Wales Centre for Public Policy
Canolfan Polisi Cyhoeddus Cymru

The impact of policy and practice in education settings on the wellbeing and educational outcomes of trans children and young people: An evidence review

Rapid Research Evaluation and Appraisal Lab (RREAL), UCL

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Summary

- As part of its 2023 LGBTQ+ Action Plan, the Welsh Government committed to providing appropriate national guidance for schools and local authorities to support trans children and young people in education settings.

- The Wales Centre for Public Policy (WCPP) commissioned the Rapid Research Evaluation and Appraisal Lab (RREAL) to synthesise the available evidence to inform the Welsh Government's guidance for supporting trans children and young people in schools.

- The research questions guiding this review focused on the wellbeing and educational needs and outcomes of trans children and young people in education settings, as well as the impact of policy and practice approaches to social transition on the wellbeing and educational outcomes of both trans children and young people, and their peers.

- A comprehensive search was conducted to identify published papers and reports on this topic. Articles published in peer-reviewed journals were assessed for quality using the Mixed Methods Appraisal Tool (MMAT).

- Trans students consistently reported poorer wellbeing outcomes than their cisgender peers. They were more likely to experience peer victimisation, feel unsafe at school, report worse mental health outcomes, and engage in substance use. However, the underlying drivers of these disparities remain unclear.

- Trans students identified the need for staff to address transphobic comments, the ability to report bullying without fear of disclosing their gender identity or facing further harassment, and a school climate that is accepting of gender diversity. This includes access to safe and comfortable toilets and changing rooms.

- Trans students also reported poorer educational outcomes compared to their peers, such as lower academic performance and reduced attendance. They highlighted the need for a whole-school curriculum that is inclusive of intersectional trans identities, a better understanding of gender diversity among staff and peers, and a reduction in gender-segregation at school.

- There was limited evidence evaluating specific policy and practice approaches to social transition in education settings. However, the review identified studies, with quality ratings between 4/5 and 5/5, which suggested that affirmative approaches may play a role in several broader factors linked to improved wellbeing and educational outcomes for trans children and young people.

- The impact of policies and practices on trans students' peers was only briefly discussed in one article on the use of multi-stall gender-neutral toilets. Several studies, however, examined outcomes for LGBTQ+ students as a whole, without disaggregating the outcomes for trans students specifically.

Introduction

The Welsh Government published a lesbian, gay, bisexual, transgender, queer (and questioning) plus other gender and sexual identities (LGBTQ+) Action Plan[1] in February 2023, providing a framework for policy development across the Welsh Government and its partners to support LGBTQ+ individuals within Wales. As part of the LGBTQ+ Action Plan, the Welsh Government committed to providing appropriate national guidance for schools and local authorities to support trans children and young people in education settings. The Wales Centre for Public Policy (WCPP) was tasked with supporting and informing the development of this guidance by examining the existing evidence base, commissioning the Rapid Research Evaluation and Appraisal Lab (RREAL) at University College London to produce this rapid evidence review. At the outset of the review process, RREAL and WCPP consulted with Welsh Government colleagues on formulating the research questions and search strategy. The review was conducted over five months, during which RREAL researchers worked collaboratively with WCPP colleagues and external peer reviewers to develop a robust evidence review within a short timeframe, using a rapid evidence appraisal approach established by Tricco et al.[2] and endorsed by the World Health Organization.

This report provides a synthesis of existing published evidence on the wellbeing and educational outcomes of trans children and young people in education settings, as well as the impact of policies and practices on social transition, including any evidence on outcomes for peers of trans children and young people.

Terminology

The scope of this review includes not only binary trans students but also nonbinary students, genderfluid students, agender students, and other diverse gender identities and expressions. In this report, the word 'trans' will be used as an umbrella term to encompass this range of identities. We acknowledge the importance of understanding how individuals refer to themselves, and while we recognise that some individuals represented in this review may not personally identify as 'trans', this terminology has been chosen to align with the phrasing used by the Welsh Government in the LGBTQ+ Action Plan. The studies included in this review do not all use language that aligns with the phrasing in the LGBTQ+ Action Plan. Where possible, these instances have been rephrased to align with the terminology of the Action Plan. When reporting specific evidence from studies included in this review, the language used to describe the study population will reflect the terminology used by the authors of the original articles.

The majority of the findings are reported in accordance with the UK education system, where students aged 4–10 years are considered to be of primary school age, and students aged 11–18 years are considered to be of secondary school age. When reporting the findings of US-specific studies, elementary school refers to students aged 5–10 years old, middle school refers to students aged 11–13 years old, and high school refers to students aged 14–18 years old.

Glossary

Where possible, the glossary definitions used in the Welsh Government's LGBTQ+ Action Plan have been applied, including definitions from external glossaries signposted by the LGBTQ+ Action Plan. These definitions are included to clarify concepts mentioned throughout the report, although we recognise the contested nature of some of the terminology. The definitions are not intended to provide comprehensive explanations of orientations and identities beyond the scope of this report.

Gender
'A term that is used to refer to whether someone's internal sense of themselves is female, male or nonbinary. People's gender does not always align with the sex they were assigned at birth (see transgender/trans). This term is sometimes used in the context of gender expression or gender identity.'[3]

Sex
'Attributed to a person on the basis of a range of characteristics including chromosomes, hormone profiles and reproductive anatomy and functions (e.g., genitalia). Some people's gender does not match with the sex they were assigned at birth (see transgender/trans). Currently in the UK, only 2 sexes can be recorded at birth, which excludes intersex people. In Section 11 of the Equality Act 2010, it says that "in relation to the protected characteristic of sex (a) a reference to a person who has a particular protected characteristic is a reference to a man or to a woman".'[3]

Gender Identity
'This term is often used interchangeably with gender and ultimately means the same thing, someone's internal sense of themselves. The term "gender identity" has been the source of polarising rhetoric around the phrase "identify as…" and has been rejected by some people and groups who favour the more straightforward "gender".'[3]

Gender Expression
'This refers to how an individual chooses to present themselves in society to reflect their gender in conjunction with certain social and cultural norms and differences that societies have about how people behave, express themselves, look or dress. People often find an important sense of identity in these, but they can also perpetuate discrimination, inequalities and harms.'[3]

Gender Diverse
'The term "gender diverse" is used to refer to persons whose gender, including their gender identity and gender expression, is at odds with what is perceived as being the gender norm in a particular context at a particular point in time, including those who do not place themselves in the male/female binary.'[3]

Gender minority
Gender minority refers to an 'identity that differs from [a person's] assigned sex at birth or does not fit within the male-female categorization.'[4]

LGBTQ+
'Refers to lesbian, gay, bisexual/bi, transgender/trans people, queer or questioning. Other letters can be added to the acronym to include other groups, orientations and identities, such as I (intersex) and A (asexual/aromantic). The + (plus) in the acronym is used as a shorthand to include and acknowledge other diverse terms people identify with and use to describe their identities and orientations, including intersex, asexual and aromantic people.'[3]

Transgender/trans
'An umbrella term used to describe people whose gender is not the same as, or does not sit comfortably with, the sex they were assigned at birth... Some nonbinary people regard themselves as falling under the trans umbrella, but not all.'[3]

Gender Nonconforming (GNC)
'Gender nonconforming refers to people whose gender expression or presentation are incongruent with the normative cultural expectations of their sex assigned at birth.'[5]

Nonbinary
A nonbinary person 'is someone whose gender lies outside the traditional male/female binary idea of gender.'[3] 'Their gender may be intermediate, or they may be gender-neutral, gender-fluid, or genderless.'[6]

Binary Trans
A trans person whose gender identify falls within the traditional male/female binary idea of gender, i.e. trans men and trans women.[6]

Cisgender/cis
Cis, short for cisgender, refers to anyone whose gender matches the sex they were assigned at birth.[6]

Intersectionality
'It is related to the way in which different types of discrimination (i.e., unfair treatment because of a person's protected characteristics) are connected to and affect each other. Intersectional discrimination, sometimes known as combined discrimination, is where a person is discriminated against because of a particular combination of two or more protected characteristics.'[3]

Social transition
Social transition 'refers to the steps a trans or nonbinary person takes to live according to their gender'[6] including 'adopting the name, pronouns, gender expression (e.g., clothes and haircut), and/or gender roles that match their gender identity.'[7]

Gender dysphoria
'Gender dysphoria denotes the persistent distress a trans person experiences when they attempt to meet society's expectations for the sex they were recorded at birth.'[6]

Transphobia
'Transphobia is the fear, dislike or hatred of a person because they are perceived to have a trans background, or because they associate with someone perceived to have a trans background.'[6]

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Policy and research context

With the increasing number of children and young people in Wales[8,9] and the UK[10] who do not identify with the gender they were assigned at birth, teachers and schools are not always sufficiently equipped or informed to provide a supportive education environment for all trans students[11]. A growing body of empirical research has found that trans students are at greater risk of experiencing hostile and unsupportive school environments[12,13], which can have a considerable negative impact on their wellbeing and educational outcomes[14,15]. Research has begun to explore the various policy and practice approaches schools take regarding trans students'[16] as part of efforts to improve the education and wellbeing experiences and outcomes of trans students[16].

The question of how best to support trans children and young people is widely contested, and best practice remains the subject of ongoing debate. In this context, schools face an increasingly difficult challenge in determining how to support children and young people who have, or wish to, socially transition. Social transition has been defined as a process in which individuals 'adopt the name, pronouns, gender expression (e.g., clothes and haircut), and/or gender roles that match their gender identity'[7].

The question of how best to respond to children and young people's wishes to socially transition has been widely contested, receiving significant research and policy attention, particularly in the context of gender-related healthcare for children and young people. International clinical guidelines increasingly advocate for a gender-affirming approach, highlighting evidence that social transition may play an important role in the mental health and wellbeing of trans children and young people[17–20]. However, critics of this approach argue that social transition is a significant intervention that may influence the development of gender identity into adulthood[21]. Concerns about this potential influence on gender identity development have led some clinicians to advocate for delaying social transition until children and young people have reached specific ages or developmental stages, and/or until after undergoing some form of talk therapy[22,23]. Reflecting this debate, the nature and strength of the evidence base on mental health and wellbeing benefits of social transition on the one hand[24], and potential influence of social transition on gender identity development on the other[25], is also widely contested.

Furthermore, approaches that advocate delaying children and young people's social transition until after undergoing talk therapy have been criticised for lacking an evidence base regarding their efficacy, benefits, and potential harms[26], or even for amounting to a form of conversion therapy[27] (claims which proponents of these approaches have rejected)[28].

However, these contested questions go beyond the scope of this review, which focuses more specifically on the impact of policy and practice approaches to social transition in schools and other education settings on the wellbeing and educational outcomes of trans children and young people, which is an area that has received less attention. Policymakers and civil society organisations are increasingly developing guidelines and recommendations on how schools and other education settings can best support trans children and young people, addressing policy and practice approaches to social transition to varying extents. Very broadly, these approaches can be contrasted according to the extent to which they involve affirmation or non-affirmation of trans children and young people's self-designated gender identity in different school-based policy and practice contexts, as illustrated in Table 1 below.

Affirmative approaches	Non-affirmative approaches
• School staff use children and young people's chosen name and pronouns • Children and young people may wear clothing/uniform that matches their self-designated gender • Children and young people may use facilities, such as toilets and changing rooms, which match their self-designated gender (and/or there are gender-neutral facilities) • Children and young people may take part in gendered activities, such as school sports, which match their self-designated gender	• School staff do not use children and young people's chosen name and pronouns • Children and young people may not wear clothing/uniform that matches their self-designated gender • Children and young people may not use facilities, such as toilets and changing rooms, which match their self-designated gender (and/or there are no gender-neutral facilities) • Children and young people may not take part in gendered activities, such as school sports, which match their self-designated gender

Table 1: Illustration of affirmative compared to non-affirmative policy and practice approaches to social transition in education settings

Overall, there is increasing research and policy attention, as well as contestation, on how best to support trans children and young people, as reflected in the recently published final report of the Independent Review of gender identity services for children and young people, commissioned by NHS England and chaired by Dr Hilary Cass (the Cass Review)[29]. A review conducted in association with the Cass Review[30]

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has scrutinised the quality of the evidence on social transition for trans children and young people, and called for additional research on this topic.

To address some of the gaps highlighted above, this research aims to systematically review the evidence on policy and practice approaches to social transition in education settings.

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Review questions

In commissioning this report, the Welsh Government indicated a particular interest in four main questions:

1 What are the wellbeing needs and outcomes for trans children and young people in education settings?

2 What are the educational needs and outcomes for trans children and young people in education settings?

3 What is the impact of policy and practice approaches to social transition in education settings on trans children and young people in terms of their wellbeing and educational outcomes?

4 What is the impact of policy and practice approaches to social transition in education settings on the peers of trans children and young people?

Methods

This review was designed following the approach for rapid evidence reviews[2], with scope to incorporate relevant grey literature. Rapid evidence reviews are an efficient method for achieving specific outcomes within a limited timeframe. The methodology is similar to a systematic review, but it does not require complete double screening and extraction. A detailed methods section is provided in Appendix A.

To conduct this review, RREAL researchers worked collaboratively with WCPP colleagues and external peer reviewers. The peer reviewers involved are academic experts with relevant subject and methodological expertise. They reviewed the protocol and the terms used in the search strategy, as well as the list of included documents and the first draft of the report. The research team discussed the feedback from the peer reviewers with WCPP, and joint decisions were made regarding any necessary changes to the documents.

Search strategy
The search strategy was developed by the review team, with input from WCPP, expert reviewers, Welsh Government, and an LGBTQ+ youth group facilitated by Children in Wales. The Welsh Government also assisted in developing the research questions and the review protocol. The protocol is available in Appendix B. Articles were included in the review if they were published between 2014 and 2024, based on empirical studies, and reported on findings from studies conducted in High-Income Countries (HICs) with comparable education systems. Final searches were conducted in March 2024 across six databases (MEDLINE, ProQuest, Education Resources Information Centre (ERIC), PsycINFO, British Education Index (BEI), and Web of Science). The final search strings used are available in Appendix C.

Data extraction

Microsoft Excel was used for data extraction to organise the review process, with amendments made to the extraction document as recommended by the peer reviewers. Data were extracted by two reviewers and checked by a third team member.

Data synthesis

Data were synthesised using narrative synthesis.

Quality assessment

The methodological quality of the empirical articles was critically appraised using the Mixed Methods Appraisal Tool (MMAT)[31]. The MMAT is a critical appraisal tool that is designed for the appraisal stage of systematic mixed studies reviews and facilitates the appraisal of the methodological quality of five categories of studies: qualitative research, randomised controlled trials, non-randomised studies, quantitative descriptive studies, and mixed methods studies. This tool is widely used in systematic reviews.

Article selection

The results of the study search and selection processes are presented in Figure 1. From the initial search, following the removal of duplicate studies, 27,755 articles were identified. After title and abstract screening, the majority of articles were excluded as irrelevant to the review aims, leaving 316 articles to screen at the full-text stage, of which 5 articles could not be retrieved. Therefore, the final number of full-text articles screened was 311. Full-text versions were collected, and screening was carried out against the inclusion and exclusion criteria. Articles were excluded for the following reasons: wrong population, wrong article type, wrong outcome, or wrong setting, leaving 99 articles included in this review (see Figure 1 for the PRISMA Flow Diagram).

Article characteristics

The studies included in the review were carried out in 11 countries: 59 from the USA, 17 from the UK, 6 from Australia, 4 from both Canada and New Zealand, 3 from Finland, 2 from Ireland, and 1 from each of the following countries and regions: Cyprus, Hong Kong, Spain, and Sweden. Details of all studies can be found in Appendix C. Most studies involving children and young people relied on self-reported measures or narratives of their own experiences.
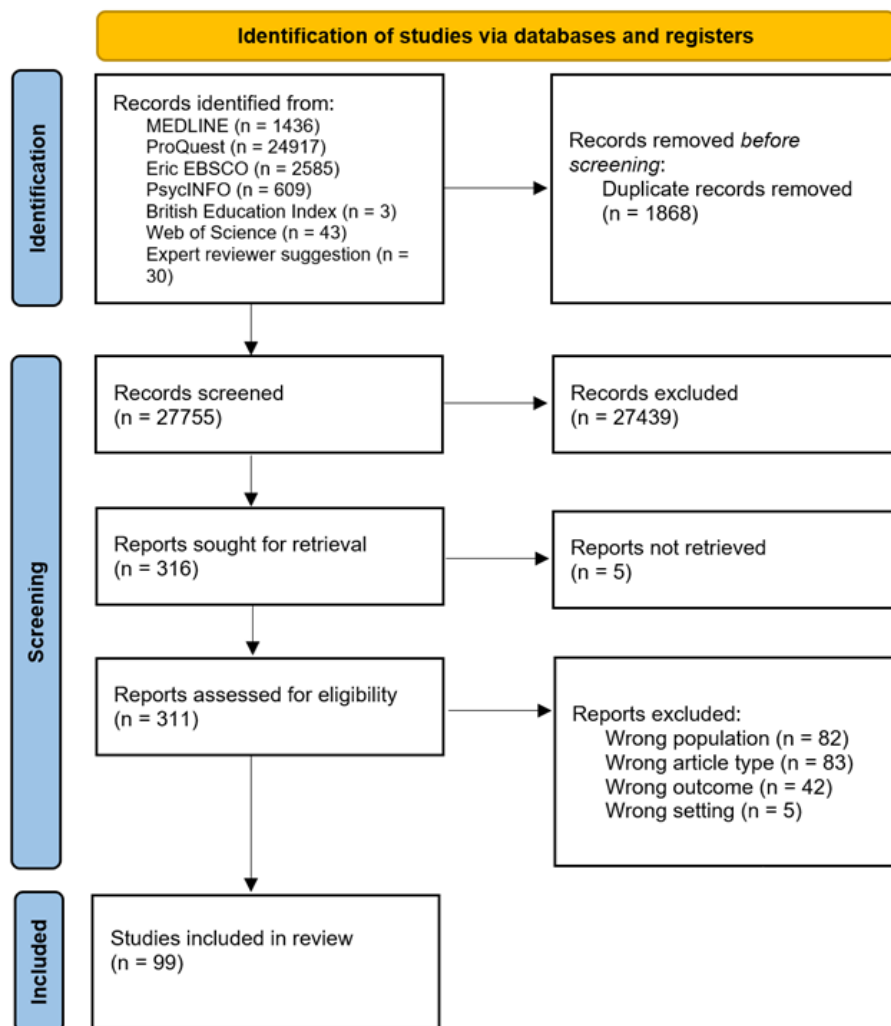
Identification of studies via databases and registers

Records identified from:
MEDLINE (n = 1436)
ProQuest (n = 24917)
Eric EBSCO (n = 2585)
PsycINFO (n = 609)
British Education Index (n = 3)
Web of Science (n = 43)
Expert reviewer suggestion (n = 30)

Records removed *before screening*:
  Duplicate records removed (n = 1868)

Records screened
(n = 27755)

Records excluded
(n = 27439)

Reports sought for retrieval
(n = 316)

Reports not retrieved
(n = 5)

Reports assessed for eligibility
(n = 311)

Reports excluded:
  Wrong population (n = 82)
  Wrong article type (n = 83)
  Wrong outcome (n = 42)
  Wrong setting (n = 5)

Studies included in review
(n = 99)

Figure 1. PRISMA Flow Diagram.

