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A rapid realist review of universal interventions to promote inclusivity and acceptance of diverse sexual and gender identities in schools

In the format provided by the authors and unedited



Supplementary Information 2

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^aYoung Person's Advisory Group ^bStakeholders Advisory Group ^cContext-Mechanism-Outcome configurations

| Insights from the YPAG |
|--|
| The text presented here represents notes made during meetings and interactions with our YPAG, and is not written in a formal style to avoid changing the meaning. |
| Gay-Straight Alliances or similar student clubs (e.g. pride clubs) |
| Clubs are only viewed as helpful when the wider school environment is positive about them. If not, sexual and gender minorities are likely to be made fun of or bullied for attending the clubs. |
| Before applying interventions into schools there could be work done to assess the school (for example: how supported LGBTQ+ students feel) to then determine what interventions are administered. |
| As part of pride club some of the teachers attended pride clubs and had rainbow lanyards and that was helpful as it made it clear who we could talk to about stuff. It would be good if there was a common room for sexual and gender minority students to use to recuperate or go to have a space to speak to other people. Sometimes in schools, you know which staff members you can talk to but it's not always possible to find them. It's important to know that there's a place that you can get support. A lot of the issues with things that are implemented is that there isn't much follow-through and the clubs aren't taken as seriously as other clubs. One YP said a lot of people in their school might not be out or are still coming to terms with their sexuality so, for example, they wouldn't go to a GSA and this should be considered. |
| Punishment (e.g. detentions) for bullying should include some form of education or way of ensuring the people are learning from their mistakes. Otherwise, it can make people worse (ie escalate the bullying behaviour) which can make it worse for the victim of the situation. Bullies should talk about their feelings too and we should try to change their view. Chat: My sister is a primary school teacher and when students fight, they go to 'conflict resolution' to talk it through instead of detention. Safeguarding issues should be re-evaluated. Teachers need to respect the privacy of students with their parents and what information to reveal. |
| |

| 44 | | E.g. if parents get a letter home about a bullying incident and it reveals |
|----------|---------|--|
| 45 | | personal information about people's sexual or gender identity, this can put |
| 46 | | students in a difficult or even dangerous situation at home. |
| 47 | • | Being bullied about your sexual or gender identity feels different and more personal |
| 48 | | to being bullied for other reasons so we need inclusive policies. |
| 49 | | |
| 50 | Inclusi | ive curricula |
| 51 52 | • | One YP said when there are debates in a class it can end up with your peers |
| 53 | | debating things that are emotional/difficult for the queer people in the class and not |
| 54 | | treated sensitively by the cis-het students. |
| 55 | • | We should strive towards starting discussion and learning about LGBTQ+ topics from |
| 56 | | a sensitive/positive place to cause less harm. |
| 57 | • | One YP spoke about positive representation in their school: History teacher has a |
| 58 | | board in her classroom of people who have done great things throughout History and |
| 59 | | quite a few of them are LGBTQ+ people and the YP finds this positive. |
| 60 | • | One YP said that what they learnt about lesbians helping during the HIV/AIDS crisis |
| 61 | | was something they learnt themselves (possibly from the TV show Pose), they didn't |
| 62 | | learn it from school and it's relevant History that everyone should know about |
| 63 | • | YP said in their PSHE/PD lessons they learn about racism and discrimination but not |
| 64 | | about negative stereotypes of LGBTQ+ people, but there should be a place for this |
| 65 | • | Teachers need to be well-informed. For example, one YP had a talk about hate crime |
| 66 | | but used incorrect words when talking LGBTQ+ people. This wasn't done to be |
| 67 | | offensive, it was said because the teacher wasn't educated. |
| 68 | • | One YP said that their school has a lot of diverse books including queer authors and |
| 69 | | it makes them feel included. |
| 70 | • | One YP said that the library in their school was a safe space for a lot of students and |
| 71 | | would really like it if their school introduced a sticker system to identify books with |
| 72 | | LGBTQ+ characters and authors. |
| 73 | • | Another YP thought the sticker system for books is a great idea because it can help |
| 74 | | LGBTQ+ young people educate themselves and read positive stories about LGBTQ+ |
| 75 | | people. |
| 76 | • | One YP suggested presenting positive videos to classes and schools such as |
| 77 | | sketches that include gay families to normalise this model of family life. |
| 78 | • | Currently in classes like sex education, even if people ask about queer sex education |
| 79 | | the teachers can be hesitant to cover it, or just say that we don't need to talk about it. |
| 80 | | This can be really difficult for teenagers as they can be quite impressionable |

| 81 | |
|------------|---|
| 82 83 | Workshops including media interventions |
| 84 | • One YP had a positive experience in schools but this was because of the students. |
| 85 86 | The LGBTQ+ students lead assemblies to educate students, and the YP felt it |
| 80 87 | was positive that this is student-led. Student-led interventions could benefit LGBTQ+ youth. |
| 88 | Individual tutor groups would be a better environment to have discussions about |
| 89 | discrimination rather than big gatherings like assemblies |
| 90 | Sometimes schools can have good intentions to do LGBT specific things like events |
| 91 | for Pride month or series of lessons. But if there isn't effort put into it, these ideas can |
| 92 | be dropped and ultimately give false hope for the people who wanted them to |
| 93 | happen. |
| 94 | Schools often have writing competitions. Perhaps a writing competition where people |
| 95 | need to write a story with a queer character. This ties in with the idea of doing things |
| 96 | that engage with the media. And it can be something that all students do. This can |
| 97 | also apply to other minorities to improve inclusivity |
| 98 | Workshops should be tokenistic or a one-off during pride month. The school should |
| 99 | show they really care and are committed long term |
| 100 | |
| 101 | LGBTQ+ ally and staff training |
| 102 103 | Partnership/agreement between students and teachers to deliver training and |
| 104 | education together about gender-related issues and LGBTQ+ topics. |
| 105 | Teachers benefit from sensitivity training e.g. it is really hard for YPs when teachers |
| 106 | use their wrong pronouns but sometimes teachers just do not know that this is |
| 107 | important |
| 108 | |
| 109 | |

| 110 111 | Insig | hts from the SAG |
|------------|--------|---|
| 112 | The te | xt presented here represents notes made during meetings and interactions with our |
| 113 | SAG a | nd is not written in a formal style to avoid changing the meaning. |
| 114 | | |
| 115 | Gay-St | traight Alliances or similar student clubs (e.g. pride clubs) |
| 116 117 | • | GSAs align better with secondaries and colleges but might encounter more |
| 118 | · | resistance in primary and specialist sectors. Especially where cultural and religious |
| 119 | | beliefs conflict with LGBTQ+ lifestyles. |
| 120 | • | A positive benefit of running these clubs is improved relationships between students |
| 120 | • | and students with staff. CYP and staff report increased trust and respect which can |
| 122 | | positively impact CYP wellbeing and consequently their learning/progress. |
| 123 | • | A potential mechanism in how GSAs reduce bullying and discrimination might be by |
| 124 | | promoting normalisation and increasing familiarity. |
| 125 | • | One SAG suggested that if a GSA club is not run well then it might not be a safe |
| 126 | | space for all members and as a result not inclusive within itself. |
| 127 | • | The successful set up of a GSA depends on school climate and tailoring the groups |
| 128 | | to the school's demographics/ethos. |
| 129 | • | The current social justice movement might facilitate the successful set up of GSAs in |
| 130 | | that pupils might feel the topics are given sufficient national attention to be discussed |
| 131 | | without it being too personal to them individually. |
| 132 | • | Integrating topis of equality and diversity across the school activities and a change in |
| 133 | | the school's central value to "Inclusivity" can result in a whole-school approach which |
| 134 | | can be effective. |
| 135 | • | Getting pupils to see the same faces each week so that they have friendly faces |
| 136 | | around school across year groups. This also allows them to come out more easily in |
| 137 | | a safer microcosm to each other and work out their identity before telling teachers, |
| 138 | | families and non-LGBT+ friends. |
| 139 | • | Barriers: parental fear/ignorance; conservatism in families; teacher skills deficit or |
| 140 | | lack of confidence; single-sex boys' schools. |
| 141 | • | Facilitators: strong CYP participation; effective coaching and professional learning; |
| 142 | | communications strategy to parents/community; positive role models; social justice |
| 143 | | movement. |

| 144 | |
|------------|--|
| 145 | Anti-bullying and harassment policies |
| 146 147 | Individual school context applies and needs consideration. Religious schools or |
| 148 | those still governed in a patriarchal manner will need more coaxing and |
| 149 | education/support. |
| 150 | Anti-bullying and harassment policies can't exist in isolation. They need to be backed |
| 151 | up by practice on the ground. It's not just the anti-bullying and harassment policy, it's |
| 152 | also grievances and complaints, use of social media and home-school agreement |
| 153 | territory. |
| 154 | If a school updates its internal records system for recording incidents to have |
| 155 | homophobic, biphobic and transphobic (HBT) categories, then it is likely in the short |
| 156 | term that there is more HBT peer-on-peer abuse recorded as the culture is becoming |
| 157 | more open. |
| 158 | Barriers: Lack of senior leader support/governing body support; Not implementing |
| 159 | existing policies and as such not affecting positive change; consistency of following |
| 160 | policy and process guidance. |
| 161 | Facilitators: Initial Teacher Education (ITE) and National Professional Qualification in |
| 162 | Headship (NPQH) training covers this; Professional Teaching Standards and EWC |
| 163 | Code of Conduct set clear expectations of teaching professionals; embedding this in |
| 164 | overall children's rights approach to education. |
| 165 | |
| 166 | Inclusive curricula |
| 167 | Inclusive curricula should facilitate in-depth reflection on LGBTQ+ topics and reasons |
| 168 | for discussing such topics rather than just learning facts about influential LGBTQ+ |
| 169 | people. |
| 170 | Inclusive curricula can make students feel more connected to their peers as they are |
| 171 | able to understand their differences and communalities. This can improve wellbeing |
| 172 | and self-esteem. |
| 173 | It can be helpful to discuss inspirational and accessible role models and use positive, |
| 174 175 | reinforcing language, e.g. in form of celebrating diversity rather than discussing |
| 175 | "struggles" or focusing on "otherness".Inclusive curricula should be co-designed and co-constructed to include students' |
| 170 | Inclusive curricula should be co-designed and co-constructed to include students' voice and ensure that they are not tokenistic. |
| 177 | It can be helpful to use the metaphor of a "mirror" (signifying that all students would |
| 178 | see themselves in our curriculum) and a "window" (representing our ambition to show |
| 180 | all students the world beyond their immediate experience). |
| 100 | |

| 181 | • | External speakers can provide additional insights into challenges experienced by |
|-----|-------|--|
| 182 | | LGBTQ+ people. This can include human rights activists, lawyers, etc. |
| 183 | • | Barriers to successfully implementing inclusive curricula can include resistance and |
| 184 | | ignorance of parents, teachers, and the larger school community. Teachers who lack |
| 185 | | knowledge and confidence might fear to unintentionally cause offence. |
| 186 | | |
| 187 | One-o | ff workshops including media interventions |
| 188 | • | It is important that workshops are not used as a tokenistic tick box exercise. |
| 189 | • | Workshops might be particularly impactful for younger students to sow seeds of |
| 190 | | acceptance and connectedness at an early age. |
| 191 | • | Factors that might facilitate the impact of workshops can include increasing teacher |
| 192 | | training to build skills and confidence and incorporating the workshops in a whole |
| 193 | | school approach of embedding children's rights. It is helpful if students can identify |
| 194 | | with and relate to role models. The long-term visibility of LGBTQ+ role models should |
| 195 | | be ensured. |
| 196 | • | Barriers to putting on impactful workshops might include resistance and ignorance of |
| 197 | | parents, teachers, and the larger school community. |
| 198 | | |
| 199 | LGBTC | Q+ ally and staff training |
| 200 | • | Staff training can increase staff's ability and confidence in creating safe spaces by |
| 201 | | building understanding and skills. |
| 202 | • | Barriers to successful staff training might include a lack of resources and supplies, |
| 203 | | resistance among parents, teachers, and the wider school community due to a fear |
| 204 | | of causing offence, but also the wider political climate and a lack of government |
| 205 | | backing for a specific organisation or training provider. |
| 206 | • | The government needs to prioritise funding for adequate training throughout the |
| 207 | | system and engagement with all stakeholders. Staff training needs to be tied in with |
| 208 | | a whole school approach to mental health and wellbeing, with Children's Rights |
| 209 | | Based education system, and into the performance training series and performance |
| 210 | | management cycle. |
| | | |

12 Supplementary Table 1. Rigour assessment

| | | All stud | y designs | Quanti | tative | Qualita | tive | Reviews |
|------------------------|--|---|--------------------------|---|--------------------------|---|--|--|
| Author and year | Study design | Do the collected data allow the study | Is the interpretation of | | Sampling | Is the qualitative/mixed methods approach appropriate to answer the research question? | Is the sampling method appropriate? | Overall quality of studies included |
| Baams et al. 2017 | Quantitative non- randomised trial/cohort study | Somewhat | Yes | Sex, age, school climate, education level, cultural background, sexual identity | Non-random: Purposive | • | | |
| Bellini 2012 | Qualitative | Somewhat | Yes | , | | Yes | Somewhat | |
| Black et al. 2012 | Review | Somewhat | Unclear | | | | | Not reported |
| Burford et al. 2017 | Mixed methods | Somewhat | Somewhat | None | Non-random: Purposive | Yes | Somewhat | |
| Burk et al. 2018 | Quantitative cross-sectional study | Yes | Yes | GSAs, inclusive school policies, Student grade level, urban/rural school location | Random | | | |

| Day et al. 2016 | Quantitative cross-sectional study | Yes | Yes | Race, sex, age | NR | | | |
|-------------------------|---|-----|-----|---|---------|-----|---------|--|
| Day et al. 2019 | Quantitative cross-sectional study | No | No | Age, reported sex, race/ethnicity, percentage of youth eligible for free and reduced-price meals (FRPM), school size | Other | | | |
| Day et al. 2020 | Quantitative cross-sectional study | No | No | Sexual identity, gender, race, age, free school meals, outness to peers | Other | | | |
| De Pedro et al. 2018 | Quantitative cross-sectional study | No | No | None | Unclear | | | |
| Douglas et al. 2010 | Mixed methods | No | No | None | Unclear | Yes | Unclear | |
| Eick et al. 2016 | Quantitative observational study with pre- post comparator only | No | No | Gender, religiosity, place of residence, previous acquaintance with the LGBT community | Unclear | | | |
| Espelage et al. 2019 | RCT | Yes | Yes | State, gender, race | NR | | | |

| Espelage et al. 2019b | Review | Somewhat | Unclear | | | | | Unclear |
|-----------------------------------|---|----------|----------|--|----------------------------|-----|-----|---------|
| Evans and Rawlings 2021 | Qualitative | Somewhat | Somewhat | | | Yes | No | |
| Fleshman 2019 | Other (report) | Yes | Somewhat | | | | | |
| Flores 2016 | Other (scholarly commentary) | Yes | Somewhat | | | | | |
| Francis 2019 | Qualitative | Yes | Yes | | | Yes | Yes | |
| Francis 2019b | Qualitative | Yes | Yes | | | Yes | Yes | |
| Fulcher 2017 | Qualitative | Yes | Yes | | | Yes | Yes | |
| Ginicola et al. 2016 | Systematic review | Somewhat | Unclear | | | | | Unclear |
| Green et al. 2018 | Qualitative | Yes | Somewhat | | | Yes | Yes | |
| Hall et al. 2018 | Quantitative cross-sectional study | No | No | None | Unclear | | | |
| Harris et al. 2021 | Qualitative | Yes | Yes | | | Yes | Yes | |
| Hatzenbuehle and Keyes 2013 | cross-sectional study | Yes | Yes | Peer victimisation, sex, race | Random | | | |
| loverno et al. 2016 | Quantitative non- randomised trial/cohort study | Yes | Yes | Gender, sexual orientation, age, ethnicity, race, and city, whether the participant was in high | Non-random: Convenience | | | |

| | | | | school or | | | | |
|---------------------------|-----------------|----------|-----|---------------------------------|-------------|-----|-----|--|
| | | | | college at | | | | |
| | | | | panel 1, | | | | |
| | | | | school peers' | | | | |
| | | | | , perceived | | | | |
| | | | | knowledge of | | | | |
| | | | | sexual identity | | | | |
| | | | | (i.e., being out | | | | |
| | | | | at school). | | | | |
| loverno et al. | Quantitative | Somewhat | Yes | Age, sex, | Non-random: | | | |
| 2021 | cross-sectional | | | number of | Purposive, | | | |
| | study | | | LGBT friends, | | | | |
| | | | | classroom | response | | | |
| | | | | characteristics | | | | |
| | | | | (the | | | | |
| | | | | percentage of | | | | |
| | | | | male students, the number of | | | | |
| | | | | students, the | | | | |
| | | | | percentage of | | | | |
| | | | | LGBQ+ | | | | |
| | | | | students) | | | | |
| St John et al. | Qualitative | Yes | Yes | | | Yes | Yes | |
| 2014 | | | | | | | | |
| Jones and Hillier 2012 | Mixed methods | Somewhat | Yes | No | Non-random | Yes | Yes | |
| Konishi et al. | Quantitative | Yes | Yes | Analysis | Other: | | | |
| 2013 | cross-sectional | | | conducted by | Cluster- | | | |
| | study | | | gender, | stratified | | | |
| | - | | | | random | | | |
| | | | | grade, rural– | | | | |
| | | | | urban status, | | | | |
| | | | | family | | | | |
| | | | | composition, | | | | |
| | | | | current | | | | |

| Kosciw et al. 2012 | Quantitative cross-sectional study | Yes | Yes | depressed mood, history of sexual abuse Gender, age, race, outness to peers, school staff, and parents, and school locale, type, region | Random and | | | |
|------------------------------|---|----------|---------|--|-------------|----------|----------|--|
| Kroneman et al. 2019 | Quantitative observational study with pre- post comparator only | No | No | No | | | | |
| Kull et al. 2016 | Quantitative cross-sectional study | Yes | Yes | District locale and district size | Convenience | | | |
| Lucassen and Burford 2015 | Mixed methods | Somewhat | Unclear | No | Convenience | Somewhat | Somewhat | |
| Mayberry et al. 2011 | Qualitative | Yes | Yes | | | Yes | Somewhat | |
| Mitton-Kukner et al. 2016 | Qualitative | Yes | Yes | | | Yes | Unclear | |
| O'Farrell et al. 2021 | Systematic review | Somewhat | Yes | | | | | Used CASP appraisal tool (qual and quant studies): "including studies of varying quality could |

| | | | | | | | | yield misleading results" (scores ranged from 5.5 to 9/10, mean=7.6) |
|-----------------------|--|----------|----------|----------------------------------|--|----------|---------|--|
| Ollis 2010 | Qualitative | Somewhat | Somewhat | | | Somewhat | Unclear | |
| Poteat et al. 2019 | Quantitative cross-sectional study | Somewhat | Yes | No | Non-random: Purposive, voluntary response | | | |
| Rabbitte 2020 | Systematic review | Yes | Somewhat | | | | | Unclear |
| Russel et al. 2016 | Quantitative cross-sectional study | Yes | Yes | No | Unclear | | | |
| Saewyc et al. 2014 | Quantitative cross-sectional study | No | No | Grade, feelings of despair | Random | | | |
| Saewyc et al. 2016 | Systematic review | Yes | Yes | | | | | Used a review scoring sheet with criteria for ranking the strength of the research design, sampling, outcome measures reported, the statistical analyses |

| | | | | | | | | used to evaluate effects. The studies were also scored for the similarity or transferability of their context |
|----------------------------------|--|-----|-----|--|----------------------------|----------|-----|--|
| Schijf et al. 2020 | Mixed methods | Yes | Yes | NR | Random | Somewhat | Yes | |
| Sinacore et al. 2018 | Qualitative | Yes | Yes | | | Yes | Yes | |
| Singh et al. 2013 | Qualitative | Yes | Yes | | | Yes | Yes | |
| Snapp 2015 | Quantitative cross-sectional study | No | No | Sexual orientation, GSA membership | Unclear | | | |
| Steck and Perry 2018 | Qualitative | Yes | Yes | | | Yes | Yes | |
| Swanson and Gettinger 2016 | Quantitative cross-sectional study | No | No | | Random | | | |
| Truong and Zongrone 2021 | Quantitative cross-sectional study | Yes | Yes | Gender, sexual orientation, race/ethnicity, age, state, urbanicity of the school, school type, school level, school size, | Non-random: Convenience | | | |

| Van de Ven 1995 | Quantitative observational study with pre- post comparator only | Somewhat | Yes | school racial composition, outness to peers Sex and School type | Non-random (unclear whether convenience or purposive) | | |
|------------------------|---|----------|----------|--|---|----------|--|
| Vilkin et al. 2019 | Quantitative observational study with pre- post comparator only | Νο | No | None | Other | | |
| Wernick et al. 2013 | Quantitative observational study with pre- post comparator only | No | No | Race, gender, sexual orientation, frequency of witnessing anti-LGBTQQ harassment, bystander behaviour | Other | Somewhat | Race, sexual orientation, gender, frequency of witnessing anti-LGBTQ harassment, self-reported anti-bullying intervention behaviours |
| Wernick et al. 2016 | Mixed methods | Somewhat | Somewhat | Race, sexual orientation, gender, frequency of witnessing anti-LGBTQ harassment, self-reported anti-bullying | Other | Yes | Somewhat |

| | intervention | | |
|--|--------------|--|--|
| | behaviours | | |

215 216 *RQ: Research Question; NR: Not Reported

Supplementary Table 2. Studies with data on mental health outcomes 218

| Reference | Type of intervention | Mental health outcomes |
|---------------------------------|---|---|
| Black et al. 2012 | GSAs and similar student clubs; inclusive anti- bullying or anti-harassment policies | Suicide attempts |
| Burk et al. 2018 | Inclusive curricula | Suicidal ideation |
| Evans and Rawlings 2021 | LGBTQ+ all staff training; inclusive curricula | General mental health and wellbeing discussed in qualitative interviews |
| Fleshman 2019 | Inclusive curricula | Mental health and wellbeing (depressed mood and suicidality) |
| Harris et al. 2021 | GSAs and similar student clubs | General mental health and wellbeing discussed in qualitative interviews |
| Hatzenbuehler and Keyes 2013 | Inclusive anti-bullying and harassment policies | Suicide attempts |
| loverno et al. 2016 | GSAs and similar student clubs | Wellbeing, self-esteem, and depression |
| Jones and Hillier 2012 | Inclusive anti-bullying and harassment policies | Self-harm, suicidal ideation, suicidal thoughts, and suicide attempts |
| Kosciw et al. 2012 | Inclusive curricula; Inclusive anti-bullying and harassment policies | Self-esteem |
| O'Farrell et al. 2021 | Inclusive curricula | Mental health and wellbeing |
| Saewyc et al. 2014 | GSAs and similar student clubs; Inclusive anti- bullying and harassment policies | Suicidal thoughts and suicide attempts |
| Saewyc et al. 2016 | GSAs and similar student clubs; Inclusive anti- bullying and harassment policies | Suicidal ideation |

220 Supplementary Table 3. Characteristics of included sources

| Author and year | Country | Study Aim | Study design | Sample (n) | Type of intervention |
|------------------------|--------------------------|---|------------------|--|--|
| Baams et al. 2017 | Netherlands | To provide an overview of the content of sexuality education in six Dutch High schools To examine whether the content or extensiveness of sexuality education at the beginning of the school year is related to a decrease in LGBTIQ name-calling and an increase in the willingness to intervene when witnessing LGBTQ name-calling at the end of the school year | Quantitative | Dutch adolescents (n=601) | Inclusive curricula |
| Bellini 2012 | Canada | The purposes of this study are to examine whether gay and lesbian students are receiving support in the public education system and how educators are trained to give this support | Qualitative | Individuals with experience in GSAs and working with students in a GSA (n=7) | Inclusive anti- bullying and harassment policies |
| Black et al. 2012 | USA | To review literature on GSAs and Safe School Act | Review | LGB youth | GSA and similar student clubs |
| Burford et al. 2017 | Aotearoa/Ne w Zealand | To evaluate the potential of a 60-min gender diversity workshop to address bullying and promote positive environments for learning. | Mixed methods | Secondary students (n=237) | One-off workshops and media interventions |
| Burk et al. 2018 | Canada | to evaluate the Out in Schools film-based intervention and its association with mental health outcomes and bullying experienced by sexual minority adolescents | Quantitative | 7-12-grade school students (n=29,832) | Inclusive curricula a |
| Day et al. 2016 | USA | To examine punitive and supportive policies and practices in relation to homophobic bullying and school connectedness | Quantitative | Students aged 10- 18 (n=745) | Inclusive anti- bullying and harassment policies |
| Day et al. 2019 | USA | To investigate youth's experiences of general victimisation and bullying due to sexual orientation or gender (SOG-bullying), truancy, | Quantitative | Students aged 10- 18 (n=113,148) | Inclusive anti- bullying and harassment policies |

| | | academic success, and perceptions of school climate in relation to presence of SOGI- focused policies. | | | |
|--------------------------|---------|---|--------------|--|---|
| Day et al. 2020 | USA | To investigate whether GSAs and school policies, independently and mutually, are associated with less bullying and youths' perceptions of support from classmates and teachers. | Quantitative | LGBTQ youth aged 15-21 (n=1,061) | GSA and similar student clubs |
| De Pedro et al. 2018 | USA | To explore the relationships between LGBTQ affirming school climates and the safety and victimisation of LGBTQ students | Quantitative | High school students (n=611) | GSA and similar student clubs |
| Douglas et al. 2010 | England | To highlight opportunities for external practitioners to conduct education in schools about sexual orientation and identity to outline a useful approach to this work and to identify learning that can be drawn from this experience to further develop education about sexual orientation and identity with young people in schools. | Qualitative | Students (n=408) and teachers (n=4) | One-off workshops and media interventions |
| Eick et al. 2016 | Israel | To examine whether this activity, carried out in Israeli high schools, resulted in a change in participants' attitudes. | Quantitative | 9-11th-grade students (n=272) | One-off workshops and media interventions |
| Espelage et al. 2019 | USA | To examine the impact of the Second Step Middle School Program on homophobic name calling, bullying, sexual harassment. | Quantitative | 11 and 12-year-old secondary school students (n=3,651) | Inclusive curricula |
| Espelage et al. 2019b | USA | To review studies that focused on protective factors associated with homophobic bullying perpetration and victimization among children and adolescents | Review | NA | GSA and similar student clubs; inclusive anti- bullying and harassment policies; inclusive curricula |

| Evans and Rawlings 2021 | Australia | To explore the positive experiences of trans and gender diverse students at school and investigate what leads to a safe and positive learning environment | Qualitative | Transgender/gender diverse young people aged 17-26 (n=3) | Inclusive anti- bullying and harassment policies; inclusive curricula; LGBTQ+ staff training |
|-------------------------------|--------------|--|------------------------------------|--|---|
| Fleshman 2019 | USA | To focus on four key areas where schools and school districts may implement changes to create safer more supportive schools for LGBTQ+ students. | Other (report) | Not reported | Inclusive curricula |
| Flores 2016 | USA | To reflect (as a teacher) on her experience of using of diverse LGBTQ+ inclusive texts in a primary school | Other (scholarly commentary) | Not reported | Inclusive curricula |
| Francis 2019 | South Africa | To explore how queer youth take up, question and say what they need from sexuality education | Qualitative | LGB secondary school students (n=19) | Inclusive curricula |
| Francis 2019b | South Africa | to explore how counter normative sexualities are discursively constructed in the sexuality education classroom and with what effects by drawing on in-depth interviews with teachers and classroom observation | Qualitative | Secondary school teachers aged 25-63 (n=33) | Inclusive curricula |
| Fulcher 2017 | Australia | To explore heterosexual young people's perspectives on homophobic language use at school. | Qualitative | Young people aged 16-21 (n=16) | Inclusive anti- bullying and harassment policies |
| Ginicola et al. 2016 | USA | To review the issues involved and a specific framework for school counsellors who wish to set up a Safe Schools Initiative in the context of a resistant atmosphere, using a social justice framework. | Review | Not reported | Inclusive anti- bullying and harassment policies |
| Green et al. 2018 | USA | To investigate how implementation challenges for sexual and gender minority (SGM) guidelines in schools align with, expand on, and contrast with existing knowledge of | Qualitative | School administrators (n=41) and school health professionals, e.g. school nurse, | Inclusive anti- bullying and harassment policies |

| | | contextual factors at the inner and outer context of implementation. | | social worker, counsellor (n=55) | |
|-------------------------------------|---------|---|--------------|---|--|
| Hall et al. 2018 | USA | To examine responses from the adults who attended a photovoice exhibit about LGBTQ- related issues in the school context regarding how the event influenced them as well as quality and satisfaction related to the event. | Quantitative | Adults who attended the photovoice exhibit (n=20) | One-off workshops and media Interventions |
| Harris et al. 2021 | England | To explore the experiences of students who identify as LGBT+ in six secondary schools in the south of England. | Qualitative | Students from six schools (n=38) | GSA and similar student clubs; inclusive curricula |
| Hatzenbuehl er and Keyes 2013 | USA | To evaluate whether anti-bullying school policies that are inclusive of sexual orientation are associated with a reduced prevalence of suicide attempts among lesbian, gay, and bisexual youths. | Quantitative | 11th-grade public school students (n=31,852) | Inclusive anti- bullying and harassment policies |
| loverno et al. 2016 | USA | To examine the influence of presence of and participation in a GSA on perceptions of safety at school, homophobic bullying experiences, and psychosocial adjustment (depression and self-esteem) in 327 LGBTQ students across two school years | Quantitative | LGBQ cisgender students (n=327) | GSA and similar student clubs |
| loverno et al. 2021 | Italy | To examine whether students' observations of teacher and peer interventions against homophobic name-calling and perceptions of the representation of lesbian, gay, bisexual, and transgender (LGBT) issues in class are associated with student intervention behaviours against homophobic name-calling | Quantitative | High school students (n=1,470) | Inclusive curriculum; ally and staff training |
| St John et al. 2014 | Canada | To explore the roles of GSAs in creating supportive school environments for LGBTQ youth and allies. | Qualitative | Youth, teachers and a key informant LGBTQ youth service provider (n=15) | GSA and similar student clubs |

| Jones and Hillier 2012 | Australia | To explore what might be meant by 'good school sexuality education' for GLBTIQ students, with a focus on policy-based approaches by focusing on the following research questions: Who are GLBTIQ students and what is their school sexuality education experience? What constitutes 'good school sexuality education' for this group? What are the obstacles to its provision? How can these be overcome? | Mixed methods | Australian GLBTIQ young people (n=3,134) | Inclusive anti- bullying and harassment policies |
|---------------------------------|--------------------------|---|------------------|--|---|
| Konishi et al. 2013 | Canada | To examine whether students' odds of recent substance use were lower in the presence of gay-straight alliances or explicit anti- homophobia policy that had been established at their school recently, or at least 3 years prior. | Quantitative | Secondary school students (n=21,708) | GSA and similar student clubs; inclusive anti- bullying and harassment policies |
| Kosciw et al. 2012 | United states | To examine the effects of a negative school climate on achievement and the role that school-based supports—safe school policies, supportive school personnel, and (GSA clubs—may have in offsetting these effects. | Quantitative | LGBT secondary school students (n=5,730) | GSA and similar student clubs; inclusive anti- bullying and harassment policies; inclusive curricula |
| Kroneman et al. 2019 | Netherlands | To examine the effects of an intervention on sexual prejudice in prevocational secondary schools. | Quantitative | 8th-grade students (n=60) | One-off workshops and media interventions |
| Kull et al. 2016 | USA | To examine the relationship between antibullying policies and LGBT students' safety and victimization at school. | Quantitative | 6-12th grade students (n=8,584) | Inclusive anti- bullying and harassment policies |
| Lucassen and Burford 2015 | Aotearoa/Ne w Zealand | To evaluate the potential of a 60-minute sexuality diversity workshop to address bullying in secondary schools. | Mixed methods | Secondary students (n=237) | One-off workshops and media interventions |

| Mayberry et al. 2011 | USA | To explore the efficacy of GSAs and identify school practices that either support or destabilize antigay school environments. | Qualitative | GSA student members at high- school level (n=12), GSA advisors (n=4), high school principals (n=2), district administrators (n=2) | GSA and similar student clubs |
|----------------------------------|-----------|--|--------------|--|-----------------------------------|
| Mitton- Kukner et al. 2016 | Canada | To explore the impact of Positive Space training on pre-service teachers' understanding of and abilities to create safe spaces for LGBTQ youth and allies in schools in response to the anti- homophobia/transphobia and LGBTQ- inclusive training they received as part of formal teacher training | Qualitative | Pre-service teachers (n=9) | Ally and staff training |
| O'Farrell et al. 2021 | Ireland | To appraise and synthesis the evidence in relation to both the receipt and delivery of LGBTI+ inclusive sexual health education. | Review | NA | Inclusive curricula |
| Ollis 2010 | Australia | To explore impact of the professional development activities on teachers' attitudes to homosexuality and their ability to address homophobia | Qualitative | Secondary school teachers (n=14) | Ally and staff training |
| Poteat et al. 2019 | Norway | To examine factors that could account for which teachers report (a) more consistently intervening against homophobic language use when they observe it and (b) more frequently discussing homophobic language with their students in their classes. | Quantitative | Teachers (n=283) | Ally and staff training |
| Rabbitte 2020 | USA | To examine sexual health education programmes in schools in the USA for the inclusion of information on gender identity and sexual orientation. | Review | Primary and secondary/high school children (n not reported) | Inclusive curricula |
| Russel et al. 2016 | USA | To examine the role of SOGI-focused policies in association with bullying | Quantitative | NA (Survey data based on school | GSA and similar student clubs; |

| Saewyc et | Canada | To explore the relationship between school- | Quantitative | principal and teacher reports and administrative data) 7-12th-grade school | inclusive anti- bullying and harassment policies GSA and similar |
|-------------------------|-------------|--|------------------|---|--|
| al. 2014 | | based GSA and explicit anti-homophobic bullying in secondary schools in Canada with experiences of anti-gay discrimination, suicidal ideation and attempts among LGB, mostly heterosexual and exclusively heterosexual students. | | students (n=21,708) | student clubs |
| Saewyc et al. 2016 | Canada | To identify and evaluate the existing research about school-based interventions to improve outcomes for LGBTQ youth, examine the quality and relevance of the evidence for schools in Canada, and weigh the potential benefits of different school interventions compared to the potential costs of the health outcomes they address. | Review | 12 studies of interventions and their impacts on health outcomes for LGBTQ+ youth | GSA/similar student clubs; inclusive anti- bullying and harassment policies; inclusive curricula |
| Schijf et al. 2020 | Philippines | To explore the Human Library Program of the DLSU Integrated School Libraries aiming to foster diversity and reduce prejudice and discrimination against people with different backgrounds including members of the LGBTQ community | Mixed methods | 5-12th-grade students (n not reported) | Inclusive curricula |
| Sinacore et al. 2018 | Taiwan | To examine faculty and staff's perception of the implementation of Gender Equity Education Act (GEEA) and its influence on the school community. | Qualitative | Middle and high school teachers aged 28 to 45 (n=15) | Inclusive anti- bullying and harassment policies; ally and staff training |
| Singh et al. 2013 | USA | To explore the experiences of group leaders facilitating popular opinion leader (POL) groups aimed at reducing LGBTQQ aggression in middle school | Qualitative | Group leaders (n=8) and student popular opinion leaders (n=40) | Other and one-off workshops and media interventions |
| Snapp 2015 | USA | To examine whether student's perceptions of personal safety and school climate safety are | Quantitative | Students (n=1,232) | Inclusive curricula |

| | | stronger in the presence of LGBTQ-inclusive curricula | | | |
|-------------------------------------|-----------|--|------------------|---|--|
| Steck and Perry 2018 | USA | to identify perceptions of experiences creating a safe and inclusive environment for students who identified as LGBTQ. | Qualitative | Secondary school administrators (n=7) | Inclusive anti- bullying and harassment policies |
| Swanson and Gettinger 2016 | USA | To explore teachers outcomes, including knowledge and attitude toward LGBT youth in relation to 3 school-wide policies designed to support LGBT students | Quantitative | 6-12th-grade teachers (n=98) | Ally and staff training |
| Truong and Zongrone 2021 | USA | To explore the psychosocial benefits of GSA participation. | Quantitative | LGBTQ secondary school students (n=11,164) | GSA and similar student clubs |
| Van de Ven 1995 | Australia | To evaluate outcomes of an antihomophobia teaching kit for students in a pre-test post-test follow-up design | Quantitative | High school students aged 13-16 (n=130) | Inclusive anti- bullying and harassment policies |
| Vilkin et al. 2019 | USA | To examine how an afterschool arts-based curriculum for grades K–5 that embraced expansive understandings of gender was related to children's gender attitudes and beliefs | Quantitative | Students in after- school programmes (n=83) | Inclusive curricula |
| Wernick et al. 2013 | USA | To determine the effectiveness of a programmatic intervention developed and administered by LGBTQ youth that seeks to increase knowledge and awareness about homophobia and transphobia as well as students' likelihood and confidence to intervene when offensive language or actions target LGBTQQ students in schools. | Quantitative | High school students and middle school 8th-graders (n=537) | One-off workshops and media interventions |
| Wernick et al. 2016 | USA | To 1) investigate if participation in an intervention designed and led by LGBTQQ youth using theatre and dialogue is related to increases in participants' intentions to advocate in support of LGBTQQ communities 2) explore how awareness of homophobia and | Mixed methods | High school and middle school students (n = 515) | One-off workshops and media interventions |

| | transphobia is constructed by youth and the relationship between participation in the intervention, homophobia and transphobia awareness, and LGBTQQ advocacy | | |
|--|--|--|--|
| | intentions. | | |

Key:

- GSA: Gay-straight Alliance
- SOGI: Sexual or Gender Identity LGBTQQ: lesbian, gay, bisexual, transgender, queer, and questioning LGBT+: lesbian, gay, bisexual, transgender, queer plus others 228

Supplementary Table 4. Types of interventions and what they involve.

| Types of intervention | Definitions |
|--|---|
| Gay-Straight Alliances (GSAs) and similar student clubs (e.g. pride clubs) | Student-run clubs that aim to create a safe and supportive school environment for LGBTQ+ and allied youth. These clubs have various roles including: a) social support, b) safe spaces c) education, awareness raising, organising activism, increasing visibility around LGBTQ+ issues, d) being part of the broader school efforts to address LGBTQ+ issues and create safe schools. ⁷⁴ |
| Inclusive anti-bullying and harassment policies | Aim to address all forms of bullying and create safe and supportive school climates for students with protected characteristics. Such policies influence student and staff behaviour as well as organisational practices. Policy is an umbrella term that consists of varied practices, regulations and rules created by governing bodies to guide action. ^{42,75} We included policies that specifically referenced sexual orientation and/or gender identity and expression. |
| Inclusive curricula | Aims to promote diversity and equality for all students including those with protected characteristics. LGBTQ+ inclusive curricula include positive representation of LGBTQ+ people, history and events, and cover topics around sexual orientation and gender identity and expression within the standard school curriculum. ⁷⁶ Inclusive curricula should function as mirrors in which students can see themselves and as windows through which they can view the lives of others. ⁵⁵ Inclusive curricula treat LGBTQ+ issues and education on an equal footing to heterosexual and cisgender issues. |
| Workshops including media interventions | Workshops including media interventions on sexuality and gender diversity aim to raise awareness about homophobic, biphobic, and transphobic bullying and discrimination and promote understanding and empathy towards LGBTQ+ people. Workshops and media interventions might involve one-off talks, panel discussions, film screenings, theatre performances, and photography projects. |
| LGBTQ+ ally and staff training | Training for all school staff on LGBTQ-related issues is essential to promoting a positive school climate for LGBTQ students. Training may include: education and awareness raising on LGBTQ+ issues; ways to intervene when bullying and harassment occurs; appropriate use of language and pronouns; having a point person for LGBTQ+ issues; professional development on LGBTQ+ topics. ^{76,77} |

235

241 Supplementary Table 5: Context-Mechanism-Outcome (CMO)

242 configurations for Gay-Straight Alliances or similar student clubs

| Gay Straight Alliances or similar student clubs | |
|--|---------------------|
| Context, Mechanism, Outcome (CMO) | Reference |
| When schools have safe spaces including youth-led GSAs or similar | Russell et al. 2016 |
| student clubs for LGBTQ students (C) then teachers might report | |
| fewer bullying problems (O) when teachers judged schools to be | |
| unsafe (C). No mechanism reported. | |
| When LGBQ high school and university students attended schools | loverno et al. 2016 |
| with GSAs (C) then they reported reduced homophobic bullying over | |
| time (O) as GSAs may contribute to positive overall school climate | |
| (M). | |
| When LGBQ high school and university students attended schools | loverno et al. 2016 |
| with GSAs and participated in their schools' GSAs (C) then they did | |
| not report reduced homophobic bullying over time (O). No | |
| mechanism reported. | |
| When LGBQ high school and university students attended schools | loverno et al. 2016 |
| with GSAs and participated in their schools' GSAs (C) then they did | |
| not report subsequent increased psychological wellbeing (well-being | |
| included self-esteem and depression) (O). No mechanism reported | |
| When LGBQ high school and university students attended schools | loverno et al. 2016 |
| with GSAs and participated in their schools' GSAs (C) then they | |
| reported greater subsequent school safety (O) as GSAs may | |
| contribute to positive overall school climate and provide safe space | |
| for LGBTQ youth (M). | |
| When a school has a GSA or similar club (c) then anti-LGBT | Kosciw et al. 2012 |
| victimisation is decreased (no association with self-esteem or | |
| educational outcomes) (O). No mechanism reported. | |
| When students who are more severely victimised based on their | Kosciw et al. 2012 |
| sexual orientation have a GSA or similar club in their school (c) then | |
| they have fewer missed days of school (O). No mechanism | |
| reported. | |
| When schools had longer-established GSAs that had been place for | Konishi et al. 2013 |
| at least 3 years (compared to schools without GSAs) (c) then | |

| lesbian and bisexual girls had lower odds of consuming alcohol as | |
|---|---------------------|
| well as binge drinking (O). This may be because school strategies | |
| reduce homophobia and foster safe and supportive environments as | |
| well as school inclusion, and reduce stress-related health risks (M). | |
| When schools had longer-established GSAs that had been place for | Konishi et al. 2013 |
| | Konishi et al. 2013 |
| at least 3 years (compared to schools without GSAs) (C) then | |
| heterosexual students (boys and girls) had lower odds of binge | |
| drinking and heterosexual boys had lower odds of drinking any | |
| alcohol (O). This may be because school strategies that reduce | |
| homophobia and foster school inclusion are also beneficial for | |
| heterosexual students since "many students who are harassed for | |
| being thought to be gay, lesbian or bisexual may actually identify as | |
| heterosexual" (M). | |
| If there are GSAs available to students (C) then improvements have | Black et al. 2012 |
| been seen in academic performance (O) because students are more | |
| comfortable with their sexuality (M). | |
| If students engage with GSAs (C) then students feel more | Black et al. 2012 |
| empowered (O) because they feel like they have direct influences on | |
| the climate in their schools (M). | |
| If there are GSAs available to students (C) this creates a more | Black et al. 2012 |
| positive climate for sexual diversity in a school (O) because GSAs | |
| positively affect personal relationships with other students by | |
| decreasing bullying (M). | |
| When GSAs are present (C) LGBTQ students report fewer | Day et al. 2020 |
| occasions of homophobic and gender-based bullying (O). No | |
| mechanism (M). | |
| When GSAs are present (C) LGBTQ students report increased | Day et al. 2020 |
| perceptions of social support from classmates (but not teachers) | |
| (O). This may be because LGBTQ students experienced fewer | |
| occasions of homophobic and gender-based bullying in schools with | |
| GSAs (M). | |
| When GSAs are present (C) trans students were twice as likely to | Day et al. 2020 |
| experience homophobic bullying compared to cisgender students | |
| (O). No mechanism reported. | |
| When GSAs are present (C) Black or African American LGBT youth | Day et al. 2020 |
| were less likely to be bullied for homophobic reasons compared to | |
| | |

| White LGBT youth (very weak to no evidence of a relationship | |
|--|--------------------|
| amongst other ethnicities) (O). No mechanism reported. | |
| When GSAs are present (C) Black or African American LGBT youth | Day et al. 2020 |
| reported higher perceptions of support from classmates compared to | |
| white LGBT youth (very weak to no evidence of a relationship | |
| amongst other ethnicities) (O). This may be because they were less | |
| likely to be bullied for homophobic reasons compared to White | |
| LGBT youth (M). | |
| Even when GSAs are present (C) trans youth reported less | Day et al. 2020 |
| classmate support compared with cis youth (O) because trans youth | |
| are at higher risk of experiencing homophobic bullying compared to | |
| cis youth regardless of GSA presence (M). | |
| When GSAs and LGBT focused policies were present (C) trans girls | Day et al. 2020 |
| reported higher teacher support compared to female assigned at | |
| birth students (O) because GSAs improve perceptions of social | |
| support (M). | |
| When schools in rural settings have a GSA (C) then LGBT students | De Pedro et al. |
| reported higher scores in victimisation compared to schools without | 2018 |
| a GSA (O) because schools in rural settings may face numerous | |
| barriers to successful implementation (e.g. pervasive homophobic | |
| attitudes, lack of resources, and few student and teacher allies) (M). | |
| When schools in rural settings have a GSA (C) then LGBT students | De Pedro et al. |
| reported lower scores of feeling safe at school (O) because schools | 2018 |
| in rural settings may face numerous barriers to successful | |
| implementation (e.g. pervasive homophobic attitudes, lack of | |
| resources, and few student and teacher allies) (M). | |
| When schools have an LGBTQ+ support group for students (C), it | Harris et al. 2021 |
| increases inclusivity and decreases isolation (O) because LGBTQ+ | |
| students have a space where they do not get judged, feel | |
| comfortable, be themselves and make friends (M). | |
| When staff who identify as LGBTQ+ also attend student LGBTQ+ | Harris et al. 2021 |
| support groups (C), this leads to a greater sense of inclusivity (O) | |
| because it clearly impacts upon the students positively, by | |
| enhancing visibility of role models (M). | |
| When the wider school climate is a supportive safe place, LGBTQ+ | Harris et al. 2021 |
| young people are more likely to attend LGBTQ+ support groups and | |
| | l |

| feel safe there. If the environment is not supportive (C), GSAs can | |
|--|---------------------|
| be harmful for the mental health and well-being of LGBTQ+ young | |
| people (O) because peers may make fun of LGBTQ+ students for | |
| attending support groups (homophobic bullying) as the support | |
| groups enhance visibility and out young people (M). | |
| When GSAs are present (C) then there is a decrease in bullying (O) | Saewyc et al. 2016 |
| because the school climate has improved (M). | |
| When GSAs are present (C) then there is a decrease in suicidal | Saewyc et al. 2014 |
| ideation amongst LGB girls and boys (O) because there is an | |
| improvement in school climate (M). | |
| When schools have GSAs (C) this positively impacts the emotional | Mayberry et al. |
| safety of LGBTQI+ students (O) because LGBTQI+ students were | 2011 |
| supported, could build a sense of community, and developed the | |
| confidence necessary to "speak out" against antigay behaviours and | |
| attitudes in the larger school environment (M). | |
| When schools only implement GSAs to increase acceptance and | Mayberry et al. |
| inclusivity for LGBTQI+ students (C) they might potentially isolate | 2011 |
| GSA members from the wider school community and not actually | |
| address homophobic bullying (O) as LGBTQI+ issues are not | |
| addressed beyond club meetings or discussed in the wider school | |
| context (M). | |
| When schools have GSAs (C) students feel supported to speak out | Mayberry et al. |
| against derogatory comments, bullying, and other forms of physical | 2011 |
| and verbal harassment (O) because GSAs provide a sense of | |
| community (M). | |
| When schools have longer-established GSAs and explicit anti- | Saewyc et al. 2014 |
| homophobic bullying policies (C), then LGB and mostly heterosexual | |
| girls (but not LGB or mostly het boys) and exclusively heterosexual | |
| boys (but not girls), are less likely to exhibit suicidal ideation and | |
| attempts (O). This is because exclusively heterosexual boys are | |
| more likely to experience homophobic bullying compared with | |
| exclusively het girls (M). | |
| When LGBTQ students are members of GSAs (C) then they are | St John et al. 2014 |
| more likely to benefit not only from the direct GSA support but also, | |
| they are more likely to be experience less isolation (O). This is | |
| because the GSAs help them connect with other LGBTQ community | |
| L | |

| nembers, events and resources helping them build a sense of | |
|---|-----------------|
| | |
| ommunity beyond their school experiences (M). | |
| mong LGBTQ students who have a GSA at their school (C), | Truong and |
| articipating in GSAs was not related to improved psychological | Zongrone 2021 |
| vell-being, but participating in GSAs was related to greater school | |
| elonging and these associations did not differ by racial/ethnic | |
| dentity (O). This might be because GSAs may provide some degree | |
| f socialization among LGBTQ students and allies, but the potential | |
| enefits may depend on the types of activities that their GSA | |
| ngages in (M). | |
| Vhen there is inclusive programming including GSAs, materials | Espelage et al. |
| uch as posters visible around the school, and relevant discussions | 2019b |
| ncluded in school curricula (including classrooms learning, | |
| ssemblies, and workshops) (C) there is reduced homophobic | |
| ullying (O). No mechanism reported. | |

246 Supplementary Table 6: Context-Mechanism-Outcome (CMO)

247 configurations for Inclusive anti-bullying and harassment policies.

| Context, Mechanism, Outcome (CMO) | Reference |
|--|-------------------|
| When GLBTIQ students report that their school has policy-based | Jones and Hillier |
| protection for GLBTIQ students and against homophobia (C) then | 2012 |
| they are less likely to think about self-harm, self-harm, experience | |
| suicidal ideation, and attempt suicide (O). This might be because | |
| students experience less verbal, physical, and other types of | |
| homophobic abuse in schools with policy-based protection (M). | |
| When GLBTIQ students report that their school has policy-based | Jones and Hillier |
| protection against homophobia (C) then they are more likely to feel | 2012 |
| safe at school and more likely to rate their school as supportive (O). | |
| This might be because students experience less verbal, physical, | |
| and other types of homophobic abuse in schools with policy-based | |
| protection (M). | |
| When GLBTIQ students report that their school has policy-based | Jones and Hillier |
| protection against homophobia (C) then they are more likely to feel | 2012 |
| good about their sexuality (O). This might be because students | |
| experience less verbal, physical, and other types of homophobic | |
| abuse in schools with policy-based protection (M). | |
| When GLBTIQ students report that their school has policy-based | Jones and Hillier |
| protection against homophobia (C) then they are less likely to | 2012 |
| experience verbal, physical and other types of homophobic abuse | |
| (O). No mechanism reported. | |
| When GLBTIQ students report that their school has policy-based | Jones and Hillier |
| protection against homophobia (C) then they are more likely to | 2012 |
| receive useful information from that school on homophobia and | |
| discrimination, gay and lesbian relationships, gay and lesbian safe | |
| sex (O). No mechanism reported | |
| When a school has a GSA or similar club (c) then anti-LGBT | Jones and Hillier |
| victimisation is decreased (no association with self-esteem or | 2012 |
| educational outcomes) (O). No mechanism reported. | |
| When GLBTIQ students report that their school has policy-based | Jones and Hillier |
| protection against homophobia (C) then are less likely to report that | 2012 |

| the school promoted potentially harmful messages, such as 'gay | |
|---|---------------------|
| people should become straight' or 'sex before marriage is wrong' and | |
| more likely to report more inclusive and affirming messages such as | |
| 'homophobia is wrong, "males" don't have to be "manly" and | |
| "females" don't have to be "girly", 'experimenting with sexualities and | |
| pleasure is okay' etc. (O). No mechanism reported. | |
| When schools have comprehensive anti-bullying/harassment policy | Kosciw et al. 2012 |
| (C) then LGBT students report higher self-esteem (no association | |
| with victimisation, GPA, missed days) (O), because policies create | |
| an affirming environment (M). | |
| When schools had anti-bullying policies that been place for at least | Konishi et al. 2013 |
| 3 years (C) then lesbian and bisexual girls had lower odds of drinking | |
| alcohol (O). This may be because school strategies address | |
| homophobia and foster safe and supportive environments as well as | |
| school inclusion and reduce stress-related health risks (M). | |
| When schools had anti-bullying policies that been place for at least | Konishi et al. 2013 |
| 3 years (C) then lesbian and bisexual girls had lower odds of | |
| generally drinking alcohol (O) as policies aim to reduce homophobia | |
| and foster school inclusion and connection (M). | |
| When schools had longer-established explicit anti-homophobia | Konishi et al. 2013 |
| policies that been place for at least 3 years (compared to those in | |
| school with no policies) (c) then heterosexual students (boys and | |
| girls) had lower odds of binge drinking, heterosexual girls had lower | |
| odds of drinking alcohol as well as binge drinking (O). This may be | |
| because school strategies that reduce homophobia and foster school | |
| inclusion are also beneficial for heterosexual students since "many | |
| students who are harassed for being thought to be gay, lesbian or | |
| bisexual may actually identify as heterosexual" (M). | |
| When 16-17 year old students attend schools with LGBTQ+ inclusive | Hatzenbuehler |
| anti-bullying policies (not solely general restrictive anti-bullying | and Keyes 2013 |
| policies) (C), lesbian and gay (though not bisexual or heterosexual) | |
| youths are less likely to attempt suicide (O); this might be because | |
| risk factors for mental health problems are different in bisexual youth | |
| (M). | |
| L | 1 |

| When schools implement SOGI policies (C) then fewer LGBT | Day et al. 2019 |
|---|-------------------|
| students truant (O) because schools are perceived to be more | |
| accepting and inclusive (M). | |
| When schools implement SOGI policies (C) then fewer LGB students | Day et al. 2019 |
| experienced homophobic bullying (O). No mechanism reported. | |
| When schools implement SOGI policies (C) then more LGB students | Day et al. 2019 |
| reported higher school connectedness (O). No mechanism reported. | |
| When anti-homophobia initiatives in schools address homophobic | Fulcher 2017 |
| language within broader conversations about social status, | |
| reinforcing popularity and masculinity (C), this leads to reductions in | |
| homophobic language and slurs (O) because heterosexual students | |
| are more likely to respond and change their behaviour. Heterosexual | |
| students often do not see themselves as homophobic and do not | |
| respond to teaching about that, but they understand ideas about | |
| popularity and masculinity and are therefore more likely to respond | |
| (M). | |
| When inclusive policies, such as anti-homophobic bullying policies, | Saewyc et al. |
| are implemented (C) there is a decrease in bullying (O) because | 2016 |
| there may be a decrease in stigma for those who do not fit | |
| stereotypes related to gender behaviour (M). | |
| When inclusive policies, such as anti-homophobic bullying policies, | Saewyc et al. |
| are implemented (C) there is a decrease in suicidal ideation (O) | 2016 |
| because there may be a decrease in stigma for those who do not fit | |
| stereotypes related to gender behaviour (M). | |
| When attempting to implement safe school initiatives, and legislation | Ginicola et al. |
| to lower violence and bullying, with an inclusive LGBTQ+ focus, | 2016 |
| schools in religious settings can face backlash from parents and the | |
| community and the intervention can be prohibited (C), which | |
| prevents a reduction in bullying and increase in inclusivity (O) | |
| because many religious beliefs do not affirm sexual and gender | |
| minorities and actively oppose equal rights legislation (M). | |
| When staff are unaware of existing school policies on inclusive anti- | Green et al. 2018 |
| bullying (which evidence suggests is a common occurrence) (C) this | |
| leads to no change in bullying or inclusivity for sexual and gender | |
| minority students (O) because staff do not implement the | |
| interventions (M). | |
| | |

| When an anti-homophobia teaching kit (a module of six lessons for | Van de Ven 1995 |
|--|---------------------|
| presentation of a unit on homophobia) is implemented in schools (C), | |
| then a significant impact on cognition, homophobic anger, and | |
| behavioural intentions might be observed for all students in the short | |
| term, but in the long-term effects might be sustained only for | |
| homophobic anger and behavioural intentions (O). The intervention's | |
| impact on boys' homophobic cognition was more likely to have | |
| attenuated within 3 months (C). This might be because of boy's | |
| socialisation with male homophobia being linked to fears of | |
| femininity or lack of manliness (M). There might be scope in | |
| targeting sex-role expectations when aiming to reduce | |
| homophobia and/or provide follow-up activities for male | |
| students | |
| When an anti-homophobia teaching kit is implemented in schools | Van de Ven 1995 |
| (C), then it might not successfully reduce all aspects of homophobia, | |
| such as homophobic guilt (both co-educational and single school | |
| students) and affect (homophobic guilt, homophobic anger, and | |
| delight) for coeducational students) (O). No mechanism reported. | |
| When districts had antibullying policies based upon sexual | Kull et al. 2016 |
| orientation, gender identity, and/or gender expression (SOGIE- | |
| inclusive policies) (C) then LGBT students reported greater school | |
| safety, less victimisation (physical and verbal harassment) based on | |
| their sexual orientation and gender expression, and less social | |
| aggression (deliberate exclusion, electronic harassment, lies/mean | |
| rumours) compared to students with generic policies or | |
| no/unidentified policies (O). This is because specific SOGIE-inclusive | |
| policies affect institutional culture, including behaviours (less bullying | |
| and more intervening), attitudes, and awareness (M). | |
| If schools have policies and practices focused on sexual orientation | Russell et al. 2016 |
| and gender identity (SOGI) (C), then reports of bullying might be | |
| reduced (O). This may be because SOGI policies create a climate of | |
| safety that is related to less bullying (M). Adopting multiple SOGI- | |
| focused programs and practices may be most beneficial to schools | |
| that are least safe, or where they are needed most. | |
| | |
| | |

| The presence of multiple SOGI-focused policies (C) might have | Russell et al. 2016 |
|--|---------------------|
| stronger influence on bullying problems than any single policy on its | |
| own (O). No mechanism reported. | |
| | |
| When school administrators try to create a safe and inclusive school | Steck and Perry |
| environment for the LGBTQ student population in their schools (C), | 2018 |
| then they might face barriers in confronting and deconstructing | |
| heteronormativity (O). This might be because challenging | |
| heteronormativity to achieve transformative change is highly | |
| dependent on changing belief systems and ways of behaving toward | |
| those who identify as LGBTQ (M). | |
| If there is a school-wide approach to uniform, allowing self- | Evans and |
| determination, students are able to choose clothes they feel | Rawlings 2021 |
| represent their gender expression (C), this leads to increased | |
| inclusivity (e.g in physical activity) and improved well-being (O), as | |
| itsupports and empowers trans and gender diverse students and | |
| allows cisgender students to choose too (e.g., girls can wear | |
| trousers) (M). | |
| If schools have anti-discrimination policies/safe schools' policy (C), | Black et al. 2012 |
| then fewer suicide attempts are reported (O) because there is an | |
| increase in positive school climate (M). | |
| If teachers adopt a social justice framework on LGBTQ issues (C), | Bellini 2012 |
| then students feel more accepted and belongingness in school (O), | |
| because there is an increased sense of comfortability to discuss | |
| these issues (M). | |
| If emotional safety is not incorporated into Safe Schools policy (C), | Bellini 2012 |
| then LGB students may succumb to mental health distress (O) | |
| because they do not feel safe or supported by schools (M). | |
| When the school leadership is not supportive of gender equity | Sinacore et al. |
| policies and holds patriarchal values and heteronormativity (C) then | 2018 |
| gender equity acts might not be implemented and when discussed | |
| the focus is on heterosexual relationships (O). This is because there | |
| might be a systemic lack of attention to sexuality and gender | |
| diversion in the programmes as a whole (M). As a result, faculty and | |
| SMG students might perceive climate as unsafe and become | |
| silenced and marginalised (O). | |

| When there are explicitly inclusive official school policies which | Espelage et al. |
|--|-----------------|
| | |
| include any language that is part of the published, governing, code of | 2019b |
| the school that asserts intolerance of discrimination or violence on | |
| the basis of sexuality or gender status or perceived sexuality or | |
| gender status (C) there is decreased homophobic aggression (O). | |
| No mechanism reported | |
| When gender equity education is implemented in schools hostile to | Sinacore et al. |
| LGBT individuals (C), then SMG might be punished, isolated or | 2018 |
| bullied to their gender expression (O). This might be because holding | |
| negative attitudes towards gender equity education might influence | |
| social interactions (M) | |
| When teachers have supportive practices (C) then fewer LGBT | Day et al. 2016 |
| students experienced homophobic bullying (O). No mechanism | |
| reported. | |
| When teachers have supportive practices (C) then more LGBT | Day et al. 2016 |
| students reported higher school connectedness (O). No mechanism | |
| reported. | |

Supplementary Table 7: Context-Mechanism-Outcome (CMO)configurations for Inclusive curricula

| Context, Mechanism, Outcome (CMO) | Reference |
|--|----------------|
| When schools offer more extensive sexuality education at the beginning | Baams et al. |
| of the school year covering different topics including sexual orientation | 2017 |
| and gender, resources, STI prevention, relationships and anatomy (C) | |
| then students reported an increase in perceived willingness of their | |
| teachers or school personnel to intervene when witnessing LGBTQ | |
| name-calling; female students report an increase in their fellow students' | |
| perceived willingness to intervene and male students report an increase | |
| in their perceived willingness to intervene themselves at the end of the | |
| school year (O) as extensive, rather than brief and superficial, sexuality | |
| education might diminish stereotypes and biases around gender and | |
| sexual orientation (M). | |
| When schools have more extensive sexuality education at the beginning | Baams et al. |
| of the school year covering different topics including sexual orientation | 2017 |
| and gender, resources, STI prevention, relationships, and anatomy (C) | |
| then female (but not male) students perceived LGBTQ name-calling to | |
| be reduced at the end of the school year (O) as a change in masculinity | |
| norms might be required for boys to address and reduce acts of LGBTQ | |
| name-calling (M). | |
| When students perceive the representation of LGBT issues in class as | loverno et al. |
| positive (C) they were more likely to intervene against HNC and to | 2021 |
| observe other classmates intervene (O). This is because a positive | |
| representation of LGBT issues may offer an opportunity to understand | |
| the experiences related to the different sexual and gender identities and | |
| thus reduce the tolerance for prejudicial attitudes and raise awareness | |
| about the seriousness of HNC (M). | |
| When school have inclusive curricula teaching about positive | Kosciw et al. |
| representation of LGBT people, history, and events (C) then LGBT | 2012 |
| students report less victimisation and higher academic achievement (no | |
| association with self-esteem or missed days of school) (O), as inclusive | |
| curricula promote respect and equity for all (M). | |

| When secondary school students were exposed to inclusive sexual | Rabbitte 2020 |
|--|---------------|
| health education (C), there was less bullying of SGM youth (O), because | |
| the existence of these students was normalised (M). | |
| When Out in Schools events are hosted (C) then lesbian and bisexual | Burk et al. |
| girls report fewer instances of homophobic discrimination (O) as the | 2018 |
| intervention improves school climate (M). | |
| When Out in Schools events are hosted (C)then lesbian and bisexual | Burk et al. |
| girls report lower odds of verbal harassment and social exclusion (O) | 2018 |
| because the intervention improves school climate (M). | |
| When Out in Schools events are hosted (C), then gay and bisexual boys | Burk et al. |
| report lower odds of verbal bullying (especially teasing) (O) as the | 2018 |
| intervention improves school climate (M). | |
| When inclusive curriculums are implemented (C) there is a decrease in | Saewyc et al. |
| bullying (O) as there is an improvement in school climate (M). | 2016 |
| If primary school students are exposed to LGBTQ+ literature in a | Flores 2016 |
| meaningful way that does not feel tacked on (C) this increases inclusivity | |
| and acceptance (O) as they learn that there are lots of people who are | |
| different, many people who are different have done great things (e.g. | |
| Harvey Milk) and it is okay to be different (M). | |
| When students are taught about LGBT sexuality in school in an open | Francis 2019 |
| and honest way and teachers are comfortable, with a good sense of | |
| humour, and ask directly whether students have questions (C) this | |
| makes students feel included and accepted in school (O) as students | |
| that being gay is normal and not a bad thing and that they are affirmed | |
| and supported (M). | |
| When the curriculum includes diversity e.g ensuring workbooks | Evans and |
| accurately include and educate on LGBTQ+ issues (C), this improves | Rawlings 2021 |
| inclusivity and acceptance of LGBTQ+ students (O) as they feel | |
| interested and engaged and as though their needs and concerns are | |
| included and important (M). | |
| If Out in Schools events are hosted (C) then LGB students report higher | Burk et al. |
| feelings of school connectedness/belonging (O) as the intervention | 2018 |
| improves school climate (M). | |
| When LGBTQ+ content is included in curricula at a younger age (rather | Harris et al. |
| than only for 16+) (C), this increases students' acceptance of | 2021 |

| themselves (O) as students feel normalised at an age when they are | |
|---|---------------|
| more likely to be developing their sexual orientation (M). | |
| When human library projects are integrated in the school curriculum (C) | Schijf et al. |
| then student readers are more likely to have reduced prejudice against | 2020 |
| people with diverse backgrounds (O). This might be because the | |
| program raises awareness and promotes dialogue, diversity, and | |
| empathy among student readers (M). | |
| Curricular inclusions of diversity (C) promote acceptance and support for | Evans and |
| their transgender and gender diverse peers (O) as they educate | Rawlings 2021 |
| cisgender students within the class about gender diversity (M). | |
| When the curriculum includes diversity e.g ensuring workbooks | