912X.2021.1969544>
- Boland, A., Cherry, M.G. and Dickson, R. (2017) *Doing a systematic review*, London: Sage Publications Limited.
- Chown, N., Robinson, J., Beardon, L., Downing, J., Hughes, L., Leatherland, J., Fox, K., Hickman, L. and MacGregor, D. (2017) 'Improving research about us, with us: a draft framework for inclusive autism research', *Disability & Society*, 32(5), 720-734, available: <https://doi.org/10.1080/09687599.2017.1320273>
- Costley, D., Emerson, A., Ropar, D. and Sheppard, E. (2021) 'The anxiety caused by secondary schools for autistic adolescents: in their own words', *Education Sciences*, 11, 726, available: <https://doi.org/10.3390/educsci11110726>
- Fletcher-Watson, S. and Happé, F. (2019) *Autism: a new introduction to psychological theory and current debate*, Oxon: Routledge.
- Goodall, C. (2018) "'I felt closed in and like I couldn't breathe": a qualitative study exploring the mainstream educational experiences of autistic young people', *Autism & Developmental Language Impairments*, 3, 1-16, available: <https://doi.org/10.1177/2396941518804407>
- Guldborg, K., Bradley, R. and Wittemeyer, K., Briscoe, J., Philips, C. and Jones, G. (2019) *Good Autism Practice: Full Report*, London: Autism Education Trust.
- Ireland, Department of Education (2022) *Autism good practice guidance for schools – supporting children and young people*, available: <https://www.gov.ie/en/publication/8d539-autism-good-practice-guidance-for-schools-supporting-children-and-young-people/> [accessed 03 Apr 2022]

Ireland, Department of Education and Skills (2018) *Wellbeing policy statement and framework for practice*, available: <https://assets.gov.ie/24725/07cc07626f6a426eb6eab4c523fb2ee2.pdf> [accessed 13 Apr 2022]

Ireland, National Disability Authority (2014) *Preventing school bullying of children with special educational needs or disability*, available: <https://nda.ie/nda-files/preventing-school-bullying1.pdf> [accessed 03 Apr 2022]

James Lind Alliance (2016) *Autism Top 10*, available: www.jla.nihr.ac.uk/priority-setting-partnerships/autism/top-10-priorities/ [Accessed 01 Nov 2021]

Makin, C., Hill, V. and Pellicano, E. (2017) 'The primary-to-secondary school transition for children on the autism spectrum: a multi-informant mixed-methods study', *Autism & Developmental Language Impairments*, 2, 1-18, available: <https://doi.org/10.1177/2396941516684834>

McClemont, A.J., Morton, H.E., Gillis, J.M. and Romanczyk, R.G. (2020) 'Brief report: predictors of school refusal due to bullying in children with autism spectrum disorder and attention-deficit/hyperactivity disorder', *Journal of Autism and Developmental Disorders*, 51, 1781-1788, available: <https://doi.org/10.1007/s10803-020-04640-y>

Munkhaugen, E.K., Gjevik, E., Pripp, A.H., Sponheim, E. and Diseth, T. H. (2017) 'School refusal behaviour: are children and adolescents with autism spectrum disorder at a higher risk?', *Research in Autism Spectrum Disorders*, 41-42, 31-38, available: <http://dx.doi.org/10.1016/j.rasd.2017.07.001>

Munkhaugen, E.K., Torske, T., Gjevik, E., Naerland, T., Pripp, A.H. and Diseth, T. H. (2019) 'Individual characteristics of students with autism spectrum disorders and school refusal behaviour', *Autism*, 23(2), 413-423, available: <https://doi.org/10.1177/1362361317748619>

National Council for Special Education (2016) *An evaluation of education provision for students with*

autism spectrum disorder in Ireland, available: https://ncse.ie/wp-content/uploads/2016/07/5_NCSE-Education-Provision-ASD-Students-No21.pdf [accessed 09 Mar 2022]

Ochi, M., Kawabe, K., Ochi, S., Miyama, T., Horiuchi, F. and Ueno, S. (2020) 'School refusal and bullying in children with autism spectrum disorder', *Child and Adolescent Psychiatry and Mental Health*, available: <https://doi.org/10.1186/s13034-020-00325-7>

Pellicano, E., Dinsmore, A. and Charman, T. (2013) *A future made together: shaping autism research in the UK*. London: Institute of Education.

Pellicano, E., Dinsmore, A. and Charman, T. (2014) 'What should autism research focus upon? Community views and priorities from the United Kingdom', *Autism*, 18(7), 756-770, available: <https://doi.org/10.1177/1362361314529627>

Pellicano, L., Bölte, S and Stahmer, A. (2018) 'The current illusion of educational inclusion', *Autism*, 22(4), 386-387, available: <https://doi.org/10.1177/1362361318766166>

Preece, D. and Howley, M. (2018) 'An approach to supporting young people with autism spectrum disorder and high anxiety to re-engage with formal education – the impact on young people and their families', *International Journal of Adolescence and Youth*, 23(4), 468-481, available: <https://doi.org/10.1080/02673843.2018.1433695>

Saggers, B., Campbell, M., Dillon-Wallace, J., Ashburner, J., Hwang, Y., Carrington, S. and Tones, M. (2017) 'Understandings and experiences of bullying: impact on students on the autism spectrum', *Australian Journal of Special Education*, 41(2), 123-140, available: <https://doi.org/10.1017/jse.2017.6>

Totsika, V., Hastings, R. P., Dutton, Y., Worsley, A., Melvin, G., Gray, K., Tonge, B and Heyne, D. (2020) 'Types and correlates of school non-attendance in students with autism spectrum disorders', *Autism*, 24(7), 1639-1649, available: <https://doi.org/10.1177/1362361320916967>

The Relationship between Continuous Professional Development and Teacher Self-Efficacy Levels of Primary School Teachers Working with Autistic Students.

Eilís Ryan

Abstract

Teachers play an essential role in the educational experiences of autistic students. To fulfil these duties, teachers require high self-efficacy, adequate training and support. The current review is the first to systematically examine and synthesise evidence on the impact of continuous professional development (CPD) related to autism on the teacher self-efficacy (TSE) levels of primary school teachers working with autistic students. Systematic literature searches were conducted in February 2022 to identify studies. Six studies met the inclusion criteria. All studies reported an increase in TSE following engagement with CPD. Results indicate that while CPD has a positive effect on TSE, this varies across many areas, including teaching and assessment practices, managing behaviour, and collaboration with families and professionals. The implications of these findings are discussed concerning the autism community, policy, practice, and future research.

Background

Children have the right to be educated amongst their peers and participate in all aspects of education (DES 2004; UNESCO 1994). In many countries, such as Ireland, educational provision for autistic students includes mainstream classrooms, special schools, or special classes (Leonard and Smyth 2022). Although teachers have a positive attitude toward teaching autistic students, teachers of autistic students report low levels of self-efficacy (Anglim *et al* 2018; Cook and Ogden 2020; Finlay *et al* 2019; Klassen *et al* 2011; Ruble *et al* 2013).

Teacher self-efficacy (TSE) refers to teachers' perceptions of their ability to facilitate positive student outcomes (Anglim *et al* 2018; Corona *et al* 2017). High levels of TSE positively correlate with student outcomes (Klassen *et al* 2011), quality pedagogical instruction (McGregor and Campbell 2001), effective behaviour management (Leblanc *et al* 2009), and student engagement (Love *et al* 2020; Ruble *et al* 2011). Low levels of TSE are linked to poor classroom management and teacher burnout (Boujut *et al* 2017; Corona *et al* 2017; Ruble *et al* 2011), with teachers of autistic students particularly at risk

for burnout (Jennett *et al* 2003). High levels of TSE have long been associated with coping strategies (Bandura 1977) and act as a protective factor for burnout (Ruble *et al* 2011). As previous teaching experience does not increase levels of TSE for teachers of autistic students (Anglim *et al* 2018; Mintz *et al* 2020), research is needed to examine the potential impact of professional development on TSE (Corona *et al* 2017).

