



Investigating the challenges of teaching sex education to autistic learners: A qualitative exploration of teachers' experiences[☆]

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ABSTRACT

Background: Sex education is essential as it equips individuals with the knowledge to live independent and safe sex lives. However, in the United Kingdom, sex education is not particularly accessible for autistic learners which may lead to a lack of knowledge around appropriate sexual behaviours.

Aims: The current study focusses on the challenges of teaching sex education to autistic learners. **Methods and procedures:** The data was produced through one-to-one interviews with thirteen educational practitioners that have experienced delivering sex education to autistic learners.

Outcomes and results: Reflexive thematic analysis (Braun & Clarke, 2006) was used to interpret the data, producing themes of (1) *Pedagogical Restrictions*, and (2) *Sexual Impulses*.

Conclusions and implications: These findings demonstrated that the main challenges of teaching sex education to autistic learners pertained to *Pedagogical Restrictions* in the classroom, and learners' own sexual impulses. These findings are a positive step towards understanding how to adapt sex education lessons to make them more inclusive and accessible for learners with autism. This study contributes to developing understanding around how to support autistic learners, highlighting gaps in the current sex education curriculum for policy makers, and enabling those surrounding autistic individuals to best support them with body transformations.

What this paper adds

This paper is a qualitative psychological analysis of the accessibility to, and challenges of, teaching sex education for students with autism. Autistic individuals are at risk of not receiving effective sex education at school. One reason for this is that facilitating a lesson with a variety of students with different needs is challenging. The paper thus discusses what these challenges are from educators' perspectives, though also acknowledges the imperativeness of seeking further research with autistic individuals themselves in order to more holistically understand the topic from the perspective of both sex education deliverers and receivers. It is important that

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individuals with autism are taught about sex education as it is their legal right, and so that individuals can understand what safe and consensual sex is. Participants comprise of teachers and teaching assistants from both mainstream and specialist education backgrounds who have experience of teaching and supporting sex education. The main findings focus on the *Pedagogical Restrictions* faced by teachers when delivering sex education, and their experiences of managing the sexual impulses their students face, further highlighting the importance of researching this topic.

1. Introduction

Autism is a neurodevelopmental condition which is characterised by difficulties in social interaction and repetitive and restrictive interests (American Psychological Association [APA], 2013). Impairments in these diagnostic domains manifest in varying degrees and are dependent on ability and developmental age, resulting in a heterogeneous group (Wiggins et al., 2022). Due to the complex interplay of cognitive, social, and sensory profiles in autism, individuals vary in the type of support that they require both within and beyond the classroom. Autistic individuals may also struggle with transitions (Tullis & Seaman-Tullis, 2019) which could prove to be a barrier in both education (Gaona et al., 2019) and moving into sexual maturity and adulthood (Cheak-Zamora et al., 2021).

Some educational institutions adopt an inclusive classroom, accommodating to both neurodiverse and neurotypical learners. Inclusive education has increasingly become a commonly adopted practice worldwide, as a result of a global concern surrounding disabled learners and learning (Thomas, 2013; Lindsay, 2018). The Equality Act 2010 (Government Equalities Office Equality & Human Rights Commission, 2010) states that ‘reasonable adjustments’ should be in place; however, some believe this is challenging to adopt due to varying interpretations, and support may not be standardised in the UK. As a result, some individuals may attend specialist settings such as special needs schools to accommodate their needs, as typically these settings have smaller class sizes and more one-to-one support (Azad et al., 2015). Bowne et al. (2017) suggested that this is a more effective form of learning, particularly for autistic learners. However, 70% of autistic learners are in mainstream provisions, as opposed to specialist schools (Bradley, 2016). Indeed, the majority of autistic learners do not have a comorbid intellectual disability (Schieve et al., 2015) and would not be at a cognitive disadvantage at mainstream school. In the UK, though, there are still barriers for disabled learners within education as the national curriculum is tailored to neurotypical learners (Waddington & Reed, 2017). This is particularly prominent for sex education which has been found challenging to teach to disabled learners (Barnard-Brak et al., 2014).

1.1. Sex education in the UK

In 2017, the sex education curriculum in the UK was updated for the first time in twenty years (Study International, 2019), primarily in order to allow for discussion of matters concerning lesbian, gay, bisexual, transgender, queer (LGBTQ+) populations which were not previously taught and thus limited exposure to diversity (Roberts, 2019; Stonewall, 2017). Thus, educational institutions in the UK are now required to teach areas of sexual health, menstruation, relationships (including LGBTQ+), and sexual health (Department for Education, 2019), even though critics have suggested that this reform would promote sex at an earlier age and encourage children to mature more quickly (e.g. Mahendru, 2019).