Quality of included studies

The MMAT facilitates the assessment of the quality of articles with qualitative, quantitative, and mixed methods designs. The rating of articles is carried out based on five criteria and articles can be scored from 0-5 (or 0-*****) with 5 being the highest score, indicating that all quality criteria are met. The MMAT score for each article published in a peer-reviewed journal can be found in Appendix C. The main limitation of the studies was the reporting of nonresponse bias[1] in quantitative studies and the lack of integration of qualitative and quantitative components in mixed-methods studies.

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[1] 'Non-response bias can occur when subjects who refuse to take part in a study, or who drop out before the study can be completed, are systematically different from those who participate' [32], which can limit the generalisability of the findings.

Needs and outcomes of trans students

One of the aims of this rapid evidence review was to explore the wellbeing and educational needs and outcomes of trans students in primary and secondary education settings as reported in the literature. The first two questions the review sought to answer were: 1) What are the **wellbeing** needs and outcomes for trans children and young people in education settings? And 2) What are the **educational** needs and outcomes for trans children and young people in education settings?

- Table 2 presents the evidence on **the wellbeing outcomes of trans students** in educational settings, and how these compare to the wellbeing outcomes of their peers.

- Table 3 reports **the factors associated with these wellbeing outcomes** for trans students.

- Table 4 presents **the wellbeing needs expressed by trans students** to improve their school experience.

- Table 5 presents the evidence on **the education outcomes of trans students**, and how these compare to the education outcomes of their peers.

- Table 6 reports the **factors associated with these education outcomes** for trans students.

- Table 7 presents **the education needs expressed by trans students** to improve their school experience.

There is some overlap in the topics explored across these tables, particularly in Tables 2 and 3, due to the interconnected nature of the outcomes. For example, 'peer victimisation' is included in Table 2 as an 'outcome' to highlight the elevated rates of bullying experienced by trans students, and in Table 3 as a 'factor' to demonstrate how increased peer victimisation has been linked to the worsening of other wellbeing outcomes in trans students. Similarly, there is some overlap between the listed 'wellbeing outcomes' and the 'factors' that have been found to impact educational outcomes. Some designated 'wellbeing outcomes' have also been shown to act as factors influencing the educational outcomes of trans students and are included in Table 6.

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Wellbeing needs and outcomes of trans students

Wellbeing outcomes

Trans students consistently reported poorer wellbeing outcomes than their peers, as shown in Table 2. They were more likely than their cisgender peers to experience peer victimisation[33–36] and report feeling unsafe at school[36–39]. Compared to their peers, trans students were less likely to have positive and supportive relationships with members of staff[36,40] and felt less connected to and welcome in their school environment[36,40,41].

Trans students were also more likely to report negative mental health outcomes than their peers[4,36,42,43], including increased suicidal ideation[4,36,42,43] and suicide attempts[42,44–46], higher levels of depressive symptoms[4,34,36,41,44,45,47], self-harm[44,46], and lower self-esteem[41]. Trans students also reported consuming alcohol and other substances more than their cisgender peers[4,42,48].

Intersectionality

Very few studies explored the intersection of trans identities with ethnicity or sexual orientation and its role in shaping wellbeing outcomes. One study on the intersection between gender identity and sexual orientation found that trans students who identified as heterosexual were slightly less likely than trans students who identified as LGB to feel unsafe at school[37]. Similarly, another study found that trans students who were heterosexual were less likely than trans LGB students to report having a suicide plan or having attempted suicide in the past year[45]. In most cases, trans students with an LGB identity reported experiencing more peer victimisation compared to their heterosexual trans peers[49]. Other studies found trans students of colour reported increased fear of physical violence[50], increased odds of experiencing dating violence[46], and that trans students of colour felt they faced greater peer victimisation and social isolation than their white peers[51]. Trans students of colour reported facing both gender-based and race-based harassment, compounding the victimisation they faced in schools[51,52].

In contrast, some US-based studies found that trans students who identified as white or mixed-race were more likely to report experiencing chronic sadness than their trans peers from other racial backgrounds[50], and that white gender minority students were more likely to report peer victimisation than gender minority students of other ethnicities[53]. The findings from these studies underscore the importance of recognising the role of intersectional identities when considering the wellbeing outcomes of trans students.

Table 2: Wellbeing outcomes for trans students

Outcome	Wellbeing outcomes for trans students
Bullying / peer victimisation	Trans students consistently reported increased peer victimisation, compared to cis students[33–36]. One study, based on data from a large-scale cross-sectional US survey of school students, found that trans students aged 11 and under had higher rates of bullying compared to trans students aged 12–17 years old (MMAT score=4/5, n=728,204)[34]. A study using data from the 2013–2015 California Healthy Kids Survey (CHKS) and the California Student Survey (CSS) (MMAT score=5/5, n=838,814; 806,918 from the CHKS and 31,896 from the CSS)[38] found that transgender students had six times greater odds of experiencing gender-based bullying[2] and eight times greater odds of experiencing homophobic bullying[3] than their cisgender peers[38]. Transgender students frequently reported being subject to transphobic bullying, which was directly linked to their gender identity. Misgendering[4], using incorrect pronouns, and deadnaming[5] were commonly cited as forms of verbal bullying experienced by trans students.[51,54].
Dating / sexual violence	Trans students in secondary school were more likely to experience dating violence[46,48] and sexual violence than their peers[35,46,48,53]. A study drawing on data from the 2017 New Mexico Youth Risk and Resiliency Survey (MMAT score=4/5, n=18,451)[46] found that gender minority identity was significantly associated with 1.43 times higher odds of experiencing dating violence (AOR=1.43

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[2] Gender-based bullying was measured as 'experiences of being harassed or bullied on school property during the past 12 months "because of your gender".'[38]

[3] Homophobic bullying was measured as 'experiences of being harassed or bullied on school property during the past 12 months "because you are gay or lesbian, or someone thought you were".'[38]

[4] 'Misgendering is when a person deliberately uses incorrect personal pronouns, or other language that denies a person's gender.'[6]

[5] 'Deadnaming is the deliberate use of a person's previous name after they have changed it as part of their transition.'[6]

Outcome	Wellbeing outcomes for trans students
	[95% CI 1.25-1.64])[6] and 1.73 times higher odds of experiencing sexual violence (AOR=1.73 [95% CI 1.45-2.06]) in secondary school students[46]. Another US study based on five online, asynchronous focus groups with 28 LGBTQ students and 19 school health professionals (MMAT score=5/5)[51] found that transgender girls were especially vulnerable to sexual assault.
Sense of belonging at school	Transgender and gender nonconforming (GNC) students in both primary and secondary school felt less welcome at school than their peers[55]. Trans students in secondary school reported lower levels of school connectedness[36,40], and lower levels of school belonging[41] compared to their peers. A report drawing on the 2017–2019 CHKS (MMAT score=N/A, n=~800,000)[36] found that four in ten transgender students felt school connectedness, compared to six in ten cisgender students[36].
Relationships with staff	In both a qualitative study drawing on semi-structured interviews with children and parents (MMAT score=5/5, n=40; 30 parents and 10 students)[56] and a study drawing on large-scale survey data (MMAT score=N/A, n=281)[55], transgender students in both primary and secondary school reported that their relationships with members of staff were less supportive than those of their peers[55,56]. Compared to their peers, trans students in secondary school were less likely to report that they thought teachers were concerned about their wellbeing[40] (from a quantitative study based on survey data from Australian students; MMAT score=4/5, n=685)[40] or that they had the presence of a caring adult relationship at school[36].
Feelings of safety	Transgender students in both primary[55] and secondary school were more likely to feel unsafe at school than their peers[36–39,55]. A US study found that trans students had higher odds of feeling unsafe at school compared to their cisgender peers[38].

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[6] The Adjusted Odds Ratios (AORs) for this study controlled for 'sex, grade level, race and ethnicity (combined), school county geography, average parent education, country of birth, survey language, physical disability, and unstable housing.'[46]

Outcome	Wellbeing outcomes for trans students
General mental health and wellbeing	Transgender[4,36,42,43] and GNC[42] secondary school students were more likely to experience negative mental health outcomes than their peers. Additionally, a quantitative study based on survey data from Swedish students (MMAT score=5/5, n=8,385)[57] found that a higher proportion of nonbinary secondary students reported having a dark future outlook[7] (23.4%) than their peers with a binary gender identity (4.6%)[57].
Suicide ideation or attempt	Transgender secondary students reported higher levels of suicide ideation[36,42,45,48,50,58] and suicide attempts[42,44–46] than their cisgender peers. A US report found that trans students in both middle school and high school were more likely to report suicide ideation (52% and 53% respectively) than their cisgender peers (14% and 16% respectively)[36]. Another study drawing on surveillance data provided by 9th and 11th grade students in Minnesota (MMAT score=4/5, n=81,885)[42] found that 61.3% of transgender and gender non-conforming (TGNC) students reported suicide ideation (compared to 20% of cisgender students) and that 31% of TGNC students reported a suicide attempt (compared to 7.1% of cisgender students)[42].
Depression	A quantitative study drawing on survey data from the 2013–2015 CKHS (MMAT score=4/5, n=728,204)[34] found that transgender primary school aged students had higher levels of depressive symptoms than their peers[34]. Both transgender[4,34,36,39,44,45,47] and GNC[5] secondary school students had higher rates of depressive symptoms than their cisgender and gender conforming peers. A US report found that trans students in both middle school and high school were more likely to report chronic sadness (61% and 63% respectively) than their cisgender peers (26% and 33% respectively)[36]. A quantitative study drawing on UK based survey data (MMAT score=5/5, n=6,672)[4] found that gender minority students had four times the odds of reporting a probable depressive disorder, compared to their cisgender peers[4].

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[7] 'Future outlook' was measured through the question 'how do you see the future on your personal behalf?' with 'Fairly/very bright', 'Neither bright nor dark', and 'Fairly/very dark' as potential responses.[57]

Outcome	Wellbeing outcomes for trans students
Self-harm	Transgender secondary school students reported higher levels of self-harm compared to their cisgender peers[44,46]. A US study found that gender minority students had higher rates of past-year self-harm (49%) than their cisgender peers (18%)[46].
Self-esteem	A quantitative study based on US survey data (MMAT score=4/5, n=15,813)[41] found that transgender secondary school students had lower self-esteem than their peers, and nonbinary secondary students had lower self-esteem than their peers with a binary gender identity[41].
Disordered weight control behaviours	A quantitative US based study drawing on survey data (MMAT score=4/5, n=54,88) found that GNC secondary school students were at greater risk for disordered weight control behaviours[8] than their gender conforming peers[59].
Alcohol and substance use	Transgender secondary students reported high consumption of alcohol and other substances[4,42,48]. A US quantitative study drawing on survey data (MMAT score=4/5, n=4,478)[60] found that in the past 30 days, 14.1% of transgender students reported smoking a cigarette, 22.6% reported marijuana use, and 18.9% reported consuming five or more alcoholic drinks[60]. A UK study found that gender minority students were more likely to have used illicit drugs than their peers[4].

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[8] 'Disordered weight control behaviours' refers to actions taken to lose or maintain weight, such as taking laxatives or unprescribed diet pills, skipping meals, or self-induced vomiting[59].

Factors impacting wellbeing outcomes

The published evidence identified several factors that influenced wellbeing-related outcomes for trans students, as shown in Table 3. The absence of supportive teachers was found to be associated with increased peer victimisation[61], a higher likelihood of feeling unsafe due to their gender expression[39], worse levels of wellbeing[62] and a greater likelihood of substance use[60] in trans students. Similarly, a lack of supportive peers was linked to increased peer victimisation[61], lower levels of wellbeing[62] and increased depressive symptoms[63] in trans students.

The presence of school support, which includes caring adult relationships, high expectations for students, opportunities for meaningful participation, and the promotion of parental involvement[9], was associated with increased school connectedness and a decreased likelihood of poor mental health, including lower suicide ideation[36].

Experiencing peer victimisation was associated with poorer mental health[43,58], including increased depressive symptoms[34,43,52,63,64] in trans students. Feeling unsafe at school was associated with reduced school connectedness[36] and increased likelihood of negative mental health outcomes, including increased suicidal ideation[36] in trans students.

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[9] 'Promotion of parental involvement' was based on a three-item scale ('Teachers at this school communicate with parents; Parents feel welcome to participate at this school; School staff take parent concerns seriously.'), measured by the 'percent of students responding "agree" or "strongly agree" to all items in scale'.[36]

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Table 3: Factors that impact wellbeing outcomes for trans students

Outcome	Factors impacting wellbeing outcomes for trans students
Bullying / peer victimisation	– An Australian mixed methods study drawing on survey and interview data (MMAT score=4/5, n=189)[61] found that trans and gender diverse secondary students who lacked supportive teachers experienced increased peer victimisation[61]. A UK qualitative study drawing on open-ended survey data (MMAT score=4/5, n=74)[65] found that teachers not understanding or addressing peer victimisation towards LGBTQ+ students was seen as legitimising and tacitly approving of such bullying behaviours[65]. – Trans and gender diverse secondary students with supportive classmates were less likely to experience peer victimisation at school[61]. – A US quantitative report drawing on survey data (MMAT score=N/A, n=22,298)[39] found that secondary students who had a GSA[10] (Gender and Sexuality Alliance/Gay-Straight Alliance) at their school experienced less peer victimisation due to their gender expression[39]. – Secondary students who had a school with an LGBTQ+ inclusive curriculum experienced less peer victimisation due to their gender expression[39].
Feelings of school belonging	– Secondary school students who experienced increased bullying due to their gender expression reported feeling less belonging at school[39]. – Transgender secondary school students who perceived the presence of school support and felt safe at school reported higher school connectedness[36,67]. – A US study based on pilot programme evaluation data (MMAT score=5/5, n=34)[68] found that only 10% of students reported that their school climate was safe, supportive, and fully queer and trans friendly[68].

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[10]Originally meaning 'Gay-Straight Alliance', more recently becoming known as 'Gender-Sexuality Alliance', GSA's are school clubs that can act as 'safe spaces' for LGBTQ+ students, where among likeminded students they can engage in discussion and work to make improve the school experience for LGBTQ+ students.[66]

Outcome	Factors impacting wellbeing outcomes for trans students
Feelings of safety	− Secondary students with many supportive staff at school were less likely to feel unsafe due to their gender expression[39].
Mental health and wellbeing	− Trans secondary school students who did not feel the presence of school support and felt unsafe at school were more likely to experience negative mental health[36]. − A Canadian qualitative study based on interview data (MMAT score=5/5, n=12)[62] found that trans and gender diverse secondary students lacking teachers who were supportive of gender diversity reported worse levels of wellbeing[62]. − Trans and gender diverse secondary students with supportive classmates reported higher levels of wellbeing[62]. − Gender minority stress[56] (GMS)[11], in-school trauma, and the failure of schools to safeguard trans pupils[70] negatively impacted the wellbeing of trans students in primary and early secondary school. − Peer victimisation was associated with poorer mental health in transgender students[43,58]. − An Australian study based on survey data (MMAT score=4/5, n=5,868)[71] found that for trans young people, an affirming educational environment[12] was associated with higher levels of happiness ($\beta = 0.15$, CI = 0.11–0.19, $p < 0.001$)[13] and lower levels of psychological distress ($\beta = -0.91$, CI = -1.19–0.63, < 0.001)[71].

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[11] 'Gender minority stress (GMS) refers to social stressors such as discrimination and stigma experienced by gender minorities.'[69]

[12] The following scale was used to assess student's experiences of affirming educational settings: 'Use the bathrooms/changing rooms that match my gender identity', 'Use my chosen name or pronouns', 'Wear clothes that match my gender identity', 'Openly identify as LGBTIQA +' and 'Celebrate "Wear it Purple Day", IDAHOBIT, or Transgender Day of Visibility or another LGBTIQA+ day of significance'.[71]

[13] In this study, all the β results 'controlled for sociodemographic variables including gender, sexual orientation, level of education, country of, and residential location.'[71]

Outcome	Factors impacting wellbeing outcomes for trans students
Suicide ideation or attempt	− Trans secondary school students who felt the presence of school support and felt safe at school were less likely to report experiencing suicidal ideation[36]. − A US quantitative study based on survey data (MMAT score=4/5, n=2,438)[72] found that secondary school students who experienced increased bullying due to their gender expression were more likely to report suicidal ideation, planning and attempts[72]. − Another US quantitative study based on survey data (MMAT score=5/5, n= 46,537)[73] found that participation in two sports teams (AOR = 0.27, 95% CI: 0.11-0.66; $p < 0.5$)[14] or three or more sports teams (AOR = 0.40, 95% CI: 0.17–0.94; $p < .05$) was associated with reduced odds of suicide ideation in transgender students[73].
Depression	− Peer victimisation was positively associated with depressive symptoms in transgender students[34,43,52,63,64]. − A US quantitative study drawing on survey data (MMAT score=4/5, n=265)[63] found that transgender students who felt the presence of school and peer support had fewer depressive symptoms[63]. − A qualitative study drawing on longitudinal data (MMAT score=4/5, n=129)[74] found that among secondary school transgender students, the use of a chosen name at school predicted fewer depressive symptoms[15] ($b = −0.47$, SE = 0.18, $p < .001$)[74]. − Participation in three or more sports teams was associated with reduced odds of depression in transgender students[16] (AOR =0.32 95% CI: 0.15–0.69, $p < .05$)[73].

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[14] All the AORs for this study controlled for 'sex, grade, ethnicity, race, BMI, and sleep.'[73]

[15] These results controlled for race/ethnicity, sexual identity, gender identity, location, age, and other 'predictors of chosen name use'.[74]

[16] All AORs for this study controlled for 'sex, grade, ethnicity, race, BMI, and sleep.'[73]

Outcome	Factors impacting wellbeing outcomes for trans students
Self-esteem	− Secondary school students who experienced increased bullying due to their gender expression had lower self-esteem[39,64]. − Among secondary school transgender students, the use of a chosen name at school predicted greater self-esteem[17](b = 0.35, SE = 0.16, p = .03)[74].
Substance use	− Transgender secondary school students with higher levels of school connectedness had a decreased likelihood of past 30-day cigarette use or binge drinking[60]. − Transgender secondary school students with higher levels of adult support at school had a decreased likelihood of past 30-day cigarette use, and decreased likelihood of marijuana or cigarette use during school in the past 30 days[60]. − Secondary school students who experienced increased bullying due to their gender expression were more likely to use cigarettes and other drugs (excluding marijuana) in the past 3 months[72].

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[17] These results controlled for race/ethnicity, sexual identity, gender identity, location, age, and other 'predictors of chosen name use'[74]

Wellbeing needs

Trans students reported several wellbeing-related needs that, if addressed, could improve their school experience, as shown in Table 4. These included greater willingness from staff to address transphobic[18] remarks made by students[55,56,65,75,76] and the ability to report bullying without fear of disclosing one's gender identity or facing increased harassment[77] were both cited as unmet needs by trans students. Trans students also expressed the need for school environments that accept gender diversity and the expression of different gender identities[61,65,70,78–80], including the need for toilets and changing rooms that are safe and comfortable for trans students[61,65,70,78–80].

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[18] Transphobia can be defined as prejudice towards trans people as individuals and as a group.[75]

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Table 4: Wellbeing needs of trans students

Need	Wellbeing needs of trans students
Greater willingness from staff to confront students about transphobic remarks or microaggressions	Transgender students in both primary[55,56] and secondary schools[55,56,65,75,76] reported that transphobic comments from other students often went unaddressed by teachers. Transphobic microaggressions and comments, often stemming from a lack of understanding (rather than overt intentional prejudice), were cited as being less likely to be addressed by staff[56,75].
Ability to report bullying incidents without fear	An Australian study drawing on semi-structured interview data (MMAT score=5/5, n=34)[77] found that some transgender students in secondary school were reluctant to report bullying due to fear that doing so would lead to the disclosure of their gender identity or result in increased victimisation[77].
Access to trans supportive youth groups	An Irish qualitative study drawing on interview data (MMAT score=5/5, n=13)[81] and a UK qualitative report also drawing on interview data (MMAT score=N/A, n=136)[82] found that transgender secondary school students valued LGBTQ+ youth groups as important spaces where they could discuss gender identity and build supportive relationships with other trans and other LGBTQ+ students[81,82].
School climate that supports expression of gender diversity	Transgender students in both primary and secondary schools reflected on the importance of a school climate that supported the expression of gender diversity as key to their wellbeing and educational motivation[61,65,70,78–80]. Allowing for name and gender modifications in school databases, along with the use of chosen names and pronouns, were cited by trans students as important aspects of a supportive school climate[55,61,80]. A US based qualitative study drawing on interview data (MMAT score=4/5, n=10)[83] found that transgender students who experienced unsupportive school climates reported more negative school experiences, including instances where staff punished students who did not conform to expected gender binaries and expressions[83].
Bathrooms and changing rooms that are safe and	Transgender primary[55,56,77,84] and secondary school students[55,56,77] reported the need for bathrooms and changing rooms that they felt safe and comfortable using. School toilets and changing rooms often reinforced the notion of gender as binary[85], and were cited as common

comfortable environments	places where transgender students faced peer victimisation[77,86], with many trans students reporting they avoided using these spaces[55,76,78,80,84].

Education needs and outcomes of trans students

Education outcomes

Trans students consistently reported poorer education outcomes than their peers, as shown in Table 5. Trans students had poorer academic performance[33,36,87] and engagement[36,55] than their peers, and experienced increased discipline compared with their peers[88]. Trans students frequently encountered interruptions to their education, often citing unsafe and unsupportive environments as reasons for transferring or dropping out of school[39,70,78]. Compared to their cisgender peers, trans students were more likely to exhibit school avoidance and truancy[33,36,39,57]. Trans students were also less likely to indicate intentions to pursue post-secondary education than their cisgender peers[39,89] .

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Table 5: Education outcomes for trans students

Outcome	Education outcomes for trans students
Interruption of education	Transgender students in both primary and secondary schools reported dropping out of school due to unsafe and unsupportive environments[70,78] where they faced harassment, microaggressions, bullying or violence[70]. A US based report drawing on survey data (MMAT score=N/A, n=7,898)[88] found that transgender students were more likely to report they may not complete secondary school (7.6%), compared to cisgender LGBQ students (2.1% of cis boys and 2.3% of cis girls)[88].
Transferring schools	A US based qualitative study drawing on interview data (MMAT score=5/5, n=21)[78] found that transgender students mentioned having to transfer to different secondary schools[78], with trans and nonbinary students being more likely than cis students to change secondary schools due to feeling unsafe or uncomfortable[39].
Post-secondary education intentions	Trans and GNC students felt significantly less confident in their post-secondary education intentions than other students[55]. Cisgender students were more likely to aspire[89] or plan[39] to pursue post-secondary education than transgender and nonbinary students. One US based study found that only 83.8% of transgender and 86.8% of nonbinary students had plans to pursue post-secondary education, compared to 92.2% of cisgender students[39].
Attendance	Transgender students in primary and secondary schools had significantly lower attendance rates than their cis peers[55]. Trans[33,36,39] nonbinary[39,57] and GNC[5,90] secondary school students had higher levels of school avoidance and truancy than their peers. A US based quantitative study drawing on survey data (MMAT score=4/5, n=113,148)[33] found that trans students had 1.64 times the odds of truancy compared to cis students[33] and a Swedish study found more truancy among nonbinary students (49.6%) compared to their binary peers (36.5%)[57]. Concerns about safety[39,90], mental health issues[58], and substance abuse[38,58] were frequently cited reasons for trans students missing school.
Academic achievement	Transgender students in secondary school had lower grades[33,36] and poorer academic academic achievement[87] than their cis peers. A US based study found that 57% of transgender middle school students and 50% of transgender high school students reported having high grades, compared to

Outcome	Education outcomes for trans students
	their cisgender peers (68% and 64% respectively)[36]. A Swedish study found that higher proportion of nonbinary secondary school students (36.5%) were failing at least one subject, compared to their peers with a binary gender identity (21.5%)[57].
Academic engagement and confidence	Trans and GNC students in primary and secondary school had significantly lower levels of academic confidence and engagement than their peers[55]. Transgender secondary school students were less engaged in school, less academically motivated, and less likely to feel that adults at school held high expectations for them compared to their cis peers[36].
Physical Education (PE) / sports participation	Trans students in secondary school were less likely to participate in PE class or in sports activity than their peers[36,41,73,76]. A US based study found that only 8.3% of cisgender heterosexual students avoided PE classes, compared to 42.2% of LGBTQ+ students and 58.3% of students who identify as both trans and a sexual minority[36]. Another US study found that 65.3% (95% CI: 60.7–69.9, $p < .05$)[19] of trans students did not play on a sports team, compared to 40.2% (95% CI: 39.7–40.8, $p < .05$) of their cisgender peers[73].
Discipline	Compared to their peers, trans secondary students experienced increased discipline at school[88], nearly twice the odds of missing school due to being suspended[38], and more contact with the juvenile justice system due to school discipline[88]. In two qualitative studies drawing on interview data, based in the UK (MMAT score=5/5, n=42)[16] and Canada (MMAT score 5/5, n=60)[12] trans students reported being seen as 'troublemakers' for advocating for their rights and challenging cisnormative policies and practices.

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[19] All AORs for this study controlled for 'sex, grade, ethnicity, race, BMI, and sleep.'[73]

Factors impacting education outcomes

Several factors were found to impact education-related outcomes for trans students, as shown in Table 6. The absence of supportive teachers was associated with a higher likelihood of dropping out of school[61], poorer academic performance[61,87], and engagement[61,67]. Experiencing peer victimisation was linked to transferring schools[56,65], a lower likelihood of pursuing post-secondary education[39], poorer academic performance[39], and an increased likelihood of school discipline[39]. A lack of a supportive and safe environment was associated with a greater likelihood of missing school and decreased academic performance[36]. The absence of supportive classmates was associated with a higher likelihood of transferring schools and missing classes[61].

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Table 6: Factors that impact education outcomes for trans students

Outcome	Factors impacting education outcomes for trans students
Interruption of education	– An Australian study found that trans and gender diverse secondary students without teachers supportive of gender diversity were more likely to drop out of school (22%) compared to those with teachers affirming trans identities (6%)[61]. – Nearly a third (31.4%) of LGBTQ+ students considering dropping out cited 'gendered school policies and practices' as a reason[39].
Transferring schools	– Trans children in primary[56] and secondary school reported leaving a school due to peer victimisation[56,65]. – An Australian study found that trans and gender diverse secondary students without supportive classmates were more likely to change schools (27%) compared to those with supportive classmates (7%)[61].
Post-secondary education intentions	– Secondary school students experiencing increased bullying due to their gender expression were twice as likely to have no plans for post-secondary education[39].
Attendance	– Transgender secondary school students who felt unsafe and lacked school support were more likely to miss school[36]. – An Australian study found that trans and gender diverse secondary students without supportive classmates were over twice as likely to miss classes compared to those with supportive classmates (47% and 22% respectively)[61].
Academic achievement	– Secondary school students experiencing increased bullying due to gender expression had worse academic performance than those who experienced less bullying (2.76 average GPA vs. 3.17 average GPA)[39]. – A New Zealand based quantitative study drawing on survey data (MMAT score=5/5, n= 8,500)[87] found that gender minority secondary school students with low teacher expectations

Outcome	Factors impacting education outcomes for trans students
	were less likely to achieve high academic performance compared to those without low teacher expectations (2.76 average GPA vs 3.17 average GPA)[87].
	− Trans and gender diverse secondary students who did not have teachers who were supportive of gender diversity had poorer academic performance[61].
	− Gender minority secondary students who felt a sense of belonging at school were more likely to report high academic achievement (87%) compared to those without school belonging (69.5%)[87].
	− Transgender secondary school students who felt school support and safety at school reported increased academic performance[36].
Academic engagement and confidence	− A mixed methods study drawing on survey and interview data from Australia[61] and a quantitative study drawing on survey data from Australia (MMAT score=5/5, n=51)[67] found that trans and gender diverse secondary students without teachers supportive of gender diversity had lower academic engagement and confidence[61,67].
	− Transgender secondary school students who felt the presence of school support and safety at school reported increased school engagement[36].
Discipline	− Secondary school students who experienced increased bullying due to their gender expression were more likely to face school discipline[39]. This US study also found that LGBTQ+ students were disciplined for activities that non-LGBTQ+ students were not, and that discipline was often a direct result of their LGBTQ+ identity[39].

Education needs

Trans students reported several education-related needs that, if addressed, would improve their educational experience, as shown in Table 7. These needs included a more inclusive and representative whole-school curriculum[66,70,78,81,82,91–93] and especially in relationship and sexuality education (RSE) curriculum[39,56,61,91,94–96], which trans students consistently cited as an unmet need. Trans students also indicated the need for greater understanding of gender diversity and trans identities by school staff, many of whom were reported as under-informed on the subject[55,70,78,91–93]. Trans students noted that staff's lack of understanding of gender diversity and trans people, combined with the absence of trans-inclusive curriculums, often left them feeling burdened with having to educatethe responsibility of educating their peers and teachers[55,66,70,78,81,82,91–93]. Additionally, trans students highlighted the need for reduced gender-segregation during school activities, citing the unnecessary practice of separating students into groups of boys and girls during physical education[61,84], school assemblies[91], and during classroom activities[61,78].

Table 7: Education needs of trans students

Need	Education needs of trans students
Trans inclusive curriculum	Both primary[70,81] and secondary school[66,78,81,82,91–93] transgender students reported receiving minimal education about or representation of gender diversity and trans people during their schooling. A UK based qualitative study drawing on interview data (MMAT score=5/5, n=7)[93] found that curriculums that did include elements related to gender diversity were criticised for omitting nonbinary identities[93]. A US based qualitative study drawing on interview data (MMAT score=5/5, n=30)[54] found that students encountered limited and mostly negative representation of trans people, and voiced stereotypes about trans people[54]. Another US based qualitative study based on observational data (MMAT score=5/5, n=31)[97] found that trans students appreciated being exposed to material in their classes that represented and resonated with their trans identities[97]. A lack of trans representation in the curriculum often led to trans students being burdened with having to educate their peers about their identities[66,78,81,82].
Trans inclusive relationships and sexuality education (RSE)	Transgender students in both primary[56,96] and secondary school[39,61,91,94,95,98] noted the absence of trans and gender diverse representation in their relationship and sexuality education (RSE) curriculums. This lack of representation resulted in a gap in RSE knowledge relevant to their gender identities and circumstances[91,94,95,99], and even increased feelings of dysphoria and social isolation due to the 'cisnormative'[20] nature of the curriculum's discussion of puberty and bodies[56,96].
Increased trans awareness/training for school staff	Transgender and GNC students in both primary[55,70] and secondary school[55,78,91–93] emphasised the need for increased education and understanding about gender diversity among school staff. The lack of staff understanding often left trans students responsible for educating teachers and staff about gender diversity[55,70,78,91,93]. School staff reported being uninformed about nonbinary

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[20] Cisnormativity can be defined as 'the assumption that everyone is cis(gender) or should be'[100].

Need	Education needs of trans students
	identities, placing the burden of education on nonbinary students to inform staff about these identities and their lived experiences[78,92,93].
Less gender-segregation at school	Secondary school transgender students advocated for reduced gender-segregation, especially disliking being assigned to gender-segregated groups during classes[61]. PE classes were often cited as one of the most gender-segregated environments[61,84]; other instances of gender segregation that was seen as unnecessary included choir[101], school assemblies[91], lining up before class, and classroom activities[61,78]. Being told to segregate into boys' and girls' groups was a source of stress for both binary and nonbinary trans students[61,78,84,91].

Impact of policy and practice approaches to social transition

One of the aims of this rapid evidence review was to explore the impact of policy and practice approaches to social transition on the outcomes of trans students and their peers in primary and secondary education settings, as reported in the literature.

The final two questions the review sought to answer were: 3) What is the impact of policy and practice approaches to social transition in education settings on **trans children and young people** in terms of their wellbeing and educational outcomes? And 4) What is the impact of policy and practice approaches to social transition in education settings on **the peers** of trans children and young people?

Impact of school policies and practices on trans students

The studies included in this review found that schools' approaches to the social transition of trans children and young people range from varying degrees of affirmative to non-affirmative approaches. The key approaches identified were related to trans children and young people's opportunities to use their chosen name and pronouns at school, wear clothing or uniforms aligned with their self-designated gender, access facilities that match their self-designated gender, and participate in school sports and other gendered curricular and extracurricular activities that align with their self-designated gender. There is limited evidence examining the impact of specific school policies and practices related to social transition on trans children and young people's wellbeing and educational outcomes. However, a broader evidence base identifies school factors associated with the wellbeing and educational outcomes of trans children and young people, some of which relate to schools' approaches to social transition.

Overall school climate and school support

Evidence from school-based studies suggests that the overall school 'climate' or environment may play a role in the wellbeing and educational outcomes of trans children and young people, with some of these factors indicated in the literature as relating to schools' approaches to social transition specifically.

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The review identified several studies examining the relationship between overall school climate or environment and various wellbeing and educational outcomes for trans children and young people. For instance, Greenspan et al.[102] (MMAT score=4/5) carried out an exploratory quantitative survey to identify school and community-based protective factors in the psychological wellbeing of 31 transgender and gender diverse autistic youth, aged 13–17. As part of this, they used a sub-scale of the Adolescent Resilience Questionnaire to examine the relationship between a 'supportive school environment' and different measures of wellbeing. The study found that a supportive school environment was a significant predictor of life satisfaction among transgender and gender diverse autistic youth, with greater levels of school support predicting greater life satisfaction, over and above all other protective factors included in the model.

Similar findings were observed across studies examining relationships between school supports and trans children and young people's wellbeing and educational outcomes. For instance, a study drawing on secondary-school based data from the California Healthy Kids Survey from 2017–19 (MMAT score=N/A, n=800,000)[36], used four multi-item scales across the domain of school supports (measuring students' experiences of caring relationships with adults in their school, being held to high expectations, feeling able to participate in school activities and the school community, and the school's efforts to support parent involvement), plus a school safety domain consisting of four yes-no items, and a series of measures relating to transgender students' wellbeing and educational outcomes. The study found large disparities between transgender and non-transgender students in data from each of the scales measuring the presence of school supports, and even larger disparities in all measures of school safety. On wellbeing and educational outcomes, transgender students were significantly more likely to report chronic sadness and suicide ideation, lower levels of school engagement and connectedness, and lower levels of academic performance. A further key finding was that students' perceptions and experiences of school supports and school safety accounted for a large proportion of the disparities in wellbeing and educational outcomes between transgender and non-transgender students, including 50% of the difference in suicide ideation, 56% of the difference in academic motivation, and 90% of the difference in school connectedness.

While these studies examine the role of general school climate-based factors in the wellbeing and educational outcomes of trans children and young people, a smaller number of studies explore school climate-based factors that relate specifically to supporting trans children and young people.

For instance, Durwood et al.[63] conducted a survey-based study with parents of 265 transgender children aged 3–15 in the USA (MMAT score=4/5) to examine the relationships between parent-reported support from family, school, peers, and the

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state related to gender, and parent-reported anxiety and depression symptoms among transgender children (assessed using the NIH PROMIS Scales for Anxiety and Depression). Gender-related school support was specifically assessed by asking parents to report how accepting their child's teacher(s) were of the child's gender/gender presentation, how satisfied they were overall with the child's school's treatment of their child's gender identity/expression, plus an 11-item checklist indicating whether the school provided various supports related to the child's gender identity (e.g., an anti-bullying policy that specifically mentions gender identity/expression, school documents aligned with the child's gender identity, use of preferred toilet facilities, participation in sports aligned with gender identity, etc.). The study found that higher levels of parent-reported gender-related school support were associated with lower levels of parent-reported symptoms of anxiety and depression. Parent-reported school support for a youth's gender identity acted as a buffer in the relationship between gender-related victimisation and symptoms of anxiety and depression. Specifically, for children with very high levels of parent-reported school support for their gender identity, experiences of gender-related victimisation were not associated with symptoms of anxiety and depression, indicating that for transgender youth, gender-related school support may play a crucial role in mitigating the harmful effects of gender-related victimisation.

A study based on data from a survey of LGBTIQA+ youth aged 14–21 in Australia (MMAT score=4/5, n=5,868)[71] found that trans or gender diverse participants who reported that their education institution was affirming of their LGBTIQA+ identity reported lower levels of psychological distress and higher levels of subjective happiness. To examine this relationship, the study developed a specific 'affirming educational environment' scale for trans or gender diverse participants, which included items relating to participants' experiences of comfort and safety within the school setting. As part of this, participants were asked, 'During the past 12 months at your education institution, have you felt that you could safely...' and were invited to select from items including 'Use the bathroom/changing rooms that match my gender identity', 'Use my chosen name or pronouns' and 'Wear clothes that match my gender identity', along with two items that were also included in the affirming educational environment scale for cisgender participants ('Openly identify as LGBTIQA+' and 'Celebrate "Wear it Purple Day", IDAHOBIT, or Transgender Day of Visibility, or another LGBTIQA+ day of significance'[21]), plus the option to select 'None of the above'. The study found that for trans or gender diverse participants, an affirming educational environment (assessed using the scale described above) was

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[21] 'Wear it Purple Day' is an annual LGBTIQA+ awareness day for young people, based in Australia. IDAHOBIT stands for International Day against Homophobia, Biphobia and Transphobia.

associated with higher levels of happiness (β = 0.15, CI = 0.11–0.19, p < 0.001)[22] and lower levels of psychological distress (β = -0.91, CI = -1.19–0.63, p < 0.001).

A report published by the Gay, Lesbian & Straight Education Network (GLSEN) on the results of the 2021 National School Climate Survey of 22,298 LGBTQ+ students aged 13–21 in the USA (MMAT score=N/A)[39] documents the prevalence of indicators of a 'hostile school climate' (some, but not all, of which are related specifically to gender identity or gender expression) and examines the relationships between these indicators and a range of wellbeing and educational outcomes for LGBTQ+ students. Indicators of a 'hostile school climate', which relate specifically to gender identity or gender expression, include participants reporting:

- feeling unsafe in school due to their gender identity or gender expression;

- hearing negative remarks about gender expression and negative remarks specifically about transgender people;

- experiences of verbal harassment or physical assault based on their gender identity or gender expression; and

- experiences of gender identity or gender expression-related 'discriminatory policies and practices' (including being prevented from using their chosen name or pronouns, using bathrooms and locker rooms aligned with their gender, wearing clothes deemed 'inappropriate' based on gender and playing on a sports team consistent with their gender).

The report found that transgender and nonbinary students were consistently more likely than cisgender LGBQ+ students to report both a) gender identity or expression-related indicators of a hostile school climate and b) worse educational outcomes. Transgender and nonbinary students were more likely to report feeling unsafe in school due to their gender identity or gender expression, experiencing in-person victimisation related to their gender identity or expression, and facing gender identity or expression-related discriminatory policies and practices. They were also more likely to report higher absenteeism rates, higher rates of discipline, lower educational aspirations, and lower levels of school belonging. Although the report did not specifically examine the relationships between gender identity or expression-related indicators of hostile school climate and wellbeing and educational outcomes for transgender and nonbinary students, these relationships were explored for the broader LGBTQ+ student population. The report found that gender identity or expression-related indicators of hostile school climate were linked to a range of wellbeing and educational outcomes reported by LGBTQ+ students, including lower

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[22] In this study, all the β results 'controlled for sociodemographic variables including gender, sexual orientation, level of education, country of, and residential location.'[71]

educational aspirations, higher absenteeism, lower grades, higher rates of discipline, lower self-esteem, higher levels of depression, and increased suicidal ideation. More specifically, LGBTQ+ students who reported experiencing gender identity-related 'discriminatory' policies and practices in school (such as restrictions on the use of chosen names and pronouns, access to facilities, and gender expression) reported lower self-esteem and higher levels of depression.

Qualitative studies included in the review also reported similar findings relating to gender identity and expression-related features of school climate. For example, in a US-based qualitative study drawing on interview data (MMAT score=4/5, n=10)[83] transgender participants described a range of negative school-based experiences related to gender identity and expression. These included members of staff punishing students who did not conform to expected gender binaries and expressions, which contributed to their perceptions of an unsafe learning environment with inadequate protections against discrimination and harassment. Similar findings were observed in qualitative studies from the UK and the US, in which transgender students in both primary and secondary schools reported dropping out of school due to unsafe and unsupportive environments[70,78] where they faced harassment, bullying or violence[70]. More generally, in qualitative studies from the US, Australia, and the UK, transgender students in both primary and secondary schools reflected on the importance of a school climate that supported the expression of gender diversity as a key factor in their wellbeing and educational motivation[61,65,70,78–80]. In qualitative studies with trans children and young people, participants also specifically cited policy and practice approaches to social transition as important aspects of a supportive school climate, including allowing the modification of names and gender in school databases and the use of chosen names and pronouns [55,61,80].

School policies with specific provisions for supporting trans students

Several studies have examined the relationship between school policies that include specific provisions or protections for trans students and the wellbeing and educational outcomes of trans children and young people. While detailed information about these policies was generally limited, they were sometimes found to relate to schools' approaches to social transition specifically.

Day et al.[33] carried out a study using the 2013–2015 California Healthy Kids Survey (n=113,148) matched with principal reports of school policies from the 2014 California School Health Profiles, to examine the effects of sexual orientation and gender identity (SOGI)-focused policies for LGB and transgender youth (MMAT score=4/5). SOGI-focused policies were assessed based on principal reports on five policies: prohibiting harassment based on perceived or actual sexual orientation or

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gender identity, provision of student-led clubs focused on LGBTQ inclusion, provision of identity-safe spaces for LGBTQ youth to access support from school staff, staff professional development relating to LGBTQ-inclusive school environments, and access to external services and support for LGBTQ youth. The study found that transgender youth had higher self-reported grades in schools with more SOGI-focused policies, and the number of such policies was associated with lower levels of truancy across all students, regardless of sexual orientation or gender identity.

A report published by the Gay, Lesbian & Straight Education Network (GLSEN) on the results of the 2021 National School Climate Survey of 22,298 LGBTQ+ students aged 13–21 in the USA (MMAT score=N/A)[39], found that transgender or nonbinary students who reported that their school had an official policy or guidelines specifically about supporting transgender or nonbinary students reported higher levels of school belonging and were less likely to report missing school due to feeling unsafe or uncomfortable. Participants who reported that their school had specific transgender/nonbinary policies were asked follow-up questions to identify the gender identity-related provisions these included. The most common provisions related to schools' approaches to social transition, including provisions on students' use of chosen name/pronouns, access to bathrooms corresponding to their gender identity, the ability to change official records to reflect name or gender change, and the ability to participate in extracurricular activities that align with their gender identity.

The GLSEN report discussed above was one of several studies examining the role of comprehensive anti-bullying policies (i.e. those with specific protections from victimisation based on gender identity or expression) in transgender students' wellbeing and educational outcomes. The report found that transgender or nonbinary students who reported that their school had a comprehensive anti-bullying policy (such as explicitly stating protection from victimisation based on gender identity or expression) were less likely to report feeling unsafe due to their gender identity or gender expression, missed fewer school days because they felt unsafe, were less likely to hear negative remarks about transgender people, experienced less harassment and assault based on their gender identity and gender expression, and had higher levels of school belonging.

In a quantitative study on the relationship between school districts' anti-bullying policies and LGBT students' experiences of safety and victimisation in the USA (7,040 LGBT students from 2,952 unique school districts), Kull et al.[103] found that LGBT students in districts with anti-bullying policies that explicitly state protections for students based on actual or perceived sexual orientation, gender identity, and/or gender expression reported significantly greater feelings of safety, fewer victimisation experiences (e.g., harassment and assault based on sexual orientation and gender

expression), and less social aggression compared to students in districts with generic policies or no/unidentified policy (MMAT score=5/5).

In a quantitative survey-based study with 116 middle-grade principals in the USA, Boyland, Kirkeby, and Boyland[104] (MMAT score=4/5) found that principals' higher levels of agreement on the implementation of anti-bullying policies with named protections for sexual orientation and gender identity were correlated with lower reported levels of bullying or discrimination towards LGBTQ students, particularly transgender and gender diverse students.

By contrast, De Pedro et al.[105] carried out secondary analysis of the 2013–2015 California Healthy Kids Survey (CHKS), which involved statewide assessments of elementary and secondary school climate in the United States (MMAT score=4/5). The analysis included 611 middle and high school students. Students were asked if their school had a policy prohibiting harassment based on sexual orientation and gender identity and expression. De Pedro et al. found that the presence of anti-bullying policies was not a significant predictor of the safety of LGBTQ students, highlighting potential barriers in policy implementation. The authors suggested that an important area for future research would be the assessment of staff and student awareness of anti-bullying policies and an evaluation of the processes for implementing these policies.

The role of 'supportive' school staff

School-based studies indicate that the presence of school staff considered by trans children and young people to be 'supportive' is associated with a range of wellbeing and educational outcomes, with varying degrees of relevance to staff approaches to social transition specifically.

One study, drawing on data from the 2013–2015 California Healthy Kids Survey of 634,978 10–17-year-old California school students (MMAT score=4/5)[60], employed a validated school adult support scale (consisting on six self-reported items) to examine the relationship between school adult support and past 30-day substance use at school among transgender youth. The study found that school adult support was associated with decreased odds of past 30-day substance use at school for marijuana (22%), cigarettes (29%) and inhalants (14%) among transgender youth, controlling for experiences of peer victimisation at school, which the study identified as the key risk factor for at-school substance use.

In a mixed-methods study (MMAT score=4/5)[61] drawing on data from a survey of 189 transgender and gender diverse students in Australia aged 14–25 and 16 semi-structured interviews from the same sample, survey participants who reported receiving no support from teachers reported higher levels of peer harassment (for example, 63% reported experiencing discriminatory language from friends compared

to 31% of those with teacher support) and were over four times more likely to leave school (23% compared to 5% of those with teacher support). The same study found that transgender students who reported that their teachers used 'mostly inappropriate' names and pronouns to refer to them experienced increased abuse from peers and poorer educational outcomes compared to those whose teachers used 'appropriate' names and pronouns. They were more likely to report being unable to concentrate in class (54% compared to 22%), having lower marks (54% compared to 26%) or dropping out of school entirely (22% compared to 6%).

Another study, drawing on data from a large-scale survey with a representative sample of LGBTQ+ students in US middle and high schools (MMAT score=N/A)[106] found that the presence of school staff reported by participants as being supportive of LGBTQ+ students was associated with a range of wellbeing and educational outcomes for trans and nonbinary students specifically. For example, trans and nonbinary participants who could identify more school staff as supportive of LGBTQ+ students reported:

- Higher levels of self esteem;
- Lower levels of depression;
- Greater levels of school belonging;
- Greater aspirations to continue education beyond high school; and
- Higher GPA scores.

Similar findings can be observed in a study by Ullman[67] (MMAT score=5/5), drawing on data from a survey of 704 same-sex attracted and gender diverse Australian teenagers (aged 14–18) to examine gender identity-related school climate as a potential stressor for students who identified as gender diverse. Measures in the survey included original items investigating gender identity-related school climate, such as a three-item subscale to assess students' perceptions of teacher positivity regarding diversity in gender identity and sexuality[23], as well as a standalone item asking participants to rate if their teachers were 'never' to 'always' 'openly positive about gender a-typicality or supportive of genderqueer or transgender people'. Correlational analyses revealed that teachers' reported positivity regarding diversity in gender and sexuality was significantly associated with a range of measures of gender diverse students' school wellbeing and educational outcomes. Gender diverse students who reported higher levels of teacher positivity regarding diversity in gender and sexuality also reported higher levels of school morale, school belonging,

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[23] Items measured students' agreement on a 9-point Likert scale with the statements 'My teachers say that it's OK for people to express their gender in different ways', 'In my school, if someone made fun of me about the way I express my gender, the teachers would defend me', and 'In my school, teachers talk about same-sex attraction (lesbian, gay or bisexual people or topics) in a positive way'. [67]

learning confidence, motivation, and academic self-concept, and lower levels of school distress and peer harassment, with particularly strong correlations for measures of school wellbeing. Multiple regression analysis of gender diverse students' sense of school connection specifically revealed that variation in reported levels of teacher positivity regarding diversity in gender and sexuality explained a significant proportion of the variation in students' reported sense of school connection, over and above the other key predictor of school safety.

One specific feature of support for transgender students examined in multiple studies was school staff intervention in gender-identity-based bullying or harassment. In qualitative studies in particular, this was sometimes indicated to relate to aspects of staff's approach to social transition (such as support for trans children and young people's chosen names, pronouns, and gender expression).

For instance, a report drawing on a survey of 22,298 LGBTQ+ students aged 13–21 in the USA (MMAT score=N/A)[39] examined relationships between student-reported frequency of school staff intervention in anti-LGBTQ+ remarks and student-reported efficacy of staff responses to anti-LGBTQ+ victimisation, alongside a range of wellbeing and educational outcomes. The study found that students who reported greater frequency of staff intervention in anti-LGBTQ+ remarks were less likely to report feeling unsafe at school due to their gender identity or expression and were less likely to report missing school due to feeling unsafe or uncomfortable. Similarly, higher levels of perceived efficacy in staff responses to anti-LGBTQ+ victimisation were associated with a lower likelihood of reporting feeling unsafe at school due to gender identity or expression and a lower likelihood of reporting missing school due to feeling unsafe or uncomfortable.

In multiple UK and US based studies drawing on qualitative (open text) survey or interview data about trans students' school experiences in both primary[55,56] and secondary schools[55,56,65,75,76], participants reported that 'transphobic' remarks from other students often went unaddressed by teachers. In two UK studies, one based on qualitative data from semi-structured interviews with 10 trans children and 30 parents of trans children aged 10–16 (average age 11) (MMAT score= 5/5)[56], and the other based on focus group interviews with trans-identified young people aged 14–19, parents of trans young people, and school and youth work staff (MMAT score=5/5)[75], participants reflected that teachers and staff were significantly less likely to intervene in remarks from peers that did not involve overt transphobic slurs or which stemmed from a lack of understanding, rather than intentional prejudice. These participants particularly cited instances related to the use of chosen names and pronouns.

Policy and practice approaches to the use of trans students' chosen names and pronouns

Findings on schools' approaches to the use of trans students' chosen names and pronouns are evident across several qualitative studies, as well as in one quantitative study specifically examining the relationship between the use of chosen names and pronouns at school and wellbeing outcomes for transgender youth. Additionally, several quantitative survey-based studies have explored the relationship between trans students' wellbeing and educational outcomes and various gender identity-related school climate measures, some of which are related to schools' approaches to the use of chosen names and pronouns.

For example, among the latter studies discussed above is a relevant report published by GLSEN, based on data from a large-scale survey with a representative sample of LGBTQ+ students in US middle and high schools (MMAT score=N/A)[106]. This study found that LGBTQ+ students who reported experiencing 'discriminatory' policies and practices at school (including being prevented from using their chosen names or pronouns) reported lower levels of self-esteem and higher levels of depression. GLSEN also separately found that transgender or nonbinary students who reported that their school had an official policy or guidelines specifically about supporting transgender or nonbinary students were less than half as likely as those in schools without such a policy to report being prevented from using their chosen name or pronouns at school[39], were less likely to report missing school due to feeling unsafe or uncomfortable, and reported higher levels of school belonging[106]. Indeed, the vast majority of those who reported that their school had an official policy reported that it specifically addressed the use of chosen name and pronouns, which was the most commonly included provision in transgender or nonbinary school policies.

Another school climate study discussed above was a mixed methods study drawing on data from semi-structured interviews and a survey of transgender and gender diverse students aged 14–25 in Australia[61], which found that transgender students who reported that their teachers used 'mostly inappropriate' names and pronouns reported increased abuse from peers and poorer educational outcomes compared to those who considered their teachers' use of names and pronouns to be 'appropriate'. Similarly, a study based on data from a survey of LGBTIQA+ youth aged 14–21 in Australia[71] found that trans or gender diverse participants who reported that their education institution affirmed their LGBTIQA+ identity reported lower levels of psychological distress and higher levels of subjective happiness. To examine this, the study authors developed a specific 'affirming educational environment' scale for trans or gender diverse participants, which included items relating to trans or gender diverse participants' experiences of comfort and safety within the school setting, including the use of chosen names and pronouns. This echoes findings from a study by Durwood et al.[63] which examined the relationship between parent-reported gender identity-related school support and parent-reported symptoms of anxiety and

depression, drawing on data from a survey of parents of 265 trans children aged 3–11 in the USA.

In the school climate studies discussed above, it is generally not possible to isolate approaches to the use of trans children and young people's chosen names and pronouns from the broader measure of school climate. However, taken together, these studies provide preliminary evidence suggesting that approaches to the use of chosen names and pronouns may be an important feature of gender identity-related school climate, linked to a range of wellbeing and educational outcomes for trans children and young people.

Findings regarding the use of chosen names and pronouns are present across several qualitative studies included in the review. In a secondary analysis of interview data from 12 trans and nonbinary youth aged 15–17 years old in Canada, Kelley et al.[62] found that the misuse or refusal to use preferred names and pronouns by peers was detrimental to several youth, who explained they felt invalidated, which had a negative impact on their wellbeing (MMAT score=5/5). Similarly, in a report drawing on a survey of 38,269 LGBTQ+ students aged 8–16 in the US[44], transgender participants responding to open-text questions about what made them feel welcome or unwelcome at school reported feeling unwelcome when teachers refused to use their chosen names and pronouns. Others reported that when teachers used their chosen name and pronouns, it made them feel welcome at school. In a UK-based qualitative study based on data from focus groups with trans young people aged 16–19[75], participants reflected that while the failure or refusal to use their chosen names or pronouns was not necessarily intended to cause distress, it did cause stress, frustration, upset, and anger. They also reported that the impact of this was often un(der)acknowledged by school staff. These findings were echoed in a study drawing on open-text data from a large survey of LGBTQ+ youth aged 13–17 in the UK (MMAT score=4/5)[65], in which binary-trans, nonbinary, and gender-questioning participants stated that teachers' failure or refusal to use their chosen name and pronouns led to feelings of distress, anxiety, and feeling unsafe at school.

The review identified one quantitative study which specifically examined the role of chosen name use at school in trans children and young people's wellbeing outcomes. This was a longitudinal study of the risk and protective factors of suicide among 129 lesbian, gay, bisexual, transgender, queer and questioning (LGBTQ) youth and participants with same-sex attraction in the United States[74] (MMAT score=4/5). The authors carried out three main types of analysis:

- Differences between transgender youth with and without a chosen name;

- Context-specific predictors of chosen name use in each respective context; and

- The association between chosen name use in specific contexts and mental health outcomes, controlling for predictors of chosen name use.

The mental health outcomes included in the study were depressive symptoms, suicidal ideation, and self-esteem. The authors found that chosen name use at school predicted fewer depressive symptoms and greater self-esteem, but had no significant impact on either positive or negative suicidal ideation.

The impact of uniform policy

There was limited evidence identified in this review directly exploring the impact of policy and practice approaches to uniform in schools on the wellbeing and/or educational outcomes of trans children and young people. In total, three relevant studies were identified – one quantitative and two qualitative.

The one identified quantitative study (MMAT score=N/A)[39], GLSEN's large-scale school climate survey with a representative sample of LGBTQ+ students in US middle and high schools, found that LGBTQ+ students who reported experiencing 'discriminatory' policies and practices at school (including being prevented from wearing a uniform or clothing corresponding to their gender identity) reported lower levels of self-esteem and higher levels of depression. The report also separately found that transgender or nonbinary students who reported that their school had an official policy or guidelines specifically supporting transgender or nonbinary students (the majority of which included provisions addressing uniform and clothing) were almost half as likely to report being prevented from wearing a uniform or clothing corresponding to their gender identity. These students were also less likely to report missing school due to feeling unsafe or uncomfortable and reported higher levels of school belonging.

In a study (MMAT score=4/5)[83] drawing on 10 narrative interviews exploring the lives and school experiences of 10 trans black women in Michigan, USA, one participant described being sent home for wearing a skirt to school, with staff justifying the action on the basis that it was unsafe due to the 'harassment' the student would face for non-conforming gender expression. Instances such as these were reported in the study to have contributed to harming trans students' mental and emotional health.

Another study (MMAT score=5/5)[81] identified in the review, drew on 13 interviews conducted with trans youth in Ireland, and directly explored the relationship between school uniform policies and the school experiences of trans youth. Many of those interviewed were required by their school to wear uniforms that did not align with their gender identity, resulting in feelings of 'embodied dysphoria', a sense of restriction on freedom of expression, and reinforcement of 'otherness'. For some, their uniforms

required them to conform to 'cisgender binary norms' of appearance, which caused 'significant emotional distress'.

Policy and practice approaches to the use of school facilities

Findings on schools' policy and practice approaches to trans learners' use of facilities – namely, bathrooms and changing rooms – were identified in several studies included in the review, most of which collected qualitative data specifically from trans and nonbinary students, or their parents. There was also a large-scale quantitative survey exploring schools' policy and practice approach on a variety of gender-identity-related measures, within which the use of facilities was discussed. However, no studies were identified in this review that specifically examined the relationship between the use of school facilities and educational and/or wellbeing outcomes.

A study by Horton and Carlile[16] (MMAT score=5/5), which draws on two qualitative data sets of parents and trans children and young people, totalling 52 interviews across England, Scotland and Wales, explored trans student's experiences in school, including access to school facilities. The study highlighted experiences of trans students who felt that their schools' approaches met their needs, with one parent of a trans child sharing that their child was given access to a staff toilet for additional privacy. However, this parent felt that this would be an inadequate school practice in the future if there were more children within the school who identified as trans.

The same study also included the experiences of several students who identified as nonbinary. They described the lack of gender-neutral bathroom provision at their school, forcing them to choose between the available girls' and boys' facilities. Nonbinary students recounted experiences of entering both the girls' and boys' bathrooms and being told by their peers in each that they shouldn't be using that facility. As noted by Horton and Carlile, this led to repeated experiences of exclusion and bullying from their peers. A different study, drawing on small-scale interview data with eight trans and nonbinary youth aged between 13–18 (MMAT score=5/5)[93], noted respondents were reluctant to use gender-neutral facilities that were made available within their school if they were not universal (e.g., only one designated nonbinary toilet), as they were concerned that using the facility would reveal their nonbinary identity to their peers and potentially expose them to bullying.

In another qualitative study drawing on interviews with 30 parents and 10 of their children who had socially transitioned before the age of 11 in the UK (MMAT score=5/5)[70], participants reported avoiding using the bathroom when they needed to go, as their school did not allow them to use the bathroom that aligned with their gender identity. In one instance, a trans child reported that, due to this avoidance in primary school, they developed a kink in their bladder, as told by their doctor.

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One report published by GLSEN, drawing on data from a large-scale survey representative of LGBTQ+ students in US middle and high schools (MMAT score=N/A)[39], included findings related to the use of bathrooms and changing facilities. The report identified some of the most common 'discriminatory' policies and practices that negatively impacted LGBTQ+ students' school experiences. Of this list, 27.2% of students had been prevented from using the bathroom that aligned with their gender, and 23.8% had been prevented from using the locker room that aligned with their gender. LGBTQ+ students who experienced 'discriminatory policies' and practices at school reported lower levels of self-esteem, a higher likelihood of depression, and were more than twice as likely to have seriously considered suicide than students who had not reported experiencing 'discrimination'. It is important to note that these findings refer to LGBTQ+ students as a group, rather than trans and nonbinary students exclusively. The report also found that LGBTQ+ students who reported that their schools had official policies or guidelines with provisions for trans and nonbinary students were less likely to report experiences of 'gender-identity-related discrimination', including being prevented from using a bathroom or locker room that aligned with their gender identity. Among trans and nonbinary students specifically, those who reported that their schools had official policies and guidelines with named provisions for trans and non-binary students (including provisions for accessing bathrooms and locker rooms corresponding with gender identity and gender-neutral bathrooms), were less likely to report missing school due to feeling unsafe and reported higher levels of school belonging.

One mixed-methods study, made up of 13 interviews and 58 survey responses from LGBTQ+ youth aged 13–18 in the USA (MMAT score=4/5)[76] found that, in some instances, participants expressed 'anger and frustration' directed at their schools' administrators for not validating or addressing the concerns and needs of LGBTQ+ students. Students within the study stated that when a teacher accommodated their needs (including allowing access to a private place to change for PE, being allowed to use the locker room that aligned with their gender identity, and being able to use a gender-neutral bathroom), it helped affirm their gender identity and reduce the likelihood of experiencing LGBTQ+ related harassment and bullying. Again, it is important to note that these findings refer to LGBTQ+ youth, rather than trans youth exclusively, as the data was not disaggregated.

Policy and practice approaches to participation in school sports and other gendered curricular and extracurricular activities

Findings on schools' approaches to trans students' participation in school sports and other gendered curricular and extracurricular activities are evident across several studies included in the review. Additionally, as highlighted above, several studies

examined the relationships between trans students' wellbeing and educational outcomes and various gender identity-related measures of school climate, some of which were specifically related to schools' approaches to trans students' participation in school sports and other gendered curricular and extracurricular activities.

School-based studies indicate that a) participation in school sports is specifically associated with positive wellbeing outcomes for trans children and young people, and b) trans students are significantly less likely to report participating in school sports than their cisgender peers. For instance, a US quantitative study based on survey data (MMAT score=5/5, n= 46,537)[73] found that transgender students were significantly less likely to report participating in a sports team compared to their cisgender peers. Moreover, the study found that participation in two sports teams (AOR = 0.27, 95% CI: 0.11-0.66; $p < 0.5$)[24] or three or more sports teams (AOR = 0.40, 95% CI: 0.17–0.94; $p < .05$) was associated with reduced odds of suicide ideation in transgender students, and that participation in three or more sports teams was associated with reduced odds of depression in transgender students[25] (AOR =0.32 95% CI: 0.15–0.69, $p < .05$)[73]. Similarly, a study drawing on data from the school-related experiences of 15,813 LGBTQ students in the US[41] (MMAT score=4/5) found that transgender and nonbinary participants were less likely to report participation in school sports than their cisgender LGB peers, and that participation in school sports predicted higher reported levels of self esteem, lower reported levels of depression, and higher levels of school belonging among transgender and nonbinary youth.

A US report based on a survey (MMAT score=N/A, n=22,298 students) found that when policies or guidelines addressed participation in school sports matching gender identity, transgender and nonbinary students were 74% less likely to report experiences of being prevented from playing on a sports team consistent with their self-designated gender[39]. While it was not possible to isolate the specific role of approaches to trans students' participation in school sports, the study also found that LGBTQ+ students who experienced gender-identity-related 'discriminatory' policies and practices in school (including restrictions on playing on sports teams aligned with their self-designated gender) reported lower levels of self-esteem and higher levels of depression. An item related to participation in school sports aligned with self-designated gender is also part of the parent-reported measure of school supports for youth's gender identity in a study by Durwood et al.[63] discussed above, which found

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[24] All the AORs for this study controlled for 'sex, grade, ethnicity, race, BMI, and sleep.'[73]

[25] All the AORs for this study controlled for 'sex, grade, ethnicity, race, BMI, and sleep.'[73]

that higher levels of parent-reported school supports for youth's gender identity predicted lower levels of parent-reported symptoms of anxiety and depression.

In a US mixed-methods study (survey and focus groups) of lesbian, gay, bisexual, transgender, and queer (LGBTQ+) youths' aged 13–18, exploring their experiences in school athletics, Greenspan et al. (MMAT score=4/5, n=71)[76] found that participants expressed feelings of low self-esteem and low self-confidence in the context of physical activity and sport. They reported feeling unsafe in school sports contexts due to experiences of discrimination from their peers and inaction from school staff. Survey participants also indicated school settings they avoided due to feeling unsafe or uncomfortable, with P.E., gym class, locker rooms, and school athletic fields ranking highest among the sample. Notably, 57.1% of transgender or gender diverse students avoided locker rooms, compared to 23.3% of cisgender LGB students.

Impact of practice and policy on peers of trans students

The last question used to guide the review of the evidence was: What is the impact of policy and practice approaches to social transition in education settings on the peers of trans children and young people? To answer this, we searched for evidence relating to both the positive and/or negative impacts on peers.

We found a qualitative interview study with policymakers or practitioners (n=22) and school staff (n=12), that explored barriers in the inclusion of gender-neutral toilets in schools in Western Australia (MMAT score=5/5)[77]. One of these barriers was the negative perceptions of multi-stall gender-neutral toilets by students from Australian indigenous cultures and Islamic faiths, where cis female students may not want to share toilets with cis male students.

In addition, several studies, already discussed in previous sections of the report, examined the relationship between school factors and outcomes for LGBTQ+ learners as a population, without disaggregating outcomes for trans learners specifically. Some of these findings suggest that school factors, which relate in part to schools' approaches to social transition, may be associated with outcomes for the LGB peers of trans learners, alongside trans learners themselves. Additionally, one study (MMAT score=4/5)[33] separately examined outcomes for trans students and their cisgender peers, finding that transgender youth had higher self-reported grades in schools with more sexual orientation and gender identity (SOGI)-focused policies, and the number of SOGI-focused policies was associated with lower levels of truancy across all students, regardless of sexual orientation or gender identity.

Conclusions

The aim of this review was to synthesise available evidence on the wellbeing and educational outcomes of trans children and young people in education settings, as well as the impact of policies and practices on social transition. A rapid evidence review methodology was used, and 99 papers were identified from a variety of countries, with the majority representing educational settings in the USA.

The published evidence base on the wellbeing and educational outcomes of trans children and young people indicates that trans students generally experience poorer wellbeing and educational outcomes compared to their peers. Trans students were more likely than their cisgender peers to experience peer victimisation, feel unsafe at school, report negative mental health outcomes (such as suicidal ideation, suicide attempts, depressive symptoms, and self-harm), and use alcohol and other substances. Compared to their peers, trans students were less likely to have positive and supportive relationships with staff members and reported lower levels of school connectedness and belonging. Trans students had poorer academic performance, engagement, and attendance. They were also less likely to indicate that they had intentions to pursue post-secondary education compared to their cisgender peers.

The literature also highlighted several unmet needs identified by trans students. They reported experiencing a lack of commitment from staff to address transphobic remarks made by students, the inability to report bullying without the fear of disclosing their gender identity or facing increased harassment, school climates that were not accepting of gender diversity and the expression of different gender identities (including unsafe or uncomfortable toilets and changing rooms), and a lack of a whole-school curriculum that was inclusive and representative of trans identities. Trans students expressed the need for increased understanding of gender diversity and trans identities among school staff, and for reduced gender-segregation during school activities (such as during PE, assemblies, and other school activities).

There was limited evidence examining the impact of specific policy and practice approaches to social transition in education settings on the wellbeing and educational outcomes of trans children and young people. However, the review identified a broader evidence base examining relationships between trans children and young people's wellbeing and educational outcomes and various school factors – such as the overall school climate, school policies on supporting trans students, and levels of teacher support – that were sometimes found to relate, to varying degrees, to schools' approaches to social transition. It was usually not possible to isolate the influence of individual school policies or practice approaches to social transition from the wider school factors being examined in a given study. However, taken together,

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this literature provides some preliminary indication that affirmative policy and practice approaches may play a role in several broader school factors associated with improved wellbeing and educational outcomes for trans children and young people. Studies on school factors and trans students' wellbeing and educational outcomes found that:

- Transgender students who reported that their teachers used 'mostly inappropriate' names and pronouns to refer to them reported higher levels of peer harassment and poorer educational outcomes compared to those who considered their teachers' use of names and pronouns to be 'appropriate';
- Transgender or nonbinary students who reported that their school had a specific policy on supporting transgender and nonbinary students[26] reported higher levels of school belonging and were less likely to report missing school due to feeling unsafe or uncomfortable;
- LGBTQ+ students who reported experiencing gender-identity related 'discriminatory' policies and practices at school (including restrictions on the use of chosen name and pronouns, access to facilities, and gender expression) had lower self-reported levels of self-esteem and higher self-reported levels of depression;
- Trans or gender diverse youth who reported that their education institution was affirming of their LGBTQIA+ identity[27] reported lower levels of psychological distress and higher levels of subjective happiness;
- For trans youth, higher levels of parent-reported school support with their gender identity[28] were associated with lower levels of parent-reported symptoms of anxiety and depression;
- Gender diverse students who reported higher levels of teacher positivity with regard to diversity of gender and sexuality[29] had higher self-reported levels of

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[26] Most commonly addressing opportunities for transgender or nonbinary students to use their chosen name and pronouns at school, access bathrooms corresponding to their self-designated gender, change official records to reflect name or gender change, and participate in extracurricular activities that match their self-designated gender.

[27] To measure this, the study developed a multi-item 'affirming educational environment' scale which addressed trans and gender diverse students' perceived levels of safety and comfort over the past 12 months at school with using their chosen name and pronouns, wearing clothes aligned with their self-designated gender, using bathrooms aligned with their self-designated gender, openly identifying as LGBTQ+, and celebrating LGBTQIA+ days of significance (such as Transgender Day of Visibility).

[28] To measure this, the study developed a multi-item 'gender-related school support' scale which asked parents to report how accepting their child's teachers are of the child's gender identity/gender presentation, how satisfied they are overall with the child's school's treatment of their child's gender identity/expression, plus an 11-item checklist indicating whether the school provided various supports related to their child's gender identity, (i.e. an anti-bullying policy that specifically mentions gender identity/expression, school documents aligned with child's gender identity, use of preferred toilet facilities, participation in sports aligned with gender identity etc.).

[29] To examine this, the study developed a sub-scale consisting of three items, which measured students' agreement on a 9-point Likert scale with the statements 'My teachers say that it's OK for people to express their

school morale, school belonging, learning confidence, motivation and academic self-concept, and lower self-reported levels of school distress and peer harassment; and

- For transgender youth, the use of a chosen name at school predicted fewer depressive symptoms and greater self-esteem.

In addition to studies on school factors specifically related to schools' approaches to social transition, the broader literature on school factors consistently found that a 'supportive' school climate and supportive school staff are likely to play an important role in protecting trans students from reduced wellbeing and educational outcomes. However, while the studies discussed above were assessed as high quality overall (MMAT scores from 4–5/5), it is important to note that they overwhelmingly relied on cross-sectional designs. This means that while they found associations between school factors and trans students' outcomes to be statistically associated, it is not possible to establish causal relationships. This highlights the need for further research:

- to examine what specific policies and practices are associated with trans students' perceptions that the overall school climate and school staff are 'supportive';
- to explore the extent to which these policies and practices relate to social transition; and
- to identify causal mechanisms linking these factors with trans students' wellbeing and educational outcomes.

It also raises the general need to consider how to ensure that schools' approaches to social transition align with trans students' perceptions that they are in a supportive environment, are supported by school staff, and are safe and protected from peer harassment, given the crucial role this is indicated to play in mitigating the well-documented disparities in wellbeing and educational outcomes affecting trans children and young people.

The review of the literature also identified gaps in the published evidence, such as studies exploring the experiences of disabled trans children or trans children with additional learning needs, the evaluation of the impact of social transition policies and practices on wellbeing and educational outcomes using experimental study designs, and the standardisation of definitions of wellbeing and educational outcomes for this population and educational settings. Additionally, there was very little evidence

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gender in different ways', 'In my school, if someone made fun of me about the way I express my gender, the teachers would defend me', and 'In my school, teachers talk about same-sex attraction (lesbian, gay or bisexual people or topics) in a positive way'.

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regarding the impact of different policy and practice approaches to social transition on the peers of trans children and young people.

The findings of this review should be interpreted with its limitations in mind. This review was designed as a rapid evidence review with a limited scope covering the past 10 years and countries comparable to the UK. Targeted search strategies were employed, and screening and data extraction cross-checking was conducted on only a percentage of articles. Quality assessment was carried out on all articles published in peer-reviewed journals but was not used as eligibility criteria. The strengths of the review lie in the collaborative process used to design and implement it (including input from four expert peer reviewers), the use of a validated and widely used quality assessment tool (MMAT), and the use of established rapid evidence review methods for searching, screening, and data extraction.

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Appendices

A) Detailed methodology

Design

This review was designed following the approach for rapid evidence reviews[2] with scope to incorporate relevant grey literature. The review followed a phased approach, beginning with a broad search strategy that was refined with each round of searches. The Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) statement guided both the review design and the reporting of methods and findings.

Search strategy and approach

The search strategy was developed by researchers, relevant stakeholders, and peer reviewers. The first phase of the search strategy was broad, using general databases such as Google Scholar and PubMed, which led to the selection of a preliminary list of resources. This list was then scanned for relevant key terms.

The search was not limited in any way other than to streamline outcomes and the environment of the study. Restrictions were applied to the publication date, limiting the search to literature from 2014 onwards (a 10-year time frame). While languages were not restricted, articles from countries that were not high-income and lacked comparable education systems were excluded. Final searches were conducted in March 2024 on six databases: MEDLINE, ProQuest, Education Resources Information Centre (ERIC), PsycINFO, British Education Index (BEI), and Web of Science.

Document selection

The search results were imported into EndNote, and duplicates were removed. Once this process was complete, all included references were imported into Rayyan for screening.

Following the initial screening of titles and abstracts, two researchers cross-checked 10% of the exclusions against the inclusion criteria. A senior researcher then carried out a cross-check with 100% of the excluded articles. The remaining articles that met the inclusion criteria were organised and allocated randomly between two researchers for full-text screening.

The following inclusion criteria were applied:

- Literature published within the last 10 years (from January 2014 to March 2024), conducted in high-income countries with education systems comparable to those in Wales.

- Literature that identified transgender people as a distinct community (e.g. transgender, genderqueer, genderfluid, gender nonconforming, gender diverse, gender-variant, questioning, agender, and/or nonbinary). The literature must have focused on trans youth and/or their peers under 18 years of age.

- Articles that included implications for educational settings or informed the practice of engaging with trans youth and/or their peers in educational settings.

- Peer-reviewed literature was prioritised; however, grey literature in the form of research-informed reports was also included.

- The focus of the article must include at least one of the following:

    - Social transition as defined by Turban et al.[7] 'the child is adopting [a combination of] the name, pronouns, gender expression (e.g. clothes and haircut), and/or gender roles that match their gender identity'.

    - Wellbeing of trans youth and/or their peers, including mental health, social, behavioural and emotional.

    - Educational outcomes of trans youth and/or their peers, including attainment, academic progression and attendance.

Data extraction
Microsoft Excel was used for data extraction to organise the review process. The extraction form was piloted with two initial studies, after which amendments were made, along with recommendations from peer reviewers. Data was extracted by two reviewers and checked by another team member.

Data synthesis
Data was synthesised using framework analysis. The analysis focused on developing themes that accurately represented the data. The categories for the framework were based on the research questions guiding the review and the information emerging from the documents.

B) Search strategies

APA PsycInfo

1   (Trans or transgender or nonbinary or non-binary or "non binary" or "gender diverse" or gender-diverse or "gender diversity" or gender-diversity or "gender queer" or genderqueer or "gender nonconforming" or "gender non-conforming" or transsexual or "gender identities" or "gender identity" or "gender dysphoria" or "gender incongruence" or "gender variance" or "gender variant" or "gender creative" or "gender expansive" or "gender fluid" or "gender fluidity" or "gender questioning" or agender or demigender or bigender or TGNC or TNB or TGNB or LGBT).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word]

2   (youth or student or children or child or tween or tweens or teen* or teenagers or "young people" or adolescent or adolescence or "young person" or "school age" or "preschool age" or learner or pupil or childhood or "young adult" or "generation Z" or "generation alpha").mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word]

3   ("social transition" or "social transitioning" or "chosen name" or clothes or appearance or washroom or gym or "school policy" or "Name change" or "dead names" or "preferred name" or Pronouns or misgendering or misgender or misgendered or "gender affirming" or "gender affirmation" or nonaffirmation or "watchful waiting" or "gender exploratory" or "conversion therapy" or "trans oppressive" or "assimilationist" or emancipatory or "gender equity" or "gender equality" or "gender expression" or "school uniform" or uniform or "school dress code" or "physical education kit" or "physical education" or "PE kit" or PE or "PE uniform" or "school clothe*" or sport or sports or "school toilets" or toilets or "school bathrooms" or bathrooms or "changing rooms" or "locker rooms").mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word]

4   (engagement or involvement or support or participation or "best practice" or academic or pedagogy or instruction or intervention or practice or teaching or teacher or teach or achievement or "school dropout" or "school climate" or absenteeism or "mental health" or "quality of life" or outcomes or wellbeing or psychological or emotional or "school attendance" or progression or anxiety or depression or suicidality or "suicidal idea*" or "self harm*" or suicide or disengage* or belonging or pastoral or learn* or achieve* or attainment or "school atmosphere" or self-esteem or self-worth).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word]

5   (school or education or schooling or "high school" or "secondary school" or "primary school" or "infant school" or "junior school" or college or "youth worker" or "middle school" or "pre-school" or "special school" or "alternative school" or

"alternative education" or "sixth form" or "further education" or "education space" or "educational institution").mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh word]

6   1 and 2 and 3 and 4 and 5

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Ovid MEDLINE(R)

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1   (Trans or transgender or nonbinary or non-binary or "non binary" or "gender diverse" or gender-diverse or "gender diversity" or gender-diversity or "gender queer" or genderqueer or "gender nonconforming" or "gender non-conforming" or transsexual or "gender identities" or "gender identity" or "gender dysphoria" or "gender incongruence" or "gender variance" or "gender variant" or "gender creative" or "gender expansive" or "gender fluid" or "gender fluidity" or "gender questioning" or agender or demigender or bigender or TGNC or TNB or TGNB or LGBT).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]

2   (youth or student or children or child or tween or tweens or teen* or teenagers or "young people" or adolescent or adolescence or "young person" or "school age" or "preschool age" or learner or pupil or childhood or "young adult" or "generation Z" or "generation alpha").mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]

3   ("social transition" or "social transitioning" or "chosen name" or clothes or appearance or washroom or gym or "school policy" or "Name change" or "dead names" or "preferred name" or Pronouns or misgendering or misgender or misgendered or "gender affirming" or "gender affirmation" or nonaffirmation or "watchful waiting" or "gender exploratory" or "conversion therapy" or "trans oppressive" or "assimilationist" or emancipatory or "gender equity" or "gender equality" or "gender expression" or "school uniform" or uniform or "school dress code" or "physical education kit" or "physical education" or "PE kit" or PE or "PE uniform" or "school clothe*" or sport or sports or "school toilets" or toilets or "school bathrooms" or bathrooms or "changing rooms" or "locker rooms").mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word,

unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]

4　(engagement or involvement or support or participation or "best practice" or academic or pedagogy or instruction or intervention or practice or teaching or teacher or teach or achievement or "school dropout" or "school climate" or absenteeism or "mental health" or "quality of life" or outcomes or wellbeing or psychological or emotional or "school attendance" or progression or anxiety or depression or suicidality or "suicidal idea*" or "self harm*" or suicide or disengage* or belonging or pastoral or learn* or achieve* or attainment or "school atmosphere" or self-esteem or self-worth).mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]

5　(school or education or schooling or "high school" or "secondary school" or "primary school" or "infant school" or "junior school" or college or "youth worker" or "middle school" or "pre-school" or "special school" or "alternative school" or "alternative education" or "sixth form" or "further education" or "education space" or "educational institution").mp. [mp=title, book title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms, population supplementary concept word, anatomy supplementary concept word]

6　1 and 2 and 3 and 4 and 5

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Eric EBSCO

(Trans OR transgender OR non-binary OR "non binary" OR "gender diversity" OR "gender queer" OR "gender non-conforming" OR "gender identity" OR "gender dysphoria" OR "gender fluid" OR "gender questioning") AND (child* OR children OR teen* OR adolescen* OR "school age" OR "young adult") AND ("social transition" OR "school policy" OR "name change" OR misname* OR deadnam* OR pronoun* OR misgender*) AND ("education setting*" OR school* OR college* OR "primary education" OR "secondary education" OR "primary education" OR "primary school" OR "secondary school" OR "high school") AND (engage* OR involve* OR support OR achieve* OR "mental health" OR "quality of life" OR QOL OR wellbeing OR emotion*)

–

Web of science

((((ALL=(Trans OR transgender OR non-binary OR "non binary" OR "gender diversity" OR "gender queer" OR "gender non-conforming" OR "gender identity" OR "gender dysphoria" OR "gender fluid" OR "gender questioning")) AND ALL=(child* OR children OR teen* OR adolescen* OR "school age" OR "young adult")) AND ALL=("social transition" OR "school policy" OR "name change" OR misname* OR deadnam* OR pronoun* OR misgender*)) AND ALL=("education setting*" OR school* OR college* OR "primary education" OR "secondary education" OR "primary education" OR "primary school" OR "secondary school" OR "high school")) AND ALL=(engage* OR involve* OR support OR achieve* OR "mental health" OR "quality of life" OR QOL OR wellbeing OR emotion*)

British Education Index EBSCO

(Trans OR transgender OR non-binary OR "non binary" OR "gender diversity" OR "gender queer" OR "gender non-conforming" OR "gender identity" OR "gender dysphoria" OR "gender fluid" OR "gender questioning") AND (child* OR children OR teen* OR adolescen* OR "school age" OR "young adult") AND ("social transition" OR "school policy" OR "name change" OR misname* OR deadnam* OR pronoun* OR misgender*) AND ("education setting*" OR school* OR college* OR "primary education" OR "secondary education" OR "primary education" OR "primary school" OR "secondary school" OR "high school") AND (engage* OR involve* OR support OR achieve* OR "mental health" OR "quality of life" OR QOL OR wellbeing OR emotion*)

C) Study characteristics

AUTHORS AND DATE	COUNTRY	STUDY DESIGN	STUDENT OR STAFF PARTICIPANTS (N)	MEAN AGE (SD)	SEX AT BIRTH	GENDER IDENTITY	ETHNICITY	SEXUAL ORIENTATION	SOCIOECONOMIC STATUS	ADDITIONAL LEARNING NEEDS AND DISABILITIES	POLICY/PRACTICE AREA	MMAT
Abreu et al., (2020)[107]	USA	Mixed-methods Survey collecting quantitative and qualitative data	Staff (n=174)	38.92 (SD=11.24)	N.R.	Female (80%) Male (18%) Transgender men (<1%) Transgender female (<1%) Other (1%) (e.g. genderqueer)	White (62%) African American (15%) Hispanic/Latino (14%) Asian-American (3%) American Indian (<1%) Middle eastern (<1%) Other (3%) (e.g. Afro-Caribbean)	N.R.	N.R.	N.R.	Staff training	**** (non-response bias not reported)

| Adelman et al., (2022)[66] | USA | Qualitative, interviews | Students (n=20) | 16 years | N.R. | Cisgender (50%) Transgender (30%) Nonbinary or Genderqueer (20%) | White (50%) Multiracial (25%) 5% for the following: Black, Lantix, Asian Amercian/Pacific Islander, Native and Indigenous and Middle Eastern and North African | Gay or Lesbian (30%) Bisexual (25%) Pansexual (15%) Other sexual orientation (15%) Questioning (5%) Asexual (5%) Heterosexual or Straight (5%) | N.R. | N.R. | Support groups (GSA) | ***** |
| Allen et al., (2020)[108] | USA | Quantitative, Survey | Students (n=287) | 18.2 years | Female (63%) Male (34%) Other - (0.35%) No answer (3%) | Transgender masculine (33.8%) Transgender feminine (23.3%) Agender, genderfluid, nonbinary (23%) 2+ listed identity | American Indian/Alaskan native (7%) Asian (4%) Black/African American (4%) Native Hawaiian or Asian Pacific Islander (2%) Latino/x/a (6%) White (70%) | N.R. | Qualify for free lunch (45%) Do not qualify (55%) | N.R. | Support groups, policies on bullying, staff training | **** (authors state that response Rate could not be assessed) |

						categories (19.9%)	Multiracial/selected 2+ categories (7%) Not reported (1%)					
Amos *et al.,* (2023)[71]	Australia	Quantitative – large national survey	Student (n=5868)	N.R.	N.R.	Cisgender women (69.9%) Cisgender male (30.1%) Trans woman (4.4%) Trans man (23.9%) Nonbinary (71.8%)	N.R.	Cisgender: Lesbian/gay (32.7%) Bisexual (39.4%) Pansexual (7.5%) Queer (5.6%) Asexual (3.5%) Something else (11.3%) Transgender: Lesbian/gay (18%) Bisexual (21.7%) Pansexual (19.5%) Queer (15.7%) Asexual (6.1%)	N.R.	N.R.	NS, main focus is on mental health outcomes	**** (non-response bias not reported)

								Something else (19%)				
Apostolidou (2020)[109]	Cyprus	Qualitative – focus groups	Students (4), Staff (8)	N.R.	Teachers: Woman (3) Man (1) Psychologist, counsellor and trainee: Woman (3) Man (1) Pupils: Boys (2) Girls (2)	N.R.	N.R.	N.R.	N.R.	N.R.	Staff training	**** data collection instruments were not described in detail

Atteberry -Asha *et al.,* (2019)[37]	USA	Quantit ative – survey	Student s (11,986)	averag e age = 15.7 SD = 1.20	Femal e (51.54 %) Male (48.46 %)	Don't know (1.33%) Not transgender (96.73%) Transgender woman (0.58%) Transgender man (0.73)% Transgender other (0.62%)	American Indian/Alaska native (1.45%) Asian (2.15%) Black/African American (3.15%) Latino/Hispani c (26.46%) Native Hawaiian/Pacif ic islander (0.30%) Two or more races (12.21%) White/Caucasi an (54.28%)	Bisexual (7.02%) Gay or lesbian (1.86%) Heterosexual (87.17%) Not sure (3.95%)	N.R.	N.R.		**** did not includ e non- respo nse bias
Bartholo maeus, Riggs and Andrew (2017)[110]	Aust ralia	Quantit ative study– survey	Staff (180)	Teache rs: 41.79 (SD = 11.23) Pre- service teache rs: 26	N.R.	Teacher: Woman (79.2%) Man (20.8%) Other (0%) Pre-service teacher: Woman	N.R.	Teachers: Heterosexual/St raight = 88.8% Bisexual = 5.3% Lesbian/gay = 6.7% Pre-service	N.R.	N.R.		**** did not includ e non- respo nse bias

| | | | | years (SD=7.96) | | (81.1%)
Man (16%)
Other (2.9%)

Teachers:
trans or gender diverse experience (including demi-gender, genderfluid and genderqueer)
  Yes = 2.7%
  No = 97.3%

 pre-service Teachers:
(same as above^)
  yes = 2.9%
  no = 97.1% | | teachers:

Heterosexual/straight = 78.1%
Bisexual = 16.2%
Lesbian/gay = 5.7% | | | | |
| Berg and Kokkonen (2022)[111] | Finland | Qualitative – interviews | Student (10), Staff (10) | Students: 13-17 years, mean | Teachers: Women - 5 | Students: transgender or nonbinary - 8
Cisgender - 2 | N.R. | Teachers: Heterosexual (10)

Students: | N.R. | N.R. | Sport participation | ***** |

| | | | | age 15 years

Teachers:

29-56 years, mean age 42 years | Men - 5 | Teachers: Cisgender - 10 | | Non-heterosexual (10) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Blackburn (2021)[97] | USA | Qualitative – observational | Student (31) | N.R. | N.R. | Included in this analysis: Trans man (1) Genderqueer (2) Genderfluid (1) | Included in this analysis: White (4) "Student of colour" (1) | N.R. | N.R. | N.R. | | ***** |
| Blair and Deckman (2019)[112] | USA | Qualitative study | Staff (183) | N.R. | N.R. | Woman (122) Man (61) Other/nonbinary/no identification (0) | White (154) People of colour (Includes: Bllack, Latinx, Asian, Asian American, Native American and multi-racial) | N.R. | N.R. | N.R. | | ***** |

							(25) Other/no identification (4)					
Boyland et al., (2018)[104]	USA	Quantitative – survey	Staff (103)	46 years	Female (39, 33.6%) Male (77, 66.4%)	N.R.	N.R.	N.R.	N/A	N.R.	Anti-bullying policies	*****
Bower-Brown, Zadeh and Jadva (2023)[65]	UK	Qualitative study-open-ended survey	Students (74)	N.R.	N.R.	Binary-trans (25) Nonbinary (25) Gender-questioning (24)	N.R.	N.R.	N.R.	N.R.		**** did not include non-response rate
Bradford et al., (2019)[94]	USA	Qualitative (interviews and open-ended	Students (14)	16.1 years (SD= 1.3)	Female (8) Male (5) No	Agender (n=1, 7.14%) Bigender (n=1, 7.14%) Genderqueer/ genderfluid	Non-Hispanic white (n=12) Non-Hispanic Multiracial (n=2, one Asian and white, one	Asexual (n=1, 7.14%) Bisexual (n=1, 7.14%) Gay or lesbian (n=1, 7.14%) Pansexual (n=3,	N.R.	N.R.	Curriculum	*****

| | | questio nnaire) | | | answe r (1) | (n=1, 7.14%) Man (n=2, 14.29%) Nonbinary (n=1, 7.14%) Trans-feminine (n=3, 21.43%)

Femme/femini ne and nonbinary (n=1, 7.14%)

Genderqueer/ genderfluid and trans-masculine (n=1, 7.14%)

Femme/femini ne, trans-feminine and woman (n=1, 7.14%) Agender, butch/masculi ne, | American Indian/Alaskan native and white) | 21.43%) Straight (n=1, 7.14%)

Unsure/questio ning (n=2, 14.29%) Queer and pansexual (n=2, 14.29%) Pansexual and unsure/questio ning (n=2, 14.29%) Gay or lesbian, queer and unsure/questio ning (n=1, 7.14%) | | | | |

						genderqueer/ genderfluid, nonbinary, and trans-masculine (n=1, 7.14%)						
Bragg *et al.,* (2018)[85]	UK	Qualitative	Students (approx. 100)	13 years	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.		*** Limited information on data collection instruments and sample.
Capous-Desyllas and Barron, (2017)[113]	USA	Qualitative – case study of families	Students (4 trans children and their families)	6 years	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	Dress code	*** limited information on resear

												ch questions and data collection instruments
Case and Meier, (2014)[14]	USA	Qualitative	Staff	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	Staff training	** limited information on research questions and data collection instruments
Caudwell (2014)[114]	UK	Qualitative –	Students (2)	N.R.	Male/trans men	N.R.	N.R.	N.R.	N.R.	N.R.	Sport participation	*** limited

		intervie ws			(n=2), prefer to use the term 'male'							inform ation on resear ch questi ons and data collect ion instru ments
Cerna *et al.*, (2021)[50]	USA	Quantit ative study	Student s (559,12 0)	N.R.	N.R.	Not transgender (544,013) Transgender (6,718) Not sure if I am transgender (8,389)	Transgender: American Indian or Alaska native (n=109) Asian (n=465) Black or African American (n=297 Native Hawaiian or other pacific islander (n=105)	Straight (n=477,656) Gay/lesbian (n=11,160) Bisexual (n=35,395) Not sure (n=22,825) Something else (n=10,083)	N.R.	N.R.		**** nonre spons e bias was not report ed

| | | | | | | | White (n=1,784) Mixed (2+ races) (n=756) Hispanic or Latino (n=3,202)

Not transgender: American Indian or Alaska native (n=3,870) Asian (n=63,028) Black or African American (n=18,149) Native Hawaiian or other pacific islander (n=7,418) White (n=124,928) Mixed (2+ | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

							races) (n=47,116) Hispanic or Latino (n=279,504)					
Chan (2022)[5]	Hong Kong	Quantitative – survey	Students (n=3020)	15.71 years, (SD=1.54)	Male (51.5%) Female (48.5%)	Gender conforming (92.3%) Gender nonconforming (7.7%)	Han Chinese (97.1%) Ethnic minorities (2.9%)	Heterosexual (73.3%) Not sure/questioning (15.9%) Bisexual (9.6%) Gay/lesbian (0.9%) Asexual (0.2%)	N.R.	N.R.		*****
Chong et al., (2019)[115]	USA	Quantitative – survey	Students (n=295)	16.07 years, (SD=1.14)	N.R.	Cisgender female (67.8%) Cisgender male (22.4%) Gender-queer (3%) Transgender (3.7%) Other self-reported	White (68.1%) Biracial/multiracial (10.9%) Latino/a (6.1%) Asian/Asian American (5.4%) Black or African	Heterosexual (29.5%) Lesbian or gay (24.8%) Bisexual (20%) Questioning (6.1%) Other self-reported sexual orientation (18.6%)	N.R.	N.R.	Support groups	**** non-response rate Not reported

						gender identities (2.4%) Not reported (0.7%)	American (5.4%) Native American (1.4%) Other self-reported racial/ethnic identities (1.7%) Not reported (1%)	Not reported (1%)					
Clark *et al.,* (2014)[44]	New Zeal and	Quantit ative – survey	Student s (8,166)	N.R.	Cis:Ma le (45%) Femal e (55%) Transg ender: Male (45.6%) Femal e	Cis = 94.7% (n=7,731) transgender = 1.2% (n=96) Not being sure = 2.5% (n=202) Did not understand question = 1.7% (n=137)	**Cis** New Zealand European (49.2%) Maori (19.6%) Pacific (13.1%) Asian (12%) Other (6%) **Transgender** New Zealand European (34.1%) Māori (19.4%) Pacific (24.6%)	**Cis** Exclusively opposite-sex attracted (92%) Not exclusively opposite-sex attracted (6.7%) Don't understand question (1.4%) **Transgender** Exclusively opposite-sex attracted	**Cis** Low deprivatio n (33.6%) Medium deprivatio n (36.5%) High deprivatio n (29.9%) **Transgen der** Low	N.R.		*****	

						e (54.4%) Not sure Male (40.9%) Female (59.1%) Don't understand the question Male (54.8%) Female		Asian (16%) Other (5.8%) **Not sure** New Zealand European (32.7%) Māori (20.6%) Pacific (20.8%) Asian (19.9%) Other (6%) **Don't understand the question** New Zealand European (26.5%) Māori (23.7%) Pacific (20.9%) Asian (25.2%) Other (3.7%)	(54.6%) Not exclusively opposite-sex attracted (41.1%) Don't understand question: 4.3% **Not sure** Exclusively opposite-sex attracted (61.2%) Not exclusively opposite-sex attracted (31.3%) Don't understand question (7.5%) **Don't understand the question** Exclusively opposite-sex attracted	deprivation (29.1%) Medium deprivation (28.1%) High deprivation (42.8%) not sure low deprivation (26.8%) Medium deprivation (31.3%) High deprivation (40.2%) **Don't understand the question** Low deprivation (22.8%) Medium			

Author	Country	Study design	Population	Age		Gender	Ethnicity	Sexual orientation	Deprivation		Intervention	Quality
				(45.2%)				(51.4%) Not exclusively opposite-sex attracted (12%) Don't understand question (36.6%)	deprivatio n (27.4%) High deprivatio n (49.8%)			
Clark and Kosciw (2022)[41]	USA	Quantit ative – survey	Student s (n=15,8 13)	N.R.	N.R.	Cisgender male (18.7%) Cisgender female (38%) Transgender male (18.8%) Transgender female (1.7%) Transgender nonbinary (5.4%) Nonbinary, not transgender (17.3%)	White (68.1%) African American or Black (3.2%) Hispanic or Latinx (15.1%) Asian or Pacific Islander (3%) Native American (0.7%) Arab or Middle Eastern (1.2%) Multiracial (8.7%)	Gay or Lesbian (41.3%) Bisexual (27.7%) Pansexual (20.3%) Other sexual orientation (10.8%)	N.R.	N.R.	Sport participati on	****non-respo nse bias was not report ed
Colvin, Egan and	USA	Quantit ative – survey	Student s (n=240)	15.77, (SD=1. 1)	N.R.	Cisgender girl (16.3%) Cisgender boy	White (62.1%) Latinx (20.8%) Asian or Pacific	Gay/Lesbian (45%) Bisexual (18.3%)	Eligibility for free and	N.R.	Support group	***Blindi ng and

Coulter, (2019)[116]					(36.7%) Transboys (24.2%) Transgirls (3.3%) Nonbinary AFAB (16.7%) Nonbinary AMAB (2.9%)	Islander (3.8%) Black (3.33%) Multiracial (10%)	Queer (10.4%) Another identity (7.9%) Multiple sexual identities (18.3%)	reduced-priced lunch (36.7%)				adherence to the intervention.
Cruz et al., (2023)[53]	USA	Quantitative – survey	Students (n=18,434)	N.R.	Male (n=6256, 49.2%) Female (n=6556, 50.7%)	Cisgender (n=10,033, 94.4%) Transgender/gender nonconforming (n=315, 3%) Unsure (n=281, 2.6%)	American Indian/American native (n=1661, 13.1%) Asian/Pacific Islander (n=329, 2.6%) Black/African Amercian (n=427, 3.4%) Hispanic (n=6645, 52.5%) Non-Hispanic White (n=3598, 28.4%)	Straight (n=10,290, 83.6%) Lesbian/gay (n=381, 3.1%) Bisexual (n=1106, 9%) Unsure (n=536, 4.3%)	N.R.	N.R.	Support groups, school curriculum	*****

Davies, Simone-Balter and van Rhijn (2023)[117]	Canada	Qualitative study (findings from the qualitative study are reported, but the wider study is described as mixed-methods).	Staff (64)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R	School curriculum	*** limited information on the original dataset and data collection instruments
Davis, Hequembourg and Paplham (2023)[118]	USA	Qualitative	Staff (6)	54.7 years	Female (6)	N.R.	Caucasian (6)	N.R.	N.R.	N.R.	Staff training	*****
Day, Perez-	USA	Quantitative	Students	N.R.	CSS	CSS transgender	CSS Transgender	CSS Transgender	N.R.	N.R.		*****

Brumer and Russell (2018)[38]		study– survey	represe ntative subsam ple (CSS) - 31,896 Full sample (CHKS) - 804,595		Transg ender and male sex (58.29 %) Cis and male sex (48.64 %) CHKS Transg ender and male sex (61.86 %) Cis and male sex (49.16 %)	(1%) CHKS transgender (1.15%)	American Indian/Alaska native (4.94%) Asian (9.93%) Black/African American (13.88%) Native Hawaiian/Pacif ic Islander (1.71%) White (28.83%) Multiple races (30.82%) No race reported (9.89%) Hispanic (54.60%) Cis American Indian/Alaskan native (3.15%) Asian (11.78%) Black/African	Heterosexual (39.81%) LGB (48.43%) Unsure (31.81%) Cis Heterosexual (80.36%) LGB (4.70%) Unsure (5.98%) CHKS Transgender Heterosexual (42.43%) LGB (49.82%) Unsure (36.48%) Cis Heterosexual (75.88%) LGB (4.59%) Unsure (6.02%)				

| | | | | | | | American (7.92%) Native Hawaiian/Pacific Islander (1.89%) White (28.65%) Multiple races (32.17%) No race reported (4.43%) Hispanic (56.30%) CHKS Transgender American Indian/Alaskan native (5.48%) Asian (11.21%) Black/African American (9.53%) Native Hawaiian/Pacif | | | | | |

						ic Islander (3.10%) White (26.22%) Multiple races (34.32%) No race reported (10.14%) Hispanic (48.79%) Cis American Indian/Alaskan native (3.85%) Asian (11.96%) Black/African American (4.60%) Native Hawaiian/Pacif ic Islander (2.06%) White (26.29%) Multiple races (35.89%)	

							No race reported (15.35%) Hispanic (51.85%)					
Day, Loverno and Russell (2019)[33]	USA	Quantitative – survey	Students (113,148)	14.5 years	Male (49.9%) Female (50.1%)	Transgender (1.21%)	American Indian/Alaska native (3.48%) Asian (13.16%) Black/African American (4.48%) Native Hawaiian/Pacific Islander (1.97%) White (28.59%) Multiple (2+) races (34.02%) No race reported (14.31%) Hispanic (47.63%)	Heterosexual (75.80%) LGB (4.95%)	Free and reduced priced meals (0.42%)	N.R.	Attendance attainment	**** did not include non-response bias.

De Pedro and Gorse (2023)[60]	USA	Quantitative – survey	Students (4478)	N.R.	Male (57.8%) Female (42.2%)	N.R.	Asian/PI (7.9%) American Indian (1.6%) Black (2.5%) White (27.3%) Mixed race (10.3%) Latino (52%)	N.R.	N.R.	N.R.		**** did not include non-response bias.
De Pedro, Lynch and Esqueda (2018)[105]	USA	Quantitative – survey	Students (611)	N.R.	Female (50%) Male (50%)	Female (48.6%) Male (47.1%) Transgender (1.8%) Questioning (2.5%)	American Indian/Alaska native (2.6%) Asian/Pacific Islander (1.9%) Black or African American (3.8%) Native Hawaiian/Pacific Islander (0.5%) White (62%) Mixed (2+) races (29.1%) Latino (any race) (29.2%)	Heterosexual (75.3%) Lesbian, Gay, Bisexual or Questioning (8.9%) Other (1.6%) Declined to respond (14.2%)	N.R.	N.R.	Anti-bullying, support groups, teacher intervention	**** did not include non-response bias.

deJong (2023)[119]	USA	Quantitative survey	Staff (20)	N.R.	N.R.	The number of transgender students in each school varying between 2-8.	N.R.	N.R.	N.R.	N.R.	Facilities	*****
Devis-Devis et al., (2018)[84]	Spain	Qualitative – interview	Students (9)	N.R.	Trans women (n=5) Trans man (n=4)	N.R.	N.R.	N.R.	N.R.	N.R.	Sport participation	*****
Drury et al., (2023)[120]	UK	Qualitative study– interviews	Staff (7)	Range – 20s-60s	Man (n=1) Woman (n=6)	N.R.	N.R.	N.R.	N.R.	N.R.	Sport participation	*****
Durbeej et al., (2021)[57]	Sweden	Quantitative – survey	Students (8385)	N.R.	N.R.	Nonbinary gender identity -137 (1.6%) Binary gender identity - 8248 (98.4%)	Birth country Nonbinary gender: Sweden (72.3%) Countries other than Sweden (24.1%)	N.R.	Cannot afford activities on leisure time Nonbinary gender: Yes (22.6%)	Aspergers syndrome or autism Nonbinary gender:		*****

							Not reported (3.6%) Binary gender: Sweden (87.8%) Countries other than Sweden (10.8%) Not reported (1.4%)		No (73.7%) Not reported (3.6%) Binary gender: Yes (12.7%) No (86%) Not reported (1.3%) concern for family economy Nonbinary gender: Not at all/not particularly concerne	Mild or severe form (12.4%) No (54%) Not reporte d (33.6%) Binary gender: Mild or severe form (1.4%) No (71.5%) Not reporte d (27.1%)		

										d (55.5%)			
										Fairly/very concerned (12.4%) Not reported (32.1%) Binary gender: Not at all/not particularly concerned (68.2%) Fairly/very concerned (8.4%) Not reported (23.4%)			

Durwood *et al.,* (2021)[63]	USA	Quantitative study– survey	Students (265)	Range – 3-15 years	N.R.	Transgender girls (67.2%) Transgender boys (32.8%)	Asian (3.4%) Black (1.5%) Multiracial (15.8%) White, Hispanic (6.8%) White, non-Hispanic (70.9%) Other (1.5%)	N.R.	Annual household income <$25k (2.6%) $25,001-$50k (7.5%) $50,001-$75k (18.1%) $75,001-$125k (29.4%) >$125,000 (42.3%)	N.R.	Anti-bullying	**** did not include non-response bias
Earnshaw *et al.,* (2020)[51]	USA	Qualitative study-focus groups	Students (28) Staff (19)	LGBTQ students: 17.4 years (SD=2.5) School health professionals:	N.R.	LGBTQ students: Cisgender female (29.6%) Cisgender male (3.7%) Transgender female (3.7%) Transgender male (33.3%)	LGBTQ students: African American/black (11.1%) American Indian/Alaskan native (7.4%) Asian (14.8%) Native Hawaiian/other pacific	LGBTQ students: straight (1) Bisexual (9) Mostly Gay/lesbian (4)Gay/lesbian (2) Queer (6) Pansexual (4) Asexual (1)	N.R.	N.R.		*****

				48.9 years (SD=10.8)		Gender non-conforming (14.8%) Other (14.8%) School health professionals: Cisgender females (94.7%) Cisgender male (0%) Transgender female (5.3%) Transgender male (0%) Gender nonconforming (0%) Other (0%)	islander (3.7%) White (70.4%) Hispanic or Latino(a) (14.8%) School health professionals: African American/black (5.3%) American Indian/Alaskan Native (0%) Asian (0%) Native Hawaiian/other pacific islander (0%) White (94.7%) Hispanic or Latino(a) (0%)	School health professionals: Straight (18) Bisexual (1)				
Eisenberg et al., (2017)[42]	USA	Quantitative – surveillance data	Students (81,885)	N.R.	Transgender no-conforming	N.R.	*NH = non-hispanic American Indian/Alaskan native, NH	N.R.	transgender or GNC: free/redu	N.R.		**** did not include non-

						(TGNC) (2.7%) of those: Male (1.7%) Female (3.6%)		(5.2%) Asian, NH (3.7%) Black, African, or African American, NH (3%) Native Hawaiian or other pacific islander, NH (8.6%) White, NH (2.2%) Multiple (4.5%) Hispanic or Latino/a (3.6%)		ced lunch (3.8%) not free/reduced lunch (2.3%)		response bias
Eisenberg et al., (2019)[49]	USA	Quantitative study – survey	Students (79,989)	N.R.	N.R.	Transgender – 2.6% (n=2101)	N.R.	N.R.	N.R.	N.R.		*****
Ellis and Bentham (2021)[91]	New Zealand	Quantitative	Students (73)	N.R.	N.R.	Nonbinary (30.1%)	Pakeha/New Zealand	Diversity in sexual	N.R.	N.R.	Sexuality education	**** did not

		study – survey					European (78.1%)	attraction (46.6%) Unsure on sexual attraction (11%)				include non-response bias.
Farago (2023)[121]	USA	Qualitative study–case study	Staff (2) Students (in observation) (37)	N.R.	N.R.	Students: Boys (19) Girls (18)	Classroom 1: Indian (2) Korean/White (1) Latino (1) White (9) Classroom 2: Black (5) Latino (2) White (16) Middle Eastern/Moroccan (1)	N.R.	Most children in both classrooms were from middle or upper-income families	N.R.	School curriculum	*****
Farley and Leonardi (2021)[122]	USA	Quantitative study–survey	Students (represented by parents) (69)	N.R.	N.R.	Nonbinary (26%) Transgender female (38%) Transgender male (33%)	White (79.7%) Students of colour (20.2%)	N.R.	Respondents more likely to live in suburban areas and to attend districts	N.R.	Names and pronoun, facilities, dress code	**** did not include non-response bias.

								with slightly higher enrolment and slightly lower proportions of students receiving free or reduced price lunches			
Fayles (2018)[55]	USA	Quantitative study–survey	Students (281)	N.R.	N.R.	Gender other than their assigned gender (281)	N.R.	N.R.	N.R.	N.R.		N/A
Feldman, Watson and Gallik (2022)[89]	USA	Quantitative study–survey	Students (11,327)	N.R.	N.R.	Cis male (23.8%) Cis female (43.2%) Trans male (8.2%) Trans female (1.1%)	White (61.9%) Black (5.8%) Native American (0.6%) Asian (4.1%) Hispanic/Latino (11.4%)	Gay or lesbian (37.4%) Bisexual (34.9%) Straight (1.6%) Queer (4.1%) Pansexual (13.2%) Asexual (4.2%)	N.R.	N.R.		**** Did not include non-response bias

						AFAB nonbinary (20.9%) AMAB nonbinary (2.8%)	Biracial or multiracial (14.3%) Other (2.1%)	Questioning (2.5%) Other (2.1%)				
Fenaughty et al., (2019)[87]	New Zeal and	Quantit ative study– survey	Student s (8500)	N.R.	N.R.	Transgender (96) Unsure if transgender (202) Heterosexual cisgender (7064)	N.R.	Same sex (60) Both sex attracted (243) Not sure of attraction (182) Heterosexual cisgender (7064)	N.R.	N.R.		*****
Fish, Kapostas y and Russell (2023)[68]	USA	Pilot progra m evaluat ion	Student s (34)	N.R.	N.R.	MaleBoy (24.14%) female/girl (58.62%) questioning (6.90%) Nonbinary (6.90%) Other (3.45%) Transgender: No (61.76%) Yes (14.71%)	Black/African American (6.25%) Asian American/Paci fic Islander (9.38%) Hispanic/Latin x (50%) White (21.88%) Multiracial/mu	Gay/Lesbian (21.43%) Straight (39.29%) Bisexual/Pansex ual/Queer (10.71%) Questioning (28.57%)	N.R.	N.R.		*****

						I don't know (23.53%)	ltiethnic (12.50%)					
Fish, Bishop and Russell (2023)[34]	USA	Quantitative study – survey	Students (728,204)	11 or younger (0.96%) 12 (17.81%) 13 (11.99%) 14 (19.66%) 15 (14.54%) 16 (19.52%) 17 (12.83%) 18 or older	Male (48.61%) Female (51.39%)	Cis (98.97%) Transgender (1.03%)	American Indian/Alaska native (3.48%) Asian (12.19%) Black/African American (4.50%) Native Hawaiian/pacific islander (2.06%) White (27.56%) Two or more races (36.40%) Unreported (48.84%)	Non-LGB (94.57%) LGB (5.43%)	N.R.	N.R.		**** did not include non-response bias

				(2.68%)								
Formby (2015)[75]	UK	Qualitative – interviews	**Study 1** Total - 74 Young people (65) Staff members (teachers/youth workers) (9) **Study 2** young people – (44) staff working with young people – (79) parents	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.		*****

			of trans young people – (6)									
Formby and Donovan (2020)[98]	UK	Qualitative	Students (118) and Staff (6)	N.R.	N.R.	Pre-selfies survey: Male (8) Female 6) Trans (3) Genderqueer (1) None of these (1) Pride survey: Male - 28 (31%) Female - 53 (59%) Trans - 5 (5%) Genderless - 3 (3%) Did not know - 2 (2%) Post-selfies	N.R.	Pre-selfie survey: Gay (5) Lesbian (5) Bisexual (4) Heterosexual (2) pansexual (2) none of these (1) Pride survey: Heterosexual - 32 (36%) Lesbian - 20 (22%) Bisexual - 15 (16%) Gay - 11 (12%) An alternative way - 9 (10%) Asexual - 2 (2%)	N.R.	N.R.		****

						survey: male (6)		Did not know - 2 (2%) Post-selfies survey: Gay (4) Bisexual (2)				
Francis *et al.,* (2022)[77]	Australia	Qualitative study–semi-structured interviews	Staff (34)	N.R.	Male (15) Female (19)	N.R.	N.R.	N.R.	N.R.	N.R.	Access to toilets	*****
Frohard-Dourlent (2018)[12]	Canada	Qualitative study – interview	Staff (60)	50s (61%)	Female (71%)	Female (71%)	White (87%)	Straight (84%)	N.R.	N.R.		*****
Garthe *et al.,* (2023)[35]	USA	Quantitative study – survey	Students (199,743)	N.R.	N.R.	Male (95,575) Female (100,117) Transgender (1,204)	White (57%) Multi-racial (18%) Latino/Latina (11%)	N.R.	Approximately 41% of the students self-reported that they	N.R.	Anti-bullying	**** did not include non-respo

						Gender expansive (2,478)	Black or African American (6%) Asian American (4%) Another racial identity (3%)		received free or reduced-price school lunch			nse bias
Palmer, et al., (2016)[88]22/01/2025 09:25:00	USA	Report	Students, (n=7,898)	16 years	NR	Cisgender female (43.6%) Cisgender male (32%) Transgender female (1.5%) Transgender male (5.95%) Another transgender identity (2.1%) Genderqueer (10.6%) Another gender (e.g. genderfluid) (4.3%)	White/European American (68.1%) Hispanic or Latino (14.7%) African American or Black (3.3%) Asian, South Asian, or Pacific Islander (2.7%) Middle Eastern or Arab American (1.4%) Native American, American	Gay or Lesbian (58.8%) Bisexual or Pansexual (31.6%) Queer (4.8%) Another sexual orientation (e.g. omnisexual) (2.2%) Questioning or unsure (2.6%)	N.R.	N.R.		N/A

							Indian or Alaska Native (0.7%) Another race or ethnicity (0.2%) Multiracial (8.9%)					
GLSEN (2021a) [106]	USA	Quantit ative study	Student s (n=22,2 98)	15.4 years	Male (12.8%) Femal e (87.2%) Interse x (regar dless of assign ed sex) (0.8%)	Cisgender: Female (26.9%) Male (6.9%) Transgender: Female (1.4%) Male (10.4%) Nonbinary/ge nderqueer (11%) Only as transgender (4.1%)	White (67.2%) Hispanic or Latinx, any race (16.2%) African American or Black (3.3%) Asian American, Pacific Islander and Native Hawaiian (3.5%) Arab American, Middle Eastern, or North African (1%) Native	Gay or Lesbian (28.8%) Bisexual (30.1%) Pansexual (18.3%) Queer (11%) Asexual (6.1%) Another sexual orientation (2.9%) Questioning or unsure (2.8%)	N.R.	N.R.		N/A

							American, American Indian or Alaska native (0.5%) Multiracial (8.1%) Other race or ethnicity (0.1%)					
GLSEN (2021b)[106]	USA	Quantitative	Student, (n=16,713)	15.5 years	Male (13.1%) Female (86.9%) Intersex (regardless of assigned	Cisgender: Female (41.6%) Male (9.6%) Nonbinary/genderqueer (0.2%) Transgender: Female (1.1%) Male (16.9%) Nonbinary/Genderqueer (5.7%)	White (69.2%) Hispanic or Lantix any race (14.6%) African American or Black (2.6%) Asian American, Pacific Islander and Native Hawaiian (3.1%) Arab American, Middle Eastern, or	Gay or Lesbian (40.4%) Bisexual (32.9%) Pansexual (18%) Queer (3.9%) Asexual (1.7%) Another sexual orientation (e.g. fluid, heterosexual) (1.2%) Questioning or unsure (1.9%)	N.R.	N.R.		N/A

					sex) (0.6%)	Unspecified (4.5%)	North African (1.3%) Native American, American Indian or Alaska native (0.5%) Multiracial (8.6%)					
Gordon et al., (2021)[59]	USA	Quantitative study– survey	Students (5488)	16 years	Girls (53.4%)	Highly gender nonconforming (33.2%) Moderately gender nonconforming (59.1%) Gender nonconforming (7.7%)	Hispanic/Latino (55.8%) Black/African American (17.4%) White (13.5%) Asian/pacific islander/native/Hawaiian (10.2%)	N.R.	N.R.	N.R		**** did not include non-response bias
Gordon et al., (2018)[123]	USA	Quantitative study – survey	Students (5469)	N.R.	Girls (2921) Boys (2548)	Gender nonconforming male (6%) Gender nonconforming female (1%)	Hispanic/Latino (51%) Black/African American (21%) White (14%)	Greater gender non-conformity: Gay/lesbian (13%) Unsure (9%) Heterosexual (3%)	N.R.	N.R.		**** did not include non-respo

							Most gender conforming: Heterosexual (35%) Gay/lesbian (16%) Bisexual (13%) Unsure (18%)				nse bias
Graham (2014)[83]	USA	Qualitative study- interviews	Students (10)	N.R.	N.R.	Trans women (10)	Black (10)	N.R.	N.R.	N.R.		**** limited information on the study sample
Greenspan et al., (2023)[102]	USA	Quantitative study– survey	Students (31)	N.R.	N.R.	Cisgender = 7 (26.9%) Nonbinary =13 (50.0%) Transgender =7 (26.9%) Questioning= 2 (7.7%) Agender=2 (7.7%)	White (23) Black (1) Multiracial (2)	Gay = 5 (16.10%) Lesbian = 3 (9.70%) Bisexual =2 (6.50%) Pansexual = 6 (19.40%) Queer = 9 (29.00%) Asexual = 6	Public school (n=18) private school (n = 5) home school (n = 1)	Autism or autism spectrum (n=22) Remaining were questio		**** did not include non-response bias

								(19.40%) Aromantic = 5 (16.10%) Straight/heterosexual = 1 (3.20%) Questioning = 3 (9.70%) I don't know = 2 (6.50%) Other = 3 (9.70%)	charter school (n = 1) other (n = 2).	ning their neurodiversity. Most (n = 18) did not have an Individual Educational Plan (IEP), though 2 were unsure. Half (n = 14) did not have a 504 plan, though an additional 4	

									were not sure.			
Greenspan et al., (2019)[76]	USA	Mixed methods study	Students, n=58 survey, n=13 focus groups	N.R.	N.R.	Cisgender female (60.3%) Cisgender male (15.3%) Other (10.3%) Trans female (3.4%)Trans male (5.2%) Genderqueer (3.4%)	White (72.4%) Hispanic (8.6%) Asian islander (6.9%) Other (6.9%) Native American (1.7%)	Lesbian (5.2%) Gay (1.7%) Bisexual (13.8%) Pansexual (10.3%) Questioning (5.2%) Queer (5.2%) Straight (24.1%) Other (32.7%)	N.R.	N.R.		**** did not include non-response bias
Guz et al., (2021)[45]	USA	Quantitative – survey	Students (45,918)	15.6 years	Female (50.5%) Male (49.5%)	Do not know (1.5%) Not transgender (97.3%) Transgender (1.2%)	American Indian/Alaska native (1.3%) Asian (2.9%) Black/African American (2.3%) Latino/Hispanic (27.6%) Native Hawaiian/Pacif	Bisexual (7.6%) Gay or Lesbian (2.3%) Heterosexual (86%) Not sure (4.1%)	N.R.	N.R.		**** did not include non-response bias

						ic islander (0.4%) Two or more races (13.4%) White/Caucasian (52.1%)						
Hanson *et al.,* (2019)[36]	USA	Quantitative study–survey	Students (~800,000)	N.R.	N.R.	Middle school: Not transgender (96.7%) Transgender (0.9%) Not sure (2.5%) High school: Not transgender (97.3%) Transgender (1.2%) Not sure (1.5%) Total: Not	N.R.	Straight (86.1%) Gay or lesbian (1.7%) Bisexual (5.5%) Not sure (4.9%) Something else (1.8%)	N.R.	N.R.		N/A

						transgender (97.1%) Transgender (1.1%) Not sure (1.9%)						
Harris, Wilson-Daily and Fuller (2022)[86]	UK	Qualitative study–interviews	Students (38) and staff (9)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	Access to facilities, curriculum	*****
Hatchel et al., (2019)[58]	USA	Quantitative – survey	Students (4778)	M = 14.71 range = 10-18 years	Female (40.5%) Male (55.3%) Missing data (4.2%)	transgender youth of colour (YOC) (73.8%) transgender youth not of colour (YNOC) (24.7%)	American Indian or Alaska native (4.6%) Asian (10.3%) Black or African American (7.3%) Native Hawaiian or Pacific Islander (2.6%) Mixed (36.1%) White	N.R.	N.R.	N.R.		**** did not include non-response bias

							(29.9%) Missing data (9.1%) Hispanic origin: Yes (44.9%) No (51.9%) Missing data (3.2%)					
Hillier et al., (2020)[78]	USA	Qualitative study–interviews	Students (21)	N.R.	N.R.	'identified as something other than cisgender'	Asian (2) White (5) Black/African American (12) Mixed race (2)	N.R.	N.R.	N.R.		*****
Horton (2023)[79]	UK	Qualitative study–interviews	Parents (30) Students (10)	Parental interview: 11 years Children interview:	Parents: Women (93%)	Trans girl (15) Trans boy (12) Nonbinary (3)	Parents: White (90%)	Parents: Heterosexual (60%) Pansexual (23%) Bisexual (10%) Gay or lesbian (7%)	N.R.	N.R.		*****

				12 years								
Horton (2023)[56]	UK	Qualitative study– interviews	Parents (30) Students (10)	Parental interview: 11 years Children interview: 12 years	Parents: Women (93%)	Trans girl (15) Trans boy (12) Nonbinary (3)	Parents: White (90%)	Parents: Heterosexual (60%) Pansexual (23%) Bisexual (10%) Gay or lesbian (7%)	N.R.	N.R.	School curriculum	*****
Horton (2023)[70]	UK	Qualitative study– interviews	Parents (30) Students (10)	Parental interview: 11 years Children interview: 12 years	Parents: Women (93%)	Trans girl (15) Trans boy (12) Nonbinary (3)	Parents: White (90%)	Parents: Heterosexual (60%) Pansexual (23%) Bisexual (10%) Gay or lesbian (7%)	N.R.	N.R.	School curriculum	*****

Horton and Carlile (2022)[16]	UK	Qualitative study– interviews	Students Group 1 – 12 Group 2 – 30	Group 1 – 15 years Group 2 – parental interview: 11 years Child interview: 12 years	Parents: Women (90%)	Trans girl (15) Trans boy (12) Nonbinary (3)	Parents: White (90%)	Parents: Heterosexual (60%) Pansexual (23%) Bisexual (10%) Gay or lesbian (7%)	N.R.	N.R.	Sport participation, access to facilities	*****
Ioerger et al., (2015)[72]	USA	Quantitative study– survey	Students (2438)	N.R.	Male (1154) Female (1109)	N.R.	Black (37%) Hispanic (35%) White, non-Hispanic (24%)	Same sex (68) Both sexes (107)	Approx. half were eligible for free/reduced lunch	N.R.		**** did not include non-response bias
Jennett et al., (2022)[82]	UK	Qualitative – interviews	Students (136)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.		N/A

| Johns et al., (2019)[48] | USA | Quantit ative – survey | Student s (131,90 1) | N.R. | N.R. | Not transgender: Selected states (90,415) Large urban school districts (28,388) State and school district data (118,803) Transgender: Selected states (2,359) Large urban school districts (486) State and school district data (2,845) Not sure if transgender: Selected states (2,020) | N.R. | N.R. | N.R. | N.R. | | N/A |

						Large urban school districts (499) State and school district data (2,519) Don't know what the question is asking: Selected states (1,998) Large urban school districts (908) State and school district data (2,906)						
Johnson & Mughal (2024)[92]	UK	Qualitative study-interviews	Students (6)	N.R.	N.R.	Transgender male (2) Transgender female (1) Nonbinary (3)	N.R.	N.R.	N.R.	N.R.		*****

| Jones et al., (2016)[61] | Australia | Mixed methods study- survey and interviews | Students (189) | 19 years | Female (72.5%) Male (26.5%) Not assigned a sex (1%) | Genderqueer (16%) Genderfluid (10%) Agender (7%) Trans* (5%) Androgynous (4%) Questioning (4%) Bigender (2%) Other (2%) Boy/man (13%) Girl/woman (13%) Trans man (6%) Trans woman (6%) FtM (6%) MtF (5%) Brother boy (1%) | Australia (84%) England (5%) New Zealand (3%) Bolivia, Iraq, Japan and other (8%) Aboriginal or Torres Strait Islander (<5%) | Pansexual or queer (50%) Gay/lesbian/ho mosexual (17%) Bisexual (10%) Heterosexual (5%) Questioning (5%) Other (5%) Asexual (3%) | N.R. | N.R. | | **** did not include non- response bias |
| Kelley et al., (2022)[62] | Canada | Qualitative study- | Students (12) | N.R. | N.R. | N.R. | White (9) Mixed heritage (1) | N.R. | N.R. | N.R. | | ***** |

		interviews										
Klemmer et al., (2021)[90]	USA	Quantitative study–survey	Students (1496)	16 years	N.R.	Cis boys (717) Cis girls (753) Trans (26)	Hispanic/Latino (59%)	Other than heterosexual (10%) LGBQ (39.2%) Questioning (40%)	N.R.	N.R.		*****
Kosciw et al., (2022)[39]	USA	Quantitative study–survey	Students (22,298)	15.4 years	Male (12.8%) Female (87.2%) Intersex (0.8%)	Cisgender female (26.9%) Cisgender male (6.9%) Transgender female (1.4%) Transgender male (10.4%) Transgender nonbinary/genderqueer (11%) Only transgender (4.1%) Nonbinary or genderqueer only (19.3%)	White (67.2%) Hispanic or Latinx (16.2%) African American or black (3.3%) Pacific islander and native Hawaiian (3.5%) Arab American, Middle Eastern or North African (1%) Native American, American Indian or	Gay or lesbian (28.8%) Bisexual (30.1%) Pansexual (18.3%) Queer (11%) Asexual (6.1%)Another sexual orientation (2.9%) Questioning or unsure (2.8%)	N.R.	N.R.	Anti-bullying, support groups, curriculum	N/A

Study	Country	Design	Sample			Gender	Race/Ethnicity	Sexual orientation			Focus	Rating
						Nonbinary or genderqueer female (5%) Nonbinary or genderqueer male (0.9%) Other nonbinary gender identity (6.3%) Questioning (7.9%)	Alaska native (0.5%) Multiracial (8.1%) Other race or ethnicity (0.1%)					
Kull *et al.,* (2016)[103]	USA	Quantitative study – survey and documentary analysis of policies	Students (7040)	N.R.	N.R.	Female cisgender 3,440 (49.0%) Male cisgender 2,494 (35.4%) Transgender 590 (8.4%) Other gender identity (e.g. Genderqueer) 490 (7.0%)	White or European American 4,765 (68.1%) Hispanic or Latino, any race 527 (7.5%) African American or Black 258 (3.7%) Asian or Pacific Islander 160 (2.3 %)	Gay or lesbian 4,330 (61.9%) Bisexual 1,889 (27.0%) Queer 183 (2.6%) Other sexual orientation (e.g., pansexual) 331 (4.7%) Questioning or unsure 257 (3.7%)	N.R.	N.R.	Anti-bullying	*****

						Middle Eastern or Arab American, 13 (0.2%) Native American, American Indian, or Alaska Native 37 (0.5%) Multiracial 1,220 (17.4%) Other 14 (0.2%)						
Kurt and Chenault (2017)[124]	USA	Qualitative study– interviews	Staff (4)	N.R.	All male	N.R.	All white	N.R.	N.R.	N.R.	Anti-bullying	*****
Laiti et al., (2021)[95]	Finland	Qualitative study	Students (35)	N.R.	N.R.	GI's not described in binary terms. Other (15) Nonbinary (12)	N.R.	Those who chose LGB described their gender. pansexual and pan romantic demisexual (8)	N.R.	N.R.		*****

LaRocca et al., (2023)[73]	USA	Quantitative study	Students (46,537)	N.R.	N.R.	Transgender (510)	N.R.	LGBQ (6,511)	N.R.	N.R.		*****
Linville (2018)[54]	USA	Qualitative study	Students (30)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R		*****
Mackenzie and Talbott (2018)[80]	USA	Qualitative study	Students (14)	N.R.	N.R.	Transgender child (1) Gender expansive (1) Cisgender in LGBTQ families (6) Cisgender in hetero families (6)	Latino (2) Asian/pacific islander (3) White (9)	N.R.	This was a relatively upper-middle class group of students in a school district where 42% of students receive free or reduced lunches	N.R.		*****
Mangin (2022)[125]	USA	Qualitative study-interviews	Staff (75)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	Curriculum	*****

McBride and Neary (2021)[81]	Ireland	Qualitative – interviews	Transgender youth: 19 total, 6 took part in both interviews and workshops, 6 took part in workshops only, and 7 took part in interviews only. Parents: 10 educators with experience of working	N.R.	N.R.	Male (10) Female (2) Nonbinary (AFAB) (1)	All 13 youth in interviews were White and Irish, except for one who was an EU national.	N.R.	N.R.	N.R.		*****

			with trans youth: 11 Educational stakeholders: 13									
McGlashan and Fitzpatrick (2018)[126]	New Zealand	Qualitative study– interviews	Students (6)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	Names and pronouns	*****
Miller, Mayo and Lugg (2018)[99]	USA	Qualitative – interviews	Students (40)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.		** not enough information on data collection and analysis

												methods
Mitchell, Kotecha, Kaxira and Davies (2016)[127]	UK	Mixed methods	Students and staff	N.R	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.		N/A
Neary (2023)[96]	Ireland	Qualitative – interviews	Students (11)	N.R.	N.R.	Parents: Male (1) Female (11) Children: Male (6) Female (2) Feels female (1) (mostly he/him, sometimes she/her) Identifies as male, presents as female (1) (he/him) Identifies as tomboy (1) (sometimes he/him,	N.R.	N.R.	N.R.	N.R.		*****

						sometimes she/her)					
Paechter, Toft and Carlile (2021)[93]	UK	Qualitative – interviews	Students (7)	N.R.	N.R.	All (7) Identified as nonbinary in "some way"	N.R.	N.R.	N.R.	N.R.	*****
Palkki and Caldwell (2018)[101]	USA	Quantitative study–survey	Students (1,123)	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	*****
Peter, Taylor and Campbell (2016)[47]	Canada	Mixed methods	Students 'more than' 3,700	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	*****
Pollitt et al., (2021)[74]	USA	Quantitative – longitudinal	Students (129)	Total age range - 15-21 with chosen name: m = 19.05	N.R.	With chosen name: Trans Woman (37.8%) Trans man (37.8%) Different gender-assigned sex	With chosen name: Asian/Pacific Islander (8.2%) Black (32.4%) White (24.3%) Multiracial (28.4%)	with chosen name: Gay/Lesbian (23%) Bisexual (29.7%) Questioning (12.2%) Heterosexual (23%)	N.R.	N.R.	**** did not include non-response bias

				(SD = 1.66) without chosen name: m = 18.22 (SD = 1.75)		male (6.8%) Different gender-assigned sex female (17.6%) Without chosen name: Trans woman (29.1%) Trans man (21.8%) Different gender-assigned sex male (16.4%) Different gender-assigned sex female (32.7%)	No race reported (6.8%) Without chosen name: Asian/Pacific Islander (12.8%) Black (14.5%) White (30.9%) multiracial (23.6%) No race reported (18.2%)	Different sexual identity (12.2%) Without chosen name: Gay/Lesbian (43.6%) Bisexual (27.3%) Questioning (9.1%) Heterosexual (12.7%) Different sexual identity (7.3%)				
Ross-Reed et al., (2019)[46]	USA	Quantitative study– survey	Students (18,451)	N.R.	Cisgender: Male (49.06 %)	N.R.	Cisgender: American Indian/Alaska Native (12.63%)	N.R.	Cisgender: Unstable housing	Cisgender: Yes physical disabilit		**** did not include non-

					Female (50.94%) Gender minority (not clear if this data is at birth or as trans): Male (47.58%) Female (52.42%)		Asian/Pacific Islander (3.07%) Black/African American (3.87%) Hispanic (50.65%) White (29.77%) Gender minority: American Indian/Alaska Native (12.82%) Asian/Pacific Islander (4.61%) Black/African American (5.32%) Hispanic (49.45%) White (27.79%)		no (96.31%) Unstable housing yes (3.69%) Gender minority: Unstable housing no (59.28%) Unstable housing yes (40.73%)	y (98.27%) No physical disability (10.73%) Gender minority: Yes physical disability (80.69%) No physical disability (19.31%)		response bias

Sares-Jaske *et al.,* (2023)[43]	Finl and	Quantit ative study– survey	Student s (152,88 0)	N.R.	N.R.	Cisgender girls (76,521) Cisgender boys (69,735) Transfeminine youth (1317) Transmasculin e youth (5307)	N.R.	N.R.	N.R.	N.R.	*****
Ullman (2019)[67]	Aust ralia	Quantit ative study– survey	Student s (51)	16 years	N.R.	Transgender female-to-male (16) transgender male-to-female (7) genderqueer (6) agender (4) Gender neutral (3) Genderfluid (2)	Aboriginal or Torres Strait Islander (2) Australia (41)	Both sexes (61%) Pansexual (41%)	N.R.	N.R.	*****
Ullman (2022)[40]	Aust ralia	Quantit ative study– survey	Student s (685)	N.R.	Femal e (84%)	Trans/gender diverse (28.8%)	Reflective of Australia's cultural diversity.	N.R.	N.R.	N.R.	**** did not includ

												e non-response bias
White, Moore and Cannings-John (2023)[4]	UK	Quantitative study–survey	Students (6,672)	Cisgender: Average age = 13.69 SD = 0.32 Gender minority: Average age = 13.72 SD = 0.31	N.R.	N.R.	Cisgender: White British (83.4%) White not British (3.7%) Asian or Asian British (5.5%) Black or Black British (1.4%) Mixed/multiple ethnic backgrounds (4.4%) other (1.6%) Gender minority: White British (76.8%) White not British (6%) Asian or Asian British (4.7%)	N.R.	Cisgender: Entitled to free school meals (11.7%) Parent(s) unemployed (5.9%) Gender minority: Entitled to free school meals (20.4%) Parent(s) unemployed (10.8%)	N.R.		*****

							Black or Black British (3.6%) Mixed/multiple ethnic backgrounds (4%) Other (4.9%)					
Witcomb et al., (2019)[64]	UK	Quantitative study–survey	Students (274)	19.38 years	Females (65.3%) Males (34.7%)	Men (59.9%) Women (28.1%) Both (2.9%) Neither (2.2%) Other (2.9%) Did not know (1.5%) No response (2.6%)	White (96%)	N.R.	N.R.	N.R.		**** did not include non-response bias
Zongrone, Truong and Clark (2022)[52]	USA	Quantitative study–survey	Students (6,795)	15.6 years	N.R.	Transgender (68.7%) Nonbinary, but not transgender (31.3%)	White (71.3%) (White = 4,847; Latinx = 895; AAPI = 157; Black = 136; Middle Eastern and	Gay or lesbian (33.7%) Bisexual (27.5%) Pansexual (25%)	N.R.	N.R.		**** did not include non-response bias

							North African = 74; Native American = 43; and multiracial = 643)					

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