Continuous professional development (CPD) has previously been reported to enhance TSE (Leyser *et al* 2011; Sharma and Sokal 2015). There is consensus that all teachers working with autistic pupils should engage with CPD (Anglim *et al* 2018; Bond *et al* 2016; DES 2006) which is signified by the high demand for CPD related to autism (Bond *et al* 2016; Abel *et al* 2015). Furthermore, research focused on the knowledge and training of educational professionals has been identified as a priority for the autism community (James Lind Alliance 2016; Pellicano *et al* 2014).

Aims

This review aims to synthesise and appraise evidence examining the impact of CPD on the self-efficacy levels of teachers working with autistic students in primary educational settings. The following research question guided the review:

“What is the relationship between continuous professional development and the self-efficacy levels of primary school teachers working with autistic students?”

Method

Before the commencement of the study, searches of the Cochrane Library, International Database of Education Systematic Reviews, and PROSPERO database confirmed that no systematic reviews of the current topic existed or were registered as being in progress.

The search strategy followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) approach (Moher *et al* 2009; Page *et al* 2021). Table 1 describes the keywords employed in the search.

Table 1: Search String Employed

Autism	Teacher	Professional Development	Self-efficacy
autis* OR ASD or Asperger*	primary school teacher* OR elementary school teacher* OR class* teacher* OR general education teacher* OR specialist teacher* OR special needs teacher* OR special educat*	CPD OR continuous professional development OR professional development OR professional learn* OR in?service training OR teacher* education OR teacher training	self?efficacy OR efficacy OR perceptions OR confidence OR self?esteem OR competence

In February 2022, searches of the databases Academic Search Complete, the British Education Index, Education Source, and Education Resources Information Centre yielded 772 results. Each study had to satisfy the inclusion and exclusion criteria as presented in Table 2.

Table 2: Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
Studies sampled primary school teachers, including but not limited to mainstream class teachers, general education teachers, specialist teachers, special education teachers, and special educational needs coordinators.	<p>a) Studies sampled educational staff who provide non-academic support and assistance to students, including but not limited to paraprofessionals, school counsellors, psychologists or social workers, or other support staff working under the direction of teaching staff.</p> <p>b) Studies sampled student teachers, or teachers within early years, second-level, or tertiary educational settings.</p>
Participants engaged in CPD directly related to autism education.	<p>a) Participants engaged in CPD not directly related to autism education.</p> <p>b) Data focussed on the impact of initial teacher education (ITE), or data regarding CPD was not reported separately.</p>
Studies measured stakeholders perceived self-efficacy or competence (including confidence) relating to experiences of teaching autistic students after engagement in CPD.	Studies reported on participants' self-efficacy or perceived competence without reference to CPD, or autism education.
Utilised primary empirical data which included the collection of quantitative and/or qualitative data.	Studies reported on secondary data, including meta-analyses or systematic reviews.
<p>a) Studies written in English or had an English language translation available.</p> <p>b) Studies published in a peer-reviewed, scholarly journal</p> <p>c) Studies published between January 2017 and February 2022.</p>	<p>a) Studies were not available in English.</p> <p>b) Studies not published in a peer-reviewed, scholarly journal, or form part of "grey literature".</p> <p>c) Studies published prior to January 2017 or after February 2022.</p>

The application of exclusion criteria reduced the number of articles to 226, which were further reduced by removing duplicates ($n = 77$) and grey literature ($n = 10$). Titles and abstracts of 189 studies were screened for relevance which excluded 179 papers. The full text of the 10 remaining articles was assessed against the inclusion and exclusion criteria. Five papers were excluded as; participants included non-teaching educational professionals; participants worked in second-level education; and TSE was not measured as an outcome. Following citation chaining, one additional paper was included. A PRISMA flow

diagram outlining the results of the search strategy is presented in Figure 1.

Results

Six studies met the inclusion criteria and data were extracted from these using Critical Review Forms developed by McMaster University (Law *et al* 1998). Table 3 presents a summary of their characteristics.

Table 3: Characteristics of included studies					
Authors /Location	Study aims	Study designs	Participants	Measures and Data Analysis	Key Findings
Horan and Merrigan (2019) <i>Ireland</i>	To investigate if the level of engagement with professional development by teachers working in ASD classes had a significant impact on TSE levels.	Mixed Methodology: retrospective case-control and qualitative interviews.	Systematic sampling 50 primary school teachers working in Irish ASD classes. Participants were assigned to groups categorised as having “little to no training” or “high training”. 7 ASD class teachers participated in semi-structured interviews.	Survey adapted form of The Teacher Efficacy for Inclusive Practices (TEIP) Scale survey (Sharma <i>et al</i> 2012) using a 5-point Likert scale, and semi-structured interviews. Mann-Whitney U test and six-step method for Thematic Analysis (Braun and Clarke 2006)	Overall, teachers had relatively high levels of self-efficacy in their roles. Teachers in the “highly trained” group had significantly higher perceived teacher efficacy levels than those in the “little to no training” group. Teachers reported feeling more confident in their roles due to professional development in specific areas.
Johnson <i>et al</i> (2021) <i>USA</i>	To determine the effect of professional development in social skills training and visual supports on teacher self-efficacy for teachers working with students with ASD.	Quantitative: Quasi-experimental	Convenience sampling 56 general education teachers working in pre-kindergarten to fifth grade in two different schools. One school acted as the experimental group and the other school served as the control group.	Pre- and post-intervention surveys adapted from the Nutrition-Teaching Self-Efficacy Scale (NTSES) (Brenowitz and Tuttle 2003) using a 4-point Likert scale. One-way analysis of covariance (ANCOVA).	The training had a statistically significant impact on the self-efficacy levels of teachers working with autistic students. The experimental group reported significantly higher self-efficacy at the post-test than the control group.
Kisbu-Sakarya and Doenyas (2021) <i>Turkey</i>	To determine the impact of a teacher training programme on teachers’ willingness to teach inclusively. The willingness to teach in inclusive education was determined by two factors: autism self-efficacy and attitudes toward inclusive education.	Quantitative: Randomised Controlled Trial.	Sampling technique not stated. 763 general and special education teachers in Turkey randomly assigned to control and experimental groups.	Questionnaire measuring teacher self-efficacy, attitudes, and behavioural intentions. Section related to self-efficacy was adapted from Autism Self-Efficacy Scale for Teachers (ASSET) (Ruble <i>et al</i> 2013) The scale consisted of 30 items that used a 5-point Likert scale. Statistical univariate mediation analysis	The training increased both mainstream teachers and special education teachers’ self-efficacy for teaching autistic students. The training was not effective in creating a significant change in attitudes towards inclusive education for either group.



<p>Kossewska <i>et al</i> (2021) <i>Poland</i></p>	<p>To examine the impact of autism-specific professional development on teachers' knowledge of autism and teachers' subjective confidence regarding their professional competencies to teach students with ASD.</p>	<p>Quantitative: Before-and-after study without a control.</p>	<p>Voluntary response sampling. 90 primary school teachers, 60 from special schools, and 30 from mainstream/inclusive settings.</p>	<p>Researcher-designed pre- and post-training questionnaires and follow-up questionnaire completed three months after training. Teacher confidence was measured by an 11-item scale related to teachers' subjective confidence in their practical teaching skills. Wilcoxon Signed Rank Test</p>	<p>The training had a significant impact on teacher confidence in 8 of the measured areas for the special education cohort and in all areas for the mainstream class teachers.</p>
<p>Lisak Šegota <i>et al</i> (2022) <i>Croatia, Republic of North Macedonia, and Poland</i></p>	<p>To examine the impact of engagement with content in ITE and CPD regarding autism on teachers' confidence and teacher professional development needs in autism education.</p>	<p>Quantitative: Cross-sectional study.</p>	<p>Sampling technique not stated. 350 mainstream teachers and special school teachers in Croatia, North Macedonia, and Poland.</p>	<p>Researcher designed questionnaires informed by literature reviews. Survey included sections related to demographic data, instruction received regarding autism within ITE and CPD, knowledge, attitudes, and confidence about autism, and the need for further CPD. Analysis methods not stated</p>	<p>Almost half of the participants had completed CPD about autism. Overall, confidence was low across several domains. Special school teachers reported higher overall confidence than mainstream teachers. Teachers identified a need for further appropriate teacher education regarding autism.</p>
<p>Ryan and Matthews (2021) <i>Ireland</i></p>	<p>To measure the perceived self-efficacy of ASD class teachers in Ireland and investigate how TSE was affected by three independent variables: a) years teaching experience, b) engagement with CPD and c) principal support.</p>	<p>Quantitative: Cross-sectional study.</p>	<p>Systematic sampling 139 ASD class teachers working in Irish primary schools</p>	<p>Self-completion online questionnaire. Section related to teacher self-efficacy was adapted from Autism Self-Efficacy Scale for Teachers (ASSET) (Ruble <i>et al</i> 2013). Engagement with CPD pertaining to autism was measured using a questionnaire informed by the NCSE's CPD Database (Duggan 2016). Statistical Package for Social Sciences (SPSS) Spearman's Rho Correlation Coefficient test</p>	<p>Teachers in ASD classes are relatively confident in their roles. Perceptions of TSE were positively correlated with the level of engagement with CPD pertaining to autism.</p>

All six papers were published between 2019 and 2022. Studies were conducted in Ireland, the USA, Turkey, Croatia, the Republic of North Macedonia, and Poland. All studies examined the impact of CPD on the TSE of primary school teachers working with autistic students. Three studies examined the impact of retrospective engagement with CPD on TSE, while the other three studies evaluated the training provided in the study and its impact on TSE.

All studies reported that CPD affected the TSE of teachers working with autistic students. Prior engagement with CPD was positively correlated with elevated levels of TSE (Horan and Merrigan 2019; Lisak Šegota *et al* 2022; Ryan and Matthews 2021), while studies that involved the delivery of a training programme reported improvement in the TSE of those engaging with the CPD (Johnson *et al* 2021; Kisbu-Sakarya and Doeniyas 2021; Kossewska *et al* 2021). Findings suggest that teachers working in Irish ASD classes had high levels of TSE (Horan and Merrigan 2019; Ryan and Matthews 2021). Horan and Merrigan (2019) reported a mean score of 82.3 out of 108 using the Teacher Efficacy for Inclusive Practices (TEIP) Scale survey (Sharma *et al* 2012), while the mean Autism Self-Efficacy Scale for Teachers (ASSET) (Ruble *et al* 2013) score in Ryan and Matthews (2021) was 4.38 out of 6. Johnson *et al* (2021) recorded a statistically and practically significant difference between the control and experimental group, with the effect size reported as $\eta^2 = .528$ ($p < 0.001$). Kossewska *et al* (2021) found that the CPD improved mainstream teachers confidence in all of the areas measured ($p = 0.1$) and increased special-school teachers confidence in all but three areas (understanding reasons

for/functions of challenging behaviours ($p = 0.16$), providing support and access to the curriculum ($p = 0.33$) and supporting sensory needs ($p = 0.13$).

Although all studies found a relationship between CPD and TSE, three studies found differences in TSE levels between teachers working in mainstream and special education settings (Kisbu-Sakarya and Doeniyas 2021; Kossewska *et al* 2021; Lisak Šegota *et al* 2022). Overall, special education teachers had higher levels of TSE than their mainstream colleagues (Kisbu-Sakarya and Doeniyas 2021; Kossewska *et al* 2021; Lisak Šegota *et al* 2022). Lisak Šegota *et al* (2022) found that teachers working in special schools expressed greater confidence than their mainstream counterparts in all 16 areas measured.

Five studies described varying TSE levels and the impact of CPD on these efficacy levels across several areas. These included collaboration with caregivers and other professionals (Horan and Merrigan 2019; Kossewska *et al* 2021; Ryan and Matthews 2021), managing behaviour (Horan and Merrigan 2019; Kossewska *et al* 2021; Lisak Šegota *et al* 2022; Ryan and Matthews 2021), and teaching and assessment practices (Horan and Merrigan 2019; Kossewska *et al* 2021; Lisak Šegota *et al* 2022; Ryan and Matthews 2021).

The quality assessment highlighted substantial variation in the internal validity of the included studies. Two studies were deemed low quality, while four were assessed as fair quality. A summary of the quality assessment is presented in Table 4.

Table 4: Quality assessment of included studies.

Authors	Quality assessment tool	Is the research question/focus clearly stated?	Is the appropriate research method used?	Is the sampling appropriate?	Were dropouts handled appropriately?	Are confounding factors dealt with appropriately?	Was the outcome measured in a valid and reliable way?	Is the data analysis appropriate?	Are the results clinically significant?
Horan and Merrigan (2019)	Dual assessed - CASP (2018) qualitative checklist and CASP (2018) case-control checklist	No	Unclear	Unclear	Yes	No	Yes	Yes	Yes
Johnson <i>et al</i> (2021)	JBIC (2017) Quasi-experimental checklist	Yes	Yes	Yes	Yes	Yes	No	No	Yes
Kisbu-Sakarya and Doenyas (2021)	CASP (2018) randomised controlled trial checklist	Yes	Yes	Unclear	No	Yes	Yes	Yes	No
Kosowska <i>et al</i> (2021)	NHLBI (2013) before-and-after case study checklist	Yes	Yes	Unclear	Unclear	No	No	Yes	No
Lisak Šegota <i>et al</i> (2022)	JBIC (2017) cross-sectional checklist	No	Yes	Unclear	Unclear	No	No	Unclear	Unclear
Ryan and Matthews (2021)	JBIC (2017) cross-sectional checklist	Yes	No	Yes	Yes	No	Yes	Unclear	Yes

Only two studies employed a control group (Johnson *et al* 2021; Kisbu-Sakarya and Doenyas 2021), while the remaining studies (Horan and Merrigan 2019; Kossewska *et al* 2021; Lisak Šegota *et al* 2022; Ryan and Matthews 2021) failed to address potential confounding factors or include control groups. This may mask a true association, or demonstrate a false association, between the exposure and outcome (Skelly *et al* 2012), threatening the findings' reliability.

All studies used a Likert scale to measure participants' responses. Rating scales are susceptible to bias, including recall bias and social desirability responding, while values assigned to the same points on a scale may differ between participants (Webb-Williams 2018). Data that cannot be independently verified affects the validity of the results (Rosenman *et al* 2011).

Due to quality concerns, the results of the included studies must be interpreted cautiously, and therefore, this review draws only tentative conclusions.

Discussion

The current systematic review synthesises and evaluates literature on the relationship between CPD and the TSE levels of primary school teachers working with autistic students.

Findings provide preliminary evidence that engagement in CPD related to autism may enhance TSE for teachers of autistic students. All studies reported increased levels of TSE for teachers who had engaged with CPD related to autism. This supports suggestions that CPD can positively impact TSE (Corona *et al* 2017; Jennet *et al* 2003; Love *et al* 2020; Sharma and Sokal 2015). However, results suggest that this impact is different between mainstream and special education teachers.

Previous research suggests that both mainstream and special-education teachers report low levels of TSE regarding their ability

to support autistic students (Anglim *et al* 2018; Cook and Ogden 2020; Finlay *et al* 2019; Klassen *et al* 2011; Ruble *et al* 2013). Qualitative and quantitative data demonstrate high variance in reported TSE levels (Horan and Merrigan 2019; Johnson *et al* 2021; Kisbu-Sakarya and Doenyas 2021; Ryan and Matthews 2021). Findings suggest that special education teachers had higher levels of TSE than their mainstream colleagues (Kisbu-Sakarya and Doenyas 2021; Kossewska *et al* 2021; Lisak Šegota *et al* 2022). Ryan and Matthews (2021) reported a mean ASSET score of 4.38, making it the highest score to appear in published literature since its inception (Corona *et al* 2017; Love *et al* 2020; Ruble *et al* 2013). While these results refute previous findings, these differences may be accounted for as the populations differed (Anglim *et al* 2018) and special education teachers often have more access to CPD (DES 2006; Frederickson *et al* 2010; Lisak Šegota *et al* 2022). This further highlights the relationship between CPD and TSE for teachers of autistic students.

In addition to differences between mainstream and special education teachers, findings suggest that CPD has a varied impact on levels of TSE related to collaboration, academic achievement, and behaviour. Teachers reported high levels of TSE for collaboration and communication (Horan and Merrigan 2019; Kossewska *et al* 2021; Ryan and Matthews 2021). Creating effective partnerships between students, parents and the school community is seen as a pillar of inclusive education (DES 2020a). Schools need to develop strong home-school partnerships (Frederickson *et al* 2010), especially regarding collaborative behaviour management.

The ability to manage behaviour has previously been identified as a source of concern for teachers working with autistic students (Anglim *et al* 2018). This review finds that CPD related to autism has differing effects on TSE to support behaviour (Horan and Merrigan 2019;

Kossewska *et al* 2021; Ryan and Matthews 2021). TSE regarding behaviour management was generally found to be high (Horan and Merrigan 2021; Ryan and Matthews 2021), however, teachers may require more training on identifying the function of behaviour (Kossewska *et al* 2021). Research suggests that CPD in evidence-based classroom management is associated with improvements in TSE (Kennedy *et al* 2021).

Participants generally felt confident in their ability to provide effective and inclusive educational experiences (Lisak Šegota *et al* 2022; Ryan and Matthews 2021) and CPD heightened this confidence (Horan and Merrigan 2019). This is an encouraging finding for stakeholders in the autism community, as generic and autism-specific teaching methodologies are necessary for effective education (Barry *et al* 2021). Participants felt least confident in their abilities to transfer assessment data into teaching and learning objectives for their students (Ryan and Matthews 2021). This finding corresponds with previous research in the Irish context (Daly *et al* 2016; DES 2020a) which discussed concerns related to identifying and using assessment measures relevant to students' needs. This finding may have implications as effective assessment and teaching are intrinsically linked (Daly *et al* 2016). This highlights the importance of quality CPD for autism-specific evidence-based teaching and assessment strategies to establish individualised education plans (Daly *et al* 2016; DES 2020a).

When considered in the context of existing evidence on positive outcomes associated with TSE (Busby *et al* 2012; Corona *et al* 2017; Jennett *et al* 2003), the findings are encouraging for teachers, students, and families.

Strengths and limitations of included studies

This review tentatively suggests a positive relationship between CPD and TSE for teachers of autistic students. This finding is strengthened by several aspects of the included studies. Most studies recruited large samples (Kisbu-Sakarya and Doenyas 2021; Kossewska *et al* 2021; Lisak Šegota *et al* 2022; Ryan and Matthews 2021) which were both geographically and demographically representative of the overall population (DES 2021; European Commission 2019; U.S.A. Department of Education 2021). This increases confidence in the effect size and enables generalisation of the results (Biau *et al* 2008).

The use of quantitative and qualitative data collection methods gives further insight into TSE and how it is impacted by CPD (Klassen and Usher 2010). Horan and Merrigan (2019) collected data concurrently through surveys and semi-structured interviews allowing for triangulation. This enhances the validity and reliability of the results and provides in-depth understandings that would not have been possible using exclusively quantitative measures (Creswell 2009).

Each study had several limitations, such as sampling and the provision of CPD, which jeopardise the external validity of the findings. Results from the studies with small samples (Horan and Merrigan 2019; Johnson *et al* 2021) can be difficult to interpret with certainty as they can produce false-positive results, or over-estimate the magnitude of the association of interest (Hackshaw 2008). Kossewska *et al* (2021) recruited participants from volunteers, enhancing the risk of selection bias which suggests that the sample may not be truly representative of the population (Patel *et al* 2003). Sampling in both Horan and Merrigan (2019) and Ryan and Matthews (2021) was systematic. However, it was not randomised and therefore there is a risk of respondent bias (Torgerson and Torgerson 2003). This limits the external validity of these studies.



In the studies that reviewed specific teacher training, all interventions were short, ranging from 90 minutes to four hours (Johnson *et al* 2021; Kisbu-Sakarya and Doeniyas 2021; Kossewska *et al* 2021). Likewise, the most common form of CPD for participating teachers was short courses (Horan and Merrigan 2019; Lisak Šegota *et al* 2022; Ryan and Matthews 2021). Short courses which do not contain an element of mastery experience are not sufficient to change attitudes toward inclusive education (Leyser *et al* 2011). Therefore the findings are limited in their generalisation as none of the included studies reported long-term effects of CPD on TSE.

Strengths and limitations of the current review

A comprehensive search strategy, including piloting and supplementing results from the electronic search with citation chaining strengthens confidence in the findings of this review given that all relevant and available research was included. The review also benefitted from an assessment of the methodological rigor of the included studies using design-specific quality assessment tools.

Despite this, there are some inherent limitations. This review is limited to studies sampling primary school teachers. This focus may be criticised as other professionals work with autistic students in educational settings. Future research could consider the impact of CPD on the self-efficacy of a wider sample of professionals who support autistic individuals in a variety of educational settings. The exclusion of non-English language papers and grey literature is a further limitation. However, the search strategy did not identify many non-English language papers. Furthermore, this review omitted grey literature due to concerns regarding the data quality reported and a lack of consensus on best practices for including such materials in systematic reviews (Egger *et al* 2003; Mahood *et al* 2014).

Implications for Policy and Practice

CPD related to autism can potentially improve the TSE of teachers working with autistic students. As high levels of TSE have previously been associated with quality education (Klassen *et al* 2011; Love *et al* 2020; McGregor and Campbell 2001; Ruble *et al* 2011) and teacher well-being (Leblanc *et al* 2009; Ruble *et al* 2011), findings from this review are encouraging for many stakeholders in the autism community. Policies are needed at both school and department levels to support TSE for teachers of autistic students.

The importance of quality CPD for teachers working with autistic students has been emphasised numerous times (Anglim *et al* 2018; Bond *et al* 2016). The findings highlight the need for CPD related to autism ranging from basic awareness to higher-level accreditation to ensure that sufficient and appropriate CPD is available to meet demand (Bond *et al* 2016; Daly *et al* 2016; Finlay *et al* 2019). Schools should develop flexible policies that consider the range of needs within schools and ensure that CPD is not restricted to specialist staff (Bond *et al* 2016; Ryan and Matthews 2021). As access to CPD is especially challenging due to the difficulty of sourcing substitute cover (DES 2021), developing more teacher-led and less provider-driven CPD (Shire and Kasari 2014) may provide opportunities for upskilling teachers (Barry *et al* 2021).

Although all studies reported a positive correlation between TSE and CPD, there remain significant barriers to TSE that cannot be alleviated by access to CPD. Horan and Merrigan (2019) reported that participants felt they lacked adequate access to support such as speech and language or occupational therapy. Support from external agencies in supporting provision for autistic students has previously been found to be lacking (Daly *et al* 2016). To ensure that autistic students are reaching their potential, sufficient access to interdisciplinary support is necessary.



Implications for future research

The current review highlights the need for robust, systematic research in this area as the included studies were not of high methodological quality. Future research should incorporate longitudinal study designs to produce more rigorous and conclusive findings on the long-term effects of CPD on TSE. As only one study adapted the intervention based on participants' needs (Kosowska *et al* 2021), this review highlights that researchers need to work to co-design research that would address the priorities and needs of stakeholders (Bond *et al* 2016).

Furthermore, researchers should employ terminology and language that autistic people are comfortable with (Kenny *et al* 2016). The included studies highlight that language in educational research continues to focus on deficits rather than adopting inclusive and equitable terminology. Involving the autism community in the co-design of research would ensure that research reflects stakeholders' priorities and aligns with how autistic individuals view and describe themselves.

Conclusion

The current review is the first systematic review of the relationship between CPD and TSE of teachers working with autistic students in primary schools. While further research is required, this review has demonstrated that engagement with CPD positively affects the TSE levels of teachers working with autistic students in primary school settings.



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References

Abel, H., Sreckovic, M. A., Schultz, T. R., Garwood, J. D., & Sherman, J. (2015) 'Views from the trenches: Teacher and student supports needed for full inclusion of students with ASD', *Teacher Education*

and *Special Education*, 38(1), 44-57, available: <https://doi.org/10.1177/0888406414558096> [accessed 12 Apr 2022]

Anglim, J., Prendeville, P., and Kinsella, W. (2018) 'The self-efficacy of primary school teachers in supporting the inclusion of children with autistic spectrum disorder', *Educational psychology in practice*, 34, 73-88, available: <https://www.tandfonline.com/doi/abs/10.1080/02667363.2017.1391750> [accessed 03 Mar 2022]

Bandura, A. (1977) 'Self-efficacy: Toward a Unifying Theory of Behavioral Change', *Psychological Review*, 84 (2), 191-215, available: [doi:10.1037/0033-295X.84.2.191](https://doi.org/10.1037/0033-295X.84.2.191). [accessed 02 Apr 2022]

Barry, L., Holloway, J., Gallagher, S. and McMahon, J. (2021) 'Teacher Characteristics, Knowledge and Use of Evidence-based Practices in Autism Education in Ireland', *Journal of Autism and Developmental Disorders*, available: <https://doi.org.libraryproxy.mic.ul.ie/10.1007/s10803-021-05223-1> [accessed 17 Apr 2022]

Biau, D. J., Kernéis, S., and Porcher, R. (2008) 'Statistics in brief: the importance of sample size in the planning and interpretation of medical research', *Clinical orthopaedics and related research*, 466(9), 2282-2288, available: <https://doi.org/10.1007/s11999-008-0346-9> [accessed 12 Apr 2022]

Boland, A., Cherry, M.G. and Dickson, R. (2017) *Doing a Systematic Review: A Student's Guide*, 2nd ed., London: SAGE Publications.

Bond, C., Symes, W., Hebron, J., Humphrey, N., and Morewood, G. (2016) 'Educating Persons with Autistic Spectrum Disorder—A Systematic Literature Review', *National Council for Special Education (NCSE)/Economic and Social Research Institute (ESRI) Research Series*, available: https://ncse.ie/wp-content/uploads/2016/07/4_NCSE-Educating-Persons-with-ASD-No20.pdf [accessed 10 Nov 2021]

Boujut, E., Popa-Roch, M., Palomares, E.A., Dean, A., & Cappe, É. (2017) 'Self-efficacy and burnout in teachers of students with autism spectrum disorder'. *Research in Autism Spectrum Disorders*, 36, 8-20, available:



<https://doi.org/10.1016/j.rasd.2017.01.002>,
[accessed 12 Mar 2022]

Braun, V. and Clarke, V. (2006) 'Using Thematic Analysis in Psychology', *Qualitative Research in Psychology*, 3(2), 77-101, available: <https://www.tandfonline.com/doi/abs/10.1191/1478088706qp0630a> [accessed 12 Mar 2022]

Brenowitz, N. and Tuttle, C. R. (2003) 'Development and testing of a nutrition-teaching self-efficacy scale for elementary school teachers', *Journal of Nutrition Education and Behavior*, 35(6), 308-311, available: [https://doi.org/10.1016/s1499-4046\(06\)60345-x](https://doi.org/10.1016/s1499-4046(06)60345-x) [accessed 21 Mar 2022]

Busby, R., Ingram, R., Bowron, R., Oliver, J., and Lyons, B. (2012) 'Teaching Elementary Children with Autism: Addressing Teacher Challenges and Preparation Needs', *Rural Educator*, 33(2), 27-35, <https://www.proquest.com/docview/1017540903/fulltextPDF/93FFAF4F9ACE4D5BPQ/1?accountid=55804> [accessed 16 Apr 2022]

Cook, A. and Ogden, J. (2021) 'Challenges, strategies and self-efficacy of teachers supporting autistic pupils in contrasting school settings: a qualitative study', *European Journal of Special Needs Education*, available: <https://www.tandfonline.com/doi/pdf/10.1080/08856257.2021.1878659?needAccess=true> [accessed 02 Mar 2022]

Corona, L. L., Christodulu, K. and Rinaldi, M. (2017) 'Investigation of School Professionals' Self-Efficacy for Working With Students With ASD: Impact of Prior Experience, Knowledge, and Training', *Journal of Positive Behavior Interventions*, 19(2), 90-101, available at: <https://doi.org/10.1177/1098300716667604> [accessed 28 Mar 2022]

Creswell, J. (2009) *Research Design: Qualitative, Quantitative and Mixed-Methods Approaches*, London: Sage.

Critical Appraisal Skills Programme (CASP) (2018) *Critical Appraisal Skill Programme Checklists*, available: <https://casp-uk.net/casp-tools-checklists/> [accessed 28 Feb 2022].

Daly, P., Ring, E., Egan, M., Fitzgerald, J., Griffin, C., Long, S., McCarthy, E., Moloney, M., O'Brien, T., O'Byrne A. O'Sullivan S., Ryan, M. and Wall, E. (2016) 'An Evaluation of Education Provision for Students with Autism Spectrum Disorder in Ireland'

National Council for Special Education (NCSE)/Economic and Social Research Institute (ESRI) Research Series, available: https://ncse.ie/wp-content/uploads/2016/07/5_NCSE-Education-Provision-ASD-Students-No21.pdf [accessed 12 Mar 2022]

Department of Education and Science (2004) 'Education of Persons with Special Educational Needs Act', Dublin: The Stationery Office, available: <https://www.irishstatutebook.ie/eli/2004/act/30/enacted/en/pdf> [accessed 16 Apr 2022]

Department of Education and Skills (2020a) 'Education Provision for Learners with Autism Spectrum Disorder in Special Classes Attached to Mainstream Schools in Ireland', Dublin: The Stationary Office, available: <https://www.gov.ie/en/publication/c466e-education-provision-for-learners-with-autism-spectrum-disorder-in-special-classes-attached-to-mainstream-schools-in-ireland/> [accessed 10 Apr 2022]

Department of Education and Skills (2020b) 'Guidelines for Primary Schools Supporting Pupils with Special Educational Needs in Mainstream Schools', Dublin: The Stationary Office, available: <https://www.gov.ie/en/publication/56c43-supporting-pupils-and-students-with-special-educational-needs-guidelines-for-schools/> [accessed 12 Mar 2022]

Department of Education and Skills (2021) 'Teacher Statistics', Dublin: The Stationary Office, available: <https://www.gov.ie/en/publication/c97fbd-teacher-statistics/> [accessed 10 Apr 2022]

Duggan, C. (2016) 'An Overview of CPD Provision for Teachers in the Area of Inclusion and Special Educational Needs'. NCSE, available: <http://ncse.ie/wp-content/uploads/2016/12/FINAL-SUMMARY-REPORT-CPD-DATABASE.pdf> [accessed 12 Apr 2022]

Egger, M., Juni, P., Bartlett, C., Hoenstein, F., and Sterne, J. (2003) 'How important are comprehensive literature searches and the assessment of trial quality in systematic reviews? Empirical study', *Health Technology Assessment* 7(1), 1-76, available: <https://pubmed.ncbi.nlm.nih.gov/12583822/> [accessed 10 Apr 2022]



- European Commission (2019) 'Education and Training Monitor 2019: Croatia', Luxembourg: Publications Office of the European Union, available: https://education.ec.europa.eu/sites/default/files/document-library-docs/et-monitor-report-2019-croatia_en.pdf [accessed 10 Apr 2022]
- Finlay, C., Kinsella W., and Prendeville, P. (2019) 'The professional development needs of primary teachers in special classes for children with autism in the Republic of Ireland', *Professional Development in Education*, 45, 1-21, available: <https://www.tandfonline.com/doi/full/10.1080/19415257.2019.1696872> [accessed 26 Mar 2022]
- Frederickson, N., Jones, A.P., and Lang. J. (2010) 'Inclusive Provision Options for Pupils on the Autistic Spectrum.' *Journal of Research in Special Education Needs*, 10(2), 63–73, available: [doi:10.1111/j.1471-3802.2010.01145.x](https://doi.org/10.1111/j.1471-3802.2010.01145.x) [accessed 06 Apr 2022]
- Hackshaw A. (2008) 'Small studies: strengths and limitations', *The European respiratory journal*, 32(5), 1141–1143, available: <https://doi.org/10.1183/09031936.00136408> [accessed 09 Apr 2022]
- Horan, M., and Merrigan, C. (2021) 'Teachers' perceptions of the effect of professional development on their efficacy to teach pupils with ASD in special classes', *Journal of Inclusive Education in Ireland*, 32(1), 34–49, Available: <https://www.reachjournal.ie/index.php/reach/article/view/16> [accessed 17 Apr 2022]
- James Lind Alliance (2016) 'The Autism PSP Top 10 Final Report', *Autistica*.
- Jennett, H., Harris, S. and Mesibov, G. (2003) 'Commitment to Philosophy, Teacher Efficacy, and Burnout Among Teachers of Children with Autism', *Journal Autism Development Disorders*, 33, 583–593, available: <https://doi.org/10.1023/B:JADD.0000005996.19417.57> [accessed 26 Mar 2022]
- Joanna Briggs Institute (JBI) (2017) 'Critical Appraisal Tools', available: <https://jbi.global/critical-appraisal-tools> [accessed 01 Mar 2022]
- Johnson, A., Soares, L. and Gutierrez de Blume, A. P. (2021) 'Professional Development for Working with Students with Autism Spectrum Disorders and Teacher Self-Efficacy', *Georgia Educational Researcher*, 18(1), available: <https://digitalcommons.georgiasouthern.edu/gerjournal/vol18/iss1/1> [accessed 17 Apr 2022]
- Juniper E. F. (2009) 'Validated questionnaires should not be modified', *The European Respiratory Journal*, 34(5), 1015–1017, available: <https://doi.org/10.1183/09031936.00110209> [accessed 02 Apr 2022]
- Kenny, L., Hattersley, C., Molins, B., Buckley, C., Povey, C., and Pellicano, E. (2016) 'Which terms should be used to describe autism? Perspectives from the UK autism community', *Autism*, 20(4), 442–462, available: <https://doi.org/10.1177/1362361315588200> [accessed 12 Apr 2022]
- Kennedy, Y., Flynn, N., O'Brien, E. and Greene G. (2021) 'Exploring the impact of Incredible Years Teacher Classroom Management training on teacher psychological outcomes', *Educational Psychology in Practice*, 37(2), 150-168, available: <https://www.incredibleyears.com/wp-content/uploads/Exploring-the-impact-of-Incredible-Years-Teacher-Classroom-Management-training-on-teacher-psychological-outcomes.pdf> [accessed 18 Apr 2022]
- Kisbu-Sakarya, Y. and Doenyas, C. (2021) 'Can school teachers' willingness to teach ASD-inclusion classes be increased via special education training? Uncovering mediating mechanisms', *Research in Developmental Disabilities*, 113, available: <https://doi.org/10.1016/j.ridd.2021.103941>
- Klassen, R.M. and Usher, E.L. (2010) 'Self-efficacy in educational settings: Recent research and emerging directions', Urdan, T.C. and Karabenick, S.A. (Ed.) *The Decade Ahead: Theoretical Perspectives on Motivation and Achievement, Advances in Motivation and Achievement, Vol. 16 Part A*, Emerald Group Publishing Limited, Bingley, 1-33, available: [https://doi.org/10.1108/S0749-7423\(2010\)000016A004](https://doi.org/10.1108/S0749-7423(2010)000016A004) [accessed 05 Apr 2022]
- Klassen, R., Tze, V., Betts, S. and Gordon, K. (2011) 'Teacher Efficacy Research 1998–2009: Signs of Progress or Unfulfilled Promise?' *Educational Psychology Review*, 23(1), 21-43, available: <https://www.jstor.org/stable/23883397> [accessed 08 Apr 2022]
- Kossewska, J., Bombińska-Domżał, A., Cierpiatowska, T., Lubińska-Kościółek, E., Niemiec,



- S., Płoszaj, M. and Preece, D. (2021) 'Towards inclusive education of children with Autism Spectrum Disorder. The impact of teachers' autism-specific professional development on their confidence in their professional competences', *International Journal of Special Education*, 36(2), 27-35, available: <http://www.internationalsped.com/ijse/article/view/162/45> [accessed 17 Apr 2022]
- Law, M., Stewart, D., Pollock, N., Letts, L. Bosch, J., & Westmorland, M. (1998) *Critical review form – Qualitative and quantitative studies*. Hamilton, Canada: McMaster University.
- Leblanc, L., Richardson, W., and Burns, K. (2009) 'Autism Spectrum Disorder and the Inclusive Classroom: Effective Training to Enhance Knowledge of ASD and Evidence-Based Practices', *Teacher Education and Special Education*. 32(2), 166-179, available: <https://doi.org/10.1177/0741932507334279> [accessed 13 Apr 2022]
- Leonard, N. and Smyth, S. (2022) 'Does training matter? Exploring teachers' attitudes towards the inclusion of children with autism spectrum disorder in mainstream education in Ireland', *International Journal of Inclusive Education*, 26:7, 737-751, DOI: [10.1080/13603116.2020.1718221](https://doi.org/10.1080/13603116.2020.1718221) [accessed 30 July 2023]
- Leyser, Y., Zeiger, T. and Romi, S. (2011) 'Changes in Self-efficacy of Prospective Special and General Education Teachers: Implication for inclusive education', *International Journal of Disability, Development and Education*, 58(3), 241-255, available: <https://www.tandfonline.com/doi/abs/10.1080/1034912X.2011.598397> [accessed 10 Apr 2022]
- Lisak Šegota, N., Lištiaková, I.L., Stošić, J., Kossewska, J., Troshanska, J., Petkovska Nikolovska, A., Cierpiałowska, T., and Preece, D. (2022) Teacher education and confidence regarding autism of specialist primary school teachers, *European Journal of Special Needs Education*, 37(1), 14-27, available: <https://www.tandfonline.com/doi/pdf/10.1080/08856257.2020.1829865?needAccess=true> [accessed 17 Apr 2022]
- Love, A., Findley, J., Ruble, L. and McGrew, J. (2020) 'Teacher Self-Efficacy for Teaching Students With Autism Spectrum Disorder: Associations with Stress, Teacher Engagement, and Student IEP Outcomes Following COMPASS Consultation', *Focus on Autism and Other Developmental Disabilities*, 35(1), 47–54, available: <https://doi.org/10.1177/1088357619836767> [accessed 21 Mar 2022]
- Mahood, Q., Van Eerd, D. and Irvin, E. (2014) 'Searching for grey literature for systematic reviews: challenges and benefits', *Research Synthesis Methods*, 5(3), 221-234, available: <https://onlinelibrary.wiley.com/doi/full/10.1002/jrsm.1106> [accessed 12 Apr 2022]
- McGillicuddy, S., and O'Donnell, G.M. (2014) 'Teaching Students with Autism Spectrum Disorder in Mainstream Post-Primary Schools in the Republic of Ireland', *International Journal of Inclusive Education*, 18 (4), 323–344, available: <https://doi.org/10.1080/13603116.2013.764934> [access 16 Apr 2022]
- McGregor, E., and Campbell, E. (2001) 'The attitudes of teachers in Scotland to the integration of children with autism into mainstream schools', *Autism: The International Journal of Research And Practice*, 5(2), 189–207, available: <https://doi.org/10.1177/1362361301005002008> [accessed 11 Feb 2022]
- McKenzie J.E., Brennan S.E., Ryan R.E., Thomson H.J., Johnston R.V., and Thomas J. (2022) 'Defining the criteria for including studies and how they will be grouped for the synthesis', in: Higgins J.P.T., Thomas J., Chandler J., Cumpston M., Li T., Page M.J., and Welch V.A., eds., *Cochrane Handbook for Systematic Reviews of Interventions, version 6.3*. Cochrane, 2022, available: <https://training.cochrane.org/handbook/current/chapter-03> [accessed 05 Mar 2022]
- Mintz, J., Hick, P., Solomon, Y., Matziari, A., Ó'Murchú, F., Hall, K., Cahill, K., Curtin, C., Anders, J. and Margariti, D. (2020) 'The Reality of Reality Shock for Inclusion: How Does Teacher Attitude, Perceived Knowledge and Self-efficacy in Relation to Effective Inclusion in the Classroom Change from the Pre-service to Novice Teacher Year?' *Teaching and Teacher Education*, 91, available: <https://doi.org/10.1016/j.tate.2020.103042> [accessed 02 Apr 2022]
- Moher, D., Liberati, A., Tetzlaff, J. and Altman, D. (2009) 'Preferred reporting items for systematic reviews and meta-analyses: the PRISMA statement',



British Medical Journal, 3, 123-30, available: [10.1016/j.jclinepi.2009.06.005](https://doi.org/10.1016/j.jclinepi.2009.06.005). [accessed 10 Feb 2022]

National Heart, Lungs and Blood Institute (NHLBI) (2013) *Study Quality Assessment Tools*, available: <https://www.nhlbi.nih.gov/health-topics/study-quality-assessment-tools> [accessed 01 Mar 2022]

Page, M.J., McKenzie, J.E., Bossuyt, P.M., Boutron, I., Hoffmann, T.C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E.A., Brennan, S.E., Chou, R., Glanville, J., Grimshaw, J.M., Hróbjartsson, A., Lalu, M.M., Li, T., Loder, E.W., Mayo-Wilson, E., McDonald, S., McGuinness, L.A., Stewart, L.A., Thomas, J., Tricco, A.C., Welch, V.A., Whiting, P. and Moher, D. (2021) 'The PRISMA 2020 statement: an updated guideline for reporting systematic reviews', *Systematic Reviews*, 10(89), available: <https://systematicreviewsjournal.biomedcentral.com/track/pdf/10.1186/s13643-021-01626-4.pdf> [accessed 12 Feb 2022]

Patel, M., Doku, V and Tennakoon, L. (2003) 'Challenges in recruitment of research participants', *Journal of Continuing Professional Development*, 9, 229-238, available: https://www.researchgate.net/publication/258032761_Challenges_in_recruitment_of_research_participants [accessed 30 Mar 2022]

Pellicano, E., Dinsmore, A., and Charman, T. (2014) 'What should autism research focus upon? Community views and priorities from the United Kingdom', *Autism: The International Journal of Research And Practice*, 18(7), 756–770, available: <https://doi.org/10.1177/1362361314529627> [accessed 21 Feb 2022]

Rosenman, R., Tennekoon, V., and Hill, L. G. (2011) 'Measuring bias in self-reported data', *International Journal of Behavioural & Healthcare Research*, 2(4), 320–332, available: <https://doi.org/10.1504/IJBHR.2011.043414> [accessed 17 Apr 2022]

Ruble, L.A., Usher, E.L., and McGrew, J.H. (2011) 'Preliminary investigation of the sources of self-efficacy among teachers of students with autism', *Focus on Autism and Other Developmental Disabilities*, 26(2), 67–74, available: <https://journals-sagepub-com.libraryproxy.mic.ul.ie/doi/abs/10.1177/1088357610397345> [accessed 27 Mar 2022]

Ryan, A. and Mathews, E.S. (2021) 'Teacher self-efficacy of primary school teachers working in Irish ASD classes', *European Journal of Special Needs Education*, available: <https://doi.org/10.1080/08856257.2021.1872996> [accessed 17 Apr 2022]

Sharma, U., and Sokal, L. (2015) 'The Impact of a Teacher Education Course on Pre-Service Teachers' Beliefs About Inclusion: An International Comparison', *Journal of Research in Special Educational Needs*, 15 (4), 276-284, available: <https://doi.org/10.1111/1471-3802.12043> [accessed 09 Apr 2022]

Sharma, U., Loreman, T. and Forlin, C. (2012) "Measuring Teacher Efficacy to Implement Inclusive Practices", *Journal of Research in Special Educational Needs*, 12, 12–21, available: [doi:10.1111/j.1471-3802.2011.01200.x](https://doi.org/10.1111/j.1471-3802.2011.01200.x). [accessed 12 Mar 2022]

Shire, S. Y., and Kasari, C. (2014) 'Train the trainer effectiveness trials of behavioral intervention for individuals with autism: A systematic review', *American Journal on Intellectual and Developmental Disabilities*, 119(5), 436–451, available: <https://doi.org/10.1352/1944-7558-119.5.436> [accessed 18 Apr 2022]

Skelly, A. C., Dettori, J. R., and Brodt, E. D. (2012) 'Assessing bias: the importance of considering confounding', *Evidence-based spine-care journal*, 3(1), 9–12, available: <https://doi.org/10.1055/s-0031-1298595> [accessed 17 Apr 2022]

Suri, H. (2020) 'Ethical Considerations of Conducting Systematic Reviews in Educational Research', in Zawacki-Richter O., Kerres M., Bedenlier S., Bond M., Buntins K. (eds) *Systematic Reviews in Educational Research*. Wiesbaden: Springer VS, 41-54, available: https://doi.org/10.1007/978-3-658-27602-7_3 [accessed 01 Mar 2022]

Torgerson, D.J. and Torgerson, C.J. (2003) 'Avoiding Bias in Randomised Controlled Trials in Educational Research', *British Journal of Educational Studies*, 51(1), 36-45, available: <https://onlinelibrary.wiley.com/doi/abs/10.1111/1467-8527.t01-2-00223> [date accessed 15 Apr 2022]

Treadwell J.R., Singh, S., Talati, R., McPheeters, M.L. and Reston, J.T. (2011) 'A framework for "best evidence" approaches in systematic reviews'



Rockville: Agency for Healthcare Research and Quality

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001) 'Teacher Efficacy: Capturing an Elusive Construct' *Teaching and Teacher Education*, 17, 783-805, available: [http://dx.doi.org/10.1016/S0742-051X\(01\)00036-1](http://dx.doi.org/10.1016/S0742-051X(01)00036-1) [accessed 12 Apr 2022]

United Nations Educational Scientific and Cultural Organisation (UNESCO) (1994) 'The Salamanca Statement and Framework for Action on Special Needs Education. World Conference on Special Needs Education', Salamanca, Spain, United Nations Educational, Scientific, and Cultural Organisation, available: <https://www.european-agency.org/sites/default/files/salamanca->

[statement-and-framework.pdf](#) [Date accessed: 14 Apr 2022].

U.S.A Department of Education, (2021) 'Digest of Education Statistics, 2019', *National Centre for Education Statistics (NCES 2021-009), Chapter 2*, available: https://nces.ed.gov/programs/digest/d19/ch_2.asp [accessed 10 Apr 2022]

Webb-Williams, J. (2018) 'Science Self-Efficacy in the Primary Classroom: Using Mixed Methods to Investigate Sources of Self-Efficacy', *Research in Science Education*, 48, 939–961, available: <https://doi.org/10.1007/s11165-016-9592-0> [accessed 17 Apr 2022]

Beyond The Training Gap- The Importance of Supervision for Teachers and Special Need's Assistants

Deirdre O'Shea

Background

The opening of special classes for autistic children within ROI has increased dramatically over the past decade. Whilst the improvements for educational provision for autistic children is warmly welcomed and needed, challenges have arisen as a result, particularly in relation to staff training and ongoing support to the educational team.

As of 2023, there are approximately 19,000 special education teachers working in ROI (Oireachtas 2023). As there is no mandatory training to take on this role, autistic children are often being educated by special education teachers that have not had access to appropriate training. Similarly, autistic children in mainstream classes are often educated by teachers with little or no knowledge about their needs. Recent ROI research (Sweeney and Fitzgerald 2023) identified lack of support, guidance and preparation for mainstream teachers, special education teachers and principals in supporting autistic children across mainstream school settings. Whilst teachers can access specialist training through services such as the National Council for Special Education (NCSE), MCA and Professional Development Service for Teachers (PDST), this typically does not occur until after the teacher has commenced employment in a special education role. Furthermore, follow up support is generally not provided after such trainings.

Similarly to teaching, the Special Needs Assistant (SNA) role has expanded dramatically over the past decade, with approximately 20,000 SNAs currently working in schools (Oireachtas, 2023). Unlike teachers, SNAs are unable to access and attend many trainings provided by the NCSE, MCA or the PDST. SNAs are considered front line workers; they are directly supporting many autistic students in schools, often more intimately than teaching staff. If SNAs are ultimately training themselves, this can result in inconsistencies in practices, as they are not being guided in how to use their knowledge in line with the individual needs of the autistic children in their care (Griffin 2015).

From my professional experience, the implications of the current training barriers for teachers and SNAs can have serious consequences for autistic children in our school settings. Autistic children have unique differences in multiple domains (Sweeney and Fitzgerald 2023) and essentially learn differently to neurotypical peers. Furthermore, many autistic children have co-occurring learning and sensory differences which means the approach to education for these children must be different with appropriate supports and accommodations in place. When training gaps are evident in schools, neurotypical and autistic communication differences are often misunderstood as 'behaviour challenges' and a process of behaviour management strategies is often executed in favour of a neurotypical thinking style. Sadly, such practices often lead



to autistic children being excluded from education. To allow autistic students flourish in our education system, training gaps must be addressed by providing consistent support to teachers and SNAs; ensuring educational practices that are inclusive for all neurotypes are evident across all schools.

Supervision for teachers and SNAs

A proposed solution to the issues discussed in this paper is to introduce a supervision process for teachers and SNAs working with autistic children. Supervision is a core and essential element in health services, for professionals such as psychotherapists and psychologists, however, it is less established in educational settings. Whilst there are many approaches to supervision, it is generally a process that enables school staff time and space to reflect on their personal attitudes, beliefs and educational approaches in order to develop new ways of teaching and working in the classroom.

Many teachers and SNAs spend in excess of 25 hours per week working with autistic children, therefore, it is important opportunities are provided to reflect on and adapt educational and care practices within the classroom. A key feature of supervision is that it can provide teachers and SNAs with a safe space to problem solve issues whilst reducing the isolation often experienced in the absence of support. It is widely known that some autistic children can experience elevated levels of stress in school, sometimes leading to externalising behaviours that can be distressing for both the child and the adult (O'Shea 2023). Regular and planned supervision can help to mitigate the stress teachers and SNAs may experience in such situations. With this in mind, it is essential supervision is not only scheduled in response to a crisis.

I am aware of a small number of schools in ROI currently funding their own supervision service, which is delivered by appropriately

qualified psychologists and specialist educational professionals. Whilst it is wonderful the professionals in such schools have access to support, schools should not have to use their limited budget to fund such an essential resource.

Conclusion

It is my professional opinion that a consistent and appropriate supervision service should be expanded across all schools, delivered by a neurodiverse and appropriately qualified team of professionals. This essential service could mitigate persistent barriers presenting in educational provision for autistic children, and in the interests of improved wellbeing for all, allow teachers and SNAs to access the essential support required to do their role.



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References

- Anna Freud Centre (2020) 'Supporting Staff Wellbeing in Schools'. Available at: <https://www.annafreud.org/media/11451/3rdanna-freud-booklet-staff-wellbeing-new-address-april-2020.pdf> [Accessed July 2023]
- Griffin, C. P. (2015) 'Fostering independence through care? A critical reflection on the role of the Special Needs Assistant in Ireland's inclusive education system'. American Educational Research Association Annual Meeting: Toward Justice: Culture, Language, and Heritage in Education Research and Praxis. Chicago, Illinois.
- Sweeney, E. and Fitzgearld, J. (2023) 'Supporting Autistic Pupils in Primary Schools in Ireland: Are Autism Special Classes a Model of Inclusion or Isolation?' *Disabilities* 2023, 3, 379–395.
- O'Shea, D (2023) 'Wellbeing Research Bulletin Issue No. 41' Middletown Centre for Autism. Available at: <https://www.middletownautism.com/research/research-bulletins> [Accessed August 2023]

Oireachtas (2023) Available at:
<https://www.oireachtas.ie/en/debates/question/2023-03-23/143/> [Accessed August 2023]

Notices of Recruitment

Research participants required for a research study titled 'Autistic Girls' Experiences of Mainstream Education Settings'. If you are an autistic girl or a parent/guardian of an autistic girl, 1st to 3rd year of post-primary school in Republic of Ireland and are interested in finding out more about this study, please contact Aoife.munroe@mic.ul.ie



Letters to the Editor

MCA Post Graduate Courses

Institution	Qualifications	Duration/credit	Assessment Methods	Entry Requirements	Contact Details
Mary Immaculate College, Limerick	Post Graduate Certificate in Autism Studies	Four part time modules over 1 year 30 ECTS at level 9	Four assignments over the year (including written assignments and presentations)	A level 8 qualification or equivalent in any discipline OR a Bachelor's degree at Level 7 or 8 is required for entry to this programme.	Kim Maguire Email: Kim.Maguire@mic.ul.ie Majella Nugent Email: GCAS@middletownautism.com
Mary Immaculate College, Limerick	Post Graduate Diploma in Autism Studies	Three part time modules over 1 year 30 ECTS at level 9	Three written assignments over the year	A Bachelor's Degree at Level 7 or 8 in any discipline AND a post-graduate qualification in Autism Studies.	Kim Maguire Email: Kim.Maguire@mic.ul.ie Dr Rachel Ferguson Email: Rachel.ferguson@middletownautism.com
Mary Immaculate College, Limerick	Masters in Autism Studies	Three part time modules over 1 year 30 ECTS at level 9	Three written assignments over the year (Including a dissertation)	This programme is designed to build on both the existing GCAS and GDAS programmes.	Kim Maguire Email: Kim.Maguire@mic.ul.ie Dr Rachel Ferguson Email: Rachel.ferguson@middletownautism.com
Stranmillis University College, Belfast	Post Graduate Certificate in Autism Studies	Three part time modules each worth 20 CAT points	Three written assignments over the year	2:2 Hons Degree and preferably a professional teaching qualification.	Email: info@stran.ac.uk

All courses are delivered using online blended learning through virtual learning environments and face to face weekend lectures.

MCA Training Courses

<https://www.middletonautism.com/training>





MCA Research Journal Description

Submission Guidelines

The aim of the MCA Research Journal is to publish examples of good practice in working with or supporting autistic people. We want to share the novel and interesting research studies that are carried out (primarily across Ireland) to positively impact the lives of autistic people.

Research exploring how environments and people around the autistic person can change and adapt to better suit the needs and promote the strengths of autistic people are welcomed by the journal.

Types of Papers/ Manuscripts

MCA Research Journal welcomes the submission of:

- Research articles (maximum 3000 words)
 - Data-based manuscripts reporting original research that aims to improve the educational outcomes, opportunities and services for autistic people (primarily across Ireland).
- Executive Summary of Literature Reviews (maximum 3000 words)
 - Selected on the content's importance to the field of autism and good autism practice, executive summaries should report the main elements of the review in a condensed format which emphasizes the implications for practice.
- A Special Series or Section (Contact Editorial Board in the first instance)
 - Contains several different articles by various authors on a given topic. A lead author with extensive experience and expertise in a specific area conceptualizes and coordinates it with support from the Editorial Board. Individuals who wish to guest edit a special series should first contact the journal editorial office to ascertain interest in the topic.
- Letters to the editor (maximum 300 words)
 - Involving reaction to material appearing in the MCA Research Journal or to an issue in the field of autism are encouraged and are published as space permits.
- Perspective Article (maximum 2000 words)
 - Perspective articles are intended to provide a forum for authors to discuss models and ideas from a personal viewpoint. They are more forward looking and/or speculative than Reviews and may take a narrower field of view. They may be opinionated but should remain balanced and are intended to stimulate discussion.
- Notices of Recruitment for Research (maximum 200 words)
 - Short synopsis of research study, ethical approval and who to contact if interested in participating. Only studies meeting the aims of the journal and with ethical approval will be considered for 'Notices of Recruitment for Research' section.

Criteria

Initial consideration of a manuscript will depend upon:

- Content relevance and usefulness to the readership
- How it compares to other articles dealing with similar content on pertinent variables (e.g., sample size, research design, research quality, literature review)
- Clarity of writing style

- Use of strengths based, autism affirming language and terminology i.e. identity first (e.g. autistic people).
- Autistic co – production / inclusion in research e.g. design, methodology, results & interpretation of finding
- Adherence to Harvard Style referencing guidelines (see here for details: <https://www.citethisforme.com/uk/referencing-generator/harvard>)
- Adherence to the journal formatting guide

Publication

MCA publish the MCA Research Journal on a bi-annual basis. This means we publish two journals a year. All publications are available via the MCA Website.

For more information

Please contact the below email address for a copy of the Journal description and formatting guide:

MCAResearchJournal@middletownautism.com