Walker et al. (2021) conducted a systematic review of qualitative studies exploring primary and secondary schools’ sex education outcomes in neurotypical students. Their findings concluded that the barriers to effectivity included, i) teachers’ confidence in their ability to teach sex education, ii) school policies and environment, and iii) the priority of sex education lessons in regard to the wider curriculum, suggesting that these barriers could be met with additional training pre-service and in-service for all educators including teaching assistants, the promotion of a supportive school culture to enhance the environment, and the promotion of the importance of sex education across group and systemic levels (Bronfenbrenner, 1977). In earlier work, Herr et al (2012) investigated teachers’ perceptions of teaching sex education, identifying that almost all (99%) of the 800 participants agreed that teaching about sexually transmitted diseases such as HIV was vital but that barriers to teaching sexual health included teachers’ efficacy and outcome expectations of the session. They suggested positive factors for teaching sex education were around greater teaching experience and preparation, noting that teaching graduates should not teach sex education for this reason due to their limited teaching experience. However, this research focused primarily on the teaching of neurotypical pupils making it unclear what the experience is like when teaching autistic students.

It is important that sex education content for individuals with disabilities is accessible and personalised for learners’ needs (Department for Education & Department of Health & Social Care, 2015). However, this may be challenging to implement given that teachers must work simultaneously with many students who are developing at different rates socially and cognitively, and thus have differing support needs (Spencer et al., 2018), making it potentially difficult to devote time to neurodiverse students. Further, others have argued that educational providers must protect those with disabilities during sex education to avoid exploitation and bullying. Disabled groups are an ‘at risk’ group for sexual abuse (Kildahl et al., 2020; Mandell et al., 2005), which could be due to the difficulties some individuals may face with communication (Yu et al., 2021), or that symptoms of sexual abuse may present differently in autistic individuals (Kildahl et al., 2020).

1.2. Sex education and autism

A number of autism specific charities and support groups have advocated for primary carers including teachers to educate their children about sexually appropriate behaviours before they enter puberty (National Autistic Society, 2021). Pictures and photographs should be utilised to offer visual aids when learning about sex education (Raising Children, 2021) and during the delivery of sex

education, it should be communicated to individuals that sexual urges are ‘normal’ but should take place in a private environment (Ability Enhancement Services, 2020).

Social stories are one established resource used to teach autistic individuals about sex education (National Autistic Society, 2021). These short stories with pictures facilitate learning and are popularly used with autistic learners (Kuoch & Miranda, 2003; Quirnbach, 2006; Simpson, 2005; Test, 2011). Ninety-three percent of teachers felt social stories were effective as they improved understandings of socially appropriate behaviours (Reynhout & Carter, 2009). However, a limitation of them is that the images could become over stimulating for individuals and take attention away from the learning (Lee et al., 2018). Another limitation is that autistic individuals may struggle to generalize a picture from a book onto a human body (Kandalaf et al., 2013). Alternative resources such as Now Next (National Autistic Society, 2021) and Pictorial Exchange Communication Systems (PECS) (Vistasari & Patria, 2019) can help support autistic individuals transitioning into adulthood and sexual maturity.

A problem with sex education for autistic individuals, however, is that historically, it was believed that autistic individuals were asexual and had no sexual desires (see Sinclair et al., 2015, for a review). Further, Curtis (2017) and Ray et al (2010) found that some autistic individuals struggled to understand that touching another person’s body without consent could be considered rape, or that masturbating in public is not socially acceptable. Therefore, individuals on the spectrum need to be educated about sex when entering sexual maturity. A problem here though is a vast literature that shows that teachers do not adapt resources appropriately to the varying needs of autistic learners (e.g. Mackin et al., 2016) and require more training themselves in this area (e.g. Chan & John, 2012; Curtis & Ebata, 2016), focusing specifically on the communication and sensory needs of autistic learners (Asagba, 2017). As a result, autistic individuals have reported that they missed out on an adequate sex education in school and therefore sought out alternative provisions such as asking friends and family (Curtis & Ebata, 2016) or using television, films and porn as a learning tool for sex education (Solomon et al., 2019). Such a lack of appropriate sex education highlights the ‘double empathy problem’: the theory that the social and communication difficulties present in autism are due to a reciprocal lack of understanding between autistic and non-autistic people, and not an inherent deficiency in just those with autism (Crompton et al., 2021).

1.3. Current study

Literature on the provisions that are used to teach sex education to autistic learners is sparse, indicating a need for more research in this area (Asagba, 2017). This is imperative, as it will inform educational providers, policy makers, and families to understand how they can best support autistic individuals as they explore their sexualities, experience sexual impulses safely, reduce sexually inappropriate behaviours, promote the identification of sexual abuse amongst individuals from this population, and enable individuals to have an educated and safe sex life. The current project thus interviewed teachers and other practitioners who have taught sex education to autistic learners to gauge an understanding of what it is like in practice, specifically to:

- Understand how different schools approach sex education and at what age.
- Understand the effectiveness of the resources used (if any) and how they meet the varying needs of students.
- Evaluate the positive and negatives to teaching sex education to autistic learners.

These aims have been identified in order to address the overall research question: *What are the challenges of teaching sex education to autistic learners?*

2. Materials and methods

2.1. Participants

13 participants (10 female; 3 male) took part in this study, recruited via a convenience sample (Chandler & Shapiro, 2016). All of the participants were from primary and secondary educational settings to offer a realistic and diverse perspective of what teaching sex

Table 1
Overview of participants.

Participant	Sex	Time Teaching	Primary (broadly 4–12 years old) or secondary (broadly 11–18 years old)	Length of interview
Tully	F	7 months	Primary	25:05
Tim	M	3 years	Primary & Secondary	32:59
Harriet	F	12 years	Primary & Secondary	27:36
Genny	F	10 years	Secondary	19:35
Molly	F	5 years	Primary	27:59
Larry	M	3 years	Secondary	34:16
Emmaline	F	1 year	Secondary	23:51
George	M	8 years	Secondary	27:58
Maeve	F	2.5 years	Primary	28:35
Satie	F	20 years	Primary	40:49
Kathleen	F	11 years	Primary	39:58
Amanda	F	6 years	Primary	25:36
Bree	F	3 years	Primary	19:08

education is like in practice, and all but one taught in English schools (Harriet taught in a Scottish school). All of the participants had experience of teaching sex education to autistic learners in schools in varying roles, totalling just over 85 years' worth of total teaching time. Participants' ages were not asked as this was not relevant to the study. Table 1 below outlines participant demographics, with further detail in Appendix 1.

2.2. Data collection

Data collection began after ethical approval was granted by the home institution. Participants gave their consent to take part by typing or signing their names on the consent form in line with GDPR and the [British Psychological Society's Code of Ethics and Code of Conduct \(2018\)](#) and the [Concordat to Support Research Integrity \(2012\)](#) after reading an overview of the project.

One-to-one semi-structured interviews were conducted via Microsoft Teams due to the COVID-19 pandemic ([Fong et al., 2020](#)). Data collected amounted to 373:25 min (just over 6 h), and the average being 28:47. This data collection method was chosen as it enabled an in-depth understanding of individuals' perspectives, experiences and understanding, as opposed to generalizing a group of individuals' data ([McGrath et al., 2019](#)). The interviews consisted of a series of open-ended questions with additional follow-up questions to explore participants' responses further ([Lingard & Kennedy, 2010](#)). The order of questions was not fixed as [Arsel \(2017\)](#) suggests that questions in an interview should follow the discussion's natural flow. After interviews, summary notes were made which participants were provided with. The full list of questions asked is available upon request.

Pseudonyms were given to all participants to ensure anonymity ([Lancaster, 2017](#)), and any identifiable features from the interviews were omitted during transcription to ensure further anonymity. Such transcription was created automatically through Microsoft Teams, before being checked for accuracy by the first author and stored securely.

2.3. Data analysis

The data was analysed by the first author using [Braun and Clarke \(2006\)](#) reflexive thematic analysis. This form of analysis allows participants' "experiences, thoughts, or behaviours" ([Kiger & Varpio, 2020, p.846](#)) to be analysed by identifying and interpreting patterns of meaning – or themes – that arise within the data, in order to answer a set research question. Although well known for their thematic analysis expertise, it was only in 2019 that [Braun and Clarke \(2019\)](#) specified their approach as 'reflexive', promoting the importance of the researcher being subjective, situated, aware, and questioning as fundamental characteristics, whilst adopting the six analysis steps: becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and writing up the findings. Thematic analysis is a widely adopted form of analyses for qualitative data, as it is flexible, easy to learn, and can highlight key features and similarities across different data sets. The approach has been used in similar research previously (e.g. [Barnett & Maticka-Tyndale, 2015](#); [Hannah & Stagg, 2016](#); [Pingel et al., 2013](#)).

The data was analysed in an iterative fashion so that saturation of findings was evident, and thus, data collection could stop ([Willig, 2008](#)). Three initial themes were identified and discussed within the research team, before being refined to two themes with subthemes in order to succinctly answer the research question, *What are the challenges of teaching sex education to autistic learners?* (the third theme was deemed not as directly relevant to answering the question).

These findings were identified as:

1. *Pedagogical Restrictions* (How the delivery and environment of sex education can influence understanding).
2. *Sexual Impulses* (How educators communicate to autistic learners how to explore, celebrate, and act safety on sexual urges through accessible formats of teaching).

These themes will now be discussed in turn, though it is of importance to note that the researchers in the current project do not identify as autistic and so interpretation of results has been conceptualised from a neurotypical perspective.

3. Results

3.1. Theme 1: Pedagogical Restrictions

The first theme focuses on how sex education is presented to autistic learners in terms of pedagogy. Twelve of the thirteen participants contributed to the creation of this theme (Kathleen, Genny, Maeve, Tim, Larry, Emmaline, Harriet, Tully, Amy, Satie, Molly, and Bree).

To begin, participants discussed the delivery of sex education and how the environment can influence its success:

They're all just thrown together... (*we need*) resources to support and personally do one-on-one... so you can cater to their needs (*George*).

I think if you do it individually one by one it could make it seem such a big issue that they might worry about it then think 'oh my God I've got to go to my one-to-one meeting'... and they might feel... like an attack (*Amanda*).

Having that small group... they build up a relationship with each other... it forms a nice, comfortable environment. it's just a natural environment that they can have that freedom to talk and ask questions and make statements (*Satie*).

Some participants considered tailored, one-to-one sex education being more beneficial for autistic learners, in order to adapt practice to learners' needs, to ensure the utmost engagement and accessibility. Others, however, thought that such a setting could be anxiety-inducing due to the intensity and pressure that can accompany one-on-one interactions. Participants also had different perceptions as to the appropriate age at which sex education should be introduced:

It's appropriate when the child... starts asking questions... if they've got questions, they need answers (*Tully*).

Just before your body starts making those transformations (*Maeve*).

ASD is such a broad spectrum... it's down to the individual and when they need it (*Genny*).

Participants here suggest that the appropriate age to introduce sex education should be based upon their own intrigue or their own bodily reactions accompanying puberty. Genny identifies how broad a range this may be, highlighting the importance of individuality for learners. Similar to neurotypical peers, autistic youths will go through body transitions which can be challenging for some autistic learners (*Tullis & Seaman-Tullis, 2019*). Therefore, some may benefit from having prior knowledge about these body changes so they know what to expect. However, others may benefit from learning about them as they experience them because the idea of what is to come may be stressful. Again, as autism is an individualised condition it is difficult to identify what is more appropriate, especially if learning is within a group context.

One area regarding pedagogy that participants did converge on was with regard to the lack of readily available autism-specific resources in order to teach learners, resulting in practitioners creating their own with little guidance or support from the government (*Mackin et al., 2016*). Consider the following:

It is sometimes very difficult to get that right level of appropriateness (*Tim*).

It's quite hard to... find resources out there that is (*sic*) appropriate (*Maeve*).

I still think it's important to teach it from early years, mainly because of the relationship basis (*Bree*).

Tim, Maeve, and Bree succinctly identify the challenges of adapting resources to ensure that they are appropriate. Due to the disparities of autistic learners' cognitive and physical ages, educators must spend more time understanding how their resources are going to be perceived by their learners. Sex education can evoke humour from feeling uncomfortable or being less mature, and so if learners are laughing during lessons, this may reduce concentration. Educators also have to consider the appropriateness of resources; if learners are learning about topics which they are not emotionally ready for, this could instil false beliefs about the topic when transferring such learning into real life: for instance, if the topic of sexually transmitted diseases is presented in a way that initiates fear and embarrassment, this could prevent learners from acquiring support if they transmit or receive one. Therefore, educators are having to spend time thinking about how to adapt their resources to be positive, approachable, and appropriate to ensure sex education is accessible. Of importance to note, too, is that educators themselves were unsure as to what they should be teaching, how much detail to go into, and what was appropriate:

I'm going to show a cartoon... otherwise it is pornographic... if it's a cartoon or whatever (*it is important to make it*) relatable (*Larry*).

They just need to be very... real: (*they*) don't want (*a*) pencil drawing of a man, they want a real-life picture so that they can understand (*Harriet*).

To promote engagement and concentration, participants identified that resources need to be relatable to autistic learners to support their understanding. The national curriculum prevents real life photos being used which is problematic as cartoon images do not look the same as real life, thus limiting understanding and potentially causing confusion. This is particularly problematic in autistic learners who find abstract concepts challenging to understand (*Kluth & Darmody-Latham, 2003*), since autistic people are less inclined to attend and process abstract information, instead preferring more concrete representations (*Ropar & Peebles, 2007*). This is further confounded by verbal ability in those with autism since language scaffolds the understanding of pictorial meanings, so abstract images may be less well understood by some autistic groups: i.e. minimally verbal autistic children (*Hartley et al., 2019*). Participants detailed the need for more realistic images to help aid understanding, in order to help transfer what has been learned in the classroom into real life settings. Without such resources, autistic learners may feel less supported, as government-approved resources are tailored to neurotypical learners who may understand the concepts involved in sex education more easily.

Finally, in addition to considering the importance of appropriate resources being utilised, participants also detailed the importance of appropriate language in the classroom. Literature suggests that it is imperative that correct terminologies for anatomical body parts are used to avoid confusion (*Curtis, 2017*) and to support learners discussing such issues. Consider the following:

My autistic learners... struggle with communication... I think that's very important... from a young age, children becoming comfortable with... anatomical terms and not seeing them as... dirty words (*Emmaline*).

Naming genitalia... if my children ever come up to me and say like anything ridiculous like 'Foo foo' or anything like that I'll be like, "No: it's called a vagina" because I've just had so many awful stories of people calling it the wrong thing, and then those children end up being sexually molested 'cause it's so easy (*Kathleen*).

(With regard to language being used) You...need to be explicit (*Molly*).

Participants suggested that using the correct terminology for body parts is vital as it could identify safeguarding concerns such as sexual abuse. There is a particular dependency on teachers in this regard as autistic learners may not be able to effectively communicate concerning this topic (Bochynska et al., 2020). Additionally, learners may not even be aware of what a safeguarding scenario is if they have not been educated on it; highlighted by Kathleen that it is “easy” for autistic individuals to be sexually abused. Emmaline suggests that learners may avoid using correct anatomical terms because they view them as “dirty words” but both participants here highlight the dangers of using alternative words due to their ambiguous nature: if learners are prevented from communicating proficiently what they mean, it may lead to (potentially problematic) miscommunication.

This first theme of *Pedagogical Restrictions* has begun to highlight some of the challenges educators are faced with when delivering sex education in the classroom. The analysis continues by next considering sexual impulses.

3.2. Theme 2: sexual impulses

The second theme focusing on sexual impulses begins with consideration of the impact of lack of sex education for autistic learners. Nine of the thirteen participants contributed to this theme (Kathleen, Genny, Amy, Tim, Larry, Molly, Satie, George, and Emmaline). Consider the following:

There’s so many occasions with kind of... inappropriate advancement... no matter how much you teach it some people with their diagnosis will never get it’s wrong... they’ve just not been told any better... they find someone attractive they think that it’s okay to do that, and obviously in everyday life that is not OK (Larry).

We do so much work in my school so these kids can actually leave when they’re 16, not get arrested, get a job and have the life skills to function in society and obviously sex and sexual feelings of sexual expression and emotions and feelings about it... we gotta teach them... that is done through... sex lessons (Tim).

It is important to acknowledge, celebrate, and act safely on sexual impulses. An ableist perspective and thus assumptions of autistic learners’ comprehension of social skills could influence how teaching is delivered to explore and manage sexual impulses in a healthy manner. In the example above, Larry details how an individual may advance upon another without consent, but if they have not been taught the social skills around sex and relationships then this may have problematic implications. Tim also notes the importance of teaching autistic learners about the various aspects of sex so that by the time they leave school, they are better equipped to function in society and, although perhaps dramatic, “not get arrested”, highlighting the severe consequences that a lack of sex education may impart.

In addition to the importance of acting safely on sexual impulses, participants also detailed the importance of sex education for autistic learners’ own bodies and actions:

I had one girl last year... she used to strip off... and the boys... were actually like “what’s that?”, I was like “that’s a vagina, but she can’t be showing it to you” (Kathleen).

They were taught to have like their personal time... they know what to do... they know all the curtains were closed, and know that the door needs to be shut, they know how to clean up... someone had to teach them that (Amanda).

The above example demonstrates that learners have genuine and fair questions about others’ body parts. Kathleen demonstrates normalising naming anatomical body parts, but also, safeguards her student by making it clear that the behaviour is unsuitable for the context. Similarly, Amanda highlights the importance of education regarding what is appropriate in certain situations such as masturbating in a private space. However, understanding the deeper complexities to this should be explored in adherence to the double empathy problem (e.g. Crompton et al., 2021), focussing on the wider implications of risk of sexual exploitation when exploring sexual impulses.

On a similar thread, participants talked about unrealistic expectations of sex and sexual behaviour and how this can stem from or lead to inappropriate sexual impulses, as detailed in the following:

I’ve seen search histories of teenage boys with ASD that I’ve worked with... and you can see on the search history they’re just clicking link to link to link and they’ve ended up somewhere really dark, sometimes illegal... nobody had that discussion with them about what’s online. And the fact that some of it is illegal and is out there in the dark web realistically, really easily accessible. Horrendous stuff online... like that’s what they think sex is like and they don’t understand it’s not (Genny).

Genny provides further evidence here of potential inappropriate behaviours that may occur if autistic learners are not provided with sex education. She highlights the importance of discussing online content and its appropriateness, and crucially, the extent to which it replicates real life sex and sexual behaviours. This provides further evidence for the challenges that educators face in not just educating autistic learners about sex education but actively managing inappropriate behaviour and ensuring safeguarding principles are upheld.

Finally, it is important to question the outcomes of sexual impulses and the possible repercussions: what are the implications both for autistic learners and those around them? Early sexual encounters can influence how sex is perceived for the rest of an individual’s life and can influence life outcomes (Bifulco et al., 1991; James & Meyerding, 1978), so it is important that sex education teaches this. Consider the following:

There’s been cases I’ve heard the kids at school have gone on to rape women, molest women, sexually assault women (Tim).

The lad that I was like working with he ended up being put on the sex offender register because the stuff he was getting taught in this class, he thought in his head that ‘oh now I know what to do; I can go and do that’ (*George*).

The above examples of sexually inappropriate behaviours count as criminal offences. Even though they may have been conducted without malice or intent, this does not invalidate the experiences of being the recipient of sexually inappropriate behaviour, since such actions are traumatising. This highlights the importance that sex education has, not only for autistic learners but for society more generally around consent stemming from a lack of accessible and flexible sex education for autistic learners.

Additionally, it was detailed that individuals are protected more in school if they act inappropriately because staff, families, and learners are aware of how conditions may influence sexual behaviours. Because of this, it could be challenging for learners to understand the transition of acting appropriately outside of school if they do not yet understand sexually appropriate behaviours. Outside of school, individuals face repercussions within the judicial system such as being arrested – as mentioned earlier – and consequentially can cause a lack of independence as being placed on the sex offender register prevents individuals from living in particular areas and applying for particular jobs. This is illustrated in the following:

There was an incident at school where basically another girl grabbed him, and the school made such a hoohaa about it and got... social services involved and [child's] mum said “look, they’re teenagers, they’re 16 and 17. I had those feelings. Of course they have those feelings. If you criminalize that for her, that adds a whole another level of confusion. You need to talk to her about this. Regardless of her ASD diagnosis, you need to be talking to her about it” (*Genny*).

Genny highlights that if practitioners criminalize sexually inappropriate behaviour without first educating autistic learners about it, this could create confusion about sexual urges and feelings. Of utmost importance is, of course, protecting innocent individuals from unwanted sexual advances and harm – as detailed earlier – but secondary to that is consideration of future sexual behaviours and activities; if autistic learners associate everything to do with sex and sexuality as wrong, this may have huge negative implications on the rest of their lives in terms of relationships, wellbeing, and sexual activity.

4. Discussion

This research project aimed to identify challenges of teaching sex education to autistic learners. The analysis revealed themes of themes of (1) *Pedagogical Restrictions*, and (2) *Sexual Impulses*.

Pedagogical Restrictions highlighted how sex education is primarily tailored to neurotypical learners, supporting [Waddington and Reed \(2017\)](#) findings that the national curriculum is tailored to neurotypical learners. In this sense, the specific subject of sex education does not differ from any other topic that might be taught; [Lindsay et al. \(2014\)](#), for instance, highlighted the importance advocating for resources and essential training for including autistic learners generally in the classroom. Specifically, the analysis identified issues around sex education being delivered individually or as a group, the age at which to start teaching the topic, and the importance of realism in terms of educational resources and terminologies being used.

Implementing resources within a group context is challenging due to the varying needs of learners – particularly for those with autism given that it is an individualised condition and resources may not be ‘fit for all’ – and therefore should be tailored to individual learners’ needs. This highlights the importance of inclusive and accessible settings for autistic learners, in order to improve the quality and understanding of sex education ([Curtis, 2017](#); [Mackin et al., 2016](#)). The tailoring of resources through the likes of using realistic photographs and conducting one-on-one teaching may be a way to address the needs of autistic learners by making the information more concrete through increasing focus and engagement, as it is applicable to them (as opposed to, for instance, cartoon genitalia). This is an example of how sex education can be made more accessible for autistic learners by providing concrete examples that utilise processing and comprehension strengths ([Kluth & Darmody-Latham, 2003](#); [Ropar & Peebles 2006](#)), and supports past work relating to the lack of autism-specific resources that are available ([Bond & Hebron, 2016](#); [Kara & Wolfe, 2018](#)). However, it of course raises concerns about the viability of students having access to potentially sexually explicit materials – albeit in the classroom setting – and the time restrictions on teachers to deliver such personalised teaching.

Gauging the age at which to begin sex education was also highlighted as a challenge, due to the disparity between some autistic learners’ cognitive and developmental ages ([Baron-Cohen, 2004](#); [Spencer et al., 2018](#)). The data showed that delivering topics such as relationships and LGBTQ+ issues was imperative to support safeguarding, supporting previous research and adhering to the [Stonewall \(2017\)](#) which made this a legal requirement of all English primary schools as of September 2020; a policy already implemented in Scotland ([Global Citizen, 2014](#)). These policies advocate that once introduced, sex education should be progressive and consistent, suggesting that scaffolding learning is a positive strategy for accessibility, as learners can build on their current understanding – regardless of their age – and have the opportunity to ask questions continuously, addressing any concerns they may have, and reducing anxieties ([Cheak-Zamora et al., 2021](#)). This indicates that sex education can be made more accessible if information is developed through time and continuous; reiterating the importance of personalised teaching where possible.

In addition, the data highlighted the need to use the correct anatomical terms for body parts in order to help identify and prevent sexual abuse. Incorrect names could create confusion and prevent learners from accessing and receiving support, though previous work found this to be one of the main barriers when working alongside autistic people, as language difficulties are a common cognitive issue (e.g. [Cornog, 2010](#); [Yu et al., 2021](#)). Work by [Mathews \(2018\)](#) and [Pearson et al. \(2022\)](#) highlight that cognitive differences are not the only issue and that there is a perception of autistic people being innately vulnerable when in fact it is situational vulnerabilities (isolation, lack of social support, etc.) underpinned by stigma, stereotyping and marginalisation putting them at risk of victimisation. Therefore, endorsing inclusive and accessible sex education can increase knowledge levels in autistic groups, leading to better

identification of victimisation and self-advocacy.

Sexual Impulses explored how insufficient sex education may influence autistic individuals' understanding of how to manage their sexual desires in a safe manner. This supports the work of Curtis (2017) and Ray et al. (2010) who identified that autistic learners already face barriers relating to socialisation and understanding other people's perspectives, so sex education needs to be clearly articulated to ensure that knowledge about what is sexually appropriate and inappropriate is understood. If sex education is not taught effectively then this could prevent learners from forming appropriate relationships with others: for example, the data suggests that some autistic learners may act on their sexual urges without taking into consideration the consequences as this has not been clearly communicated, highlighting the impact of the double empathy problem (Crompton et al., 2021). However, if (for instance) an individual is stripping then educators should encourage individuals to put their clothes back on with a short and clear explanation to why, as Ability Enhancement Services (2019) suggests that normalising sexual feelings prevents confusion around sex occurring. It is a natural instinct to desire sexual satisfaction (Solomon et al., 2019), therefore, such feelings in autistic individuals should not be shamed. Participants of this study argued that this could reinforce ideologies that typically developing individuals are allowed such feelings, whereas individuals with autism are not, which could have detrimental effects on self-esteem, emotional, and social well-being. This highlights why sexual behaviours should be treated as 'normal' to prevent this thought process occurring.

These findings elucidate some of the challenges involved in teaching sex education to autistic learners as individuals develop at different rates, and have individual learning styles. Without effective sex education, however, autistic individuals may be at risk of behaving inappropriately which can result in serious consequences. It is recommended, therefore, that delivering sex education in smaller groups – or individually – and through personal learning styles could be a positive step towards inclusion.

4.1. Limitations and future research

Although there were significantly more female (10) than male (3) participants, this was a fair representation of the gender split of teachers in the UK (Department of Education, 2021). However, including more male participants could have identified further issues that are prevalent within teaching sex education. Additionally, there was unequal representation from Scottish (1) and English (12) educational systems, and even put together to represent practice in the United Kingdom, this is not representative of the global experience of teaching sex education to autistic learners. As participants were pre-established contacts of the first author, this could have led to issues pertaining to social desirability (Geoffroy, 2019), although it was made clear to the participants that their experiences of delivering sex education were unique to encourage genuine responses. Additionally, as the interviews took place in a one-to-one setting, this may have added additional pressure, however, this was addressed by giving participants the option to leave their camera off, with the researcher imitating this to facilitate a more relaxing environment.

Another limitation of this study was the contrast between teachers (8) and teaching assistants (5). Having more teacher participants could have developed the data to understand how sex education is planned and delivered, as teaching assistants have less control over this (National Careers Service, n.d.), though research has shown that teaching assistants are imperative for support (Rose, 2001) and for helping reduce social and emotional behavioural challenges (Osborne & Reed, 2011) in autistic learners. Upon reflection, separating the data of the two participant groups could have enabled a clearer insight into how much influence each educator has within the planning and delivering of sex education, and the implications therein.

The most important limitation, however, was that the participant pool was neurotypical and did not identify as autistic; therefore, limiting autistic individuals' perspectives on the matter. Future research should include this to reflect true experiences of what they believe was 'good' and 'bad' sex education, as this is one of the problematic areas of autism research; the lack of involvement from autistic populations about research involving and pertaining to them.

4.2. Conclusion

This project has identified the challenges teachers face when teaching sex education. They have to manage both the *Pedagogical Restrictions* they face in addition to dealing with the sexual impulses their students are or will be going through. Educational institutions spend time equipping autistic learners with social skills to support them in the 'real world'; however, there is a lack of focus on sex, possibly due to historic representations of the (dis)abled community, and the assumption that it is not something they will engage with. As such, receiving an accessible sex education provides individuals with the understanding required to live more independent lives; contrastingly, a lack of sex education can hinder individuals' autonomy and choice leading those with autism to be treated as lesser than neurotypical individuals. Equal does not mean the same; there needs to be alternative provisions in place to ensure everyone regardless of (dis)ability has equal access.

CRediT authorship contribution statement

Daisy Bloor: Conceptualization, Data curation, Writing – original draft, Writing – review & editing. **Carrie Ballantyne:** Writing – review & editing. **Karri Gillespie-Smith:** Writing – review & editing. **Claire Wilson:** Writing – review & editing. **Gillian Hendry:** Conceptualization, Writing – review & editing, Project administration.

Data availability

The data that has been used is confidential.

Appendix 1. Further participant detail

Participant	Participant experiences with autism
Tully	-Teaching assistant (TA) in Special Education Needs (SEN) school -Degree in field of Disability Studies
Tim	-SEN teacher in SEN school -SEN respite camp
Harriet	-SEN teacher and head of sex education in a SEN school -Mainstream teaching
Genny	-TA in various SEN schools -One-to-one support worker -SEN respite camp -Intensive mental health counsellor in various SEN schools
Molly	-TA in various SEN schools -Brother with autism -Degree in field of Disability Studies -Recent teaching graduate in mainstream setting
Larry	-SEN respite camp -Pupil referral unit school -Teacher of biology in mainstream school (autistic individuals attending)
Emmaline	-SEN respite camp -Newly qualified teacher of biology in mainstream school (autistic individuals attending)
George	-SEN respite camp -TA in SEN school -Community respite worker -Support worker
Maeve	-TA in SEN school -SEN respite camp
Satie	-Autism base leader in a mainstream school -TA in a mainstream school -Masters in autism
Kathleen	-SEN teacher in SEN school -SEN respite camp
Amanda	-SEN teacher in SEN school -Mainstream teaching -TA in SEN school -Community support worker -SEN respite camp
Bree	-Newly qualified mainstream primary teacher -Work placements in SEN schools

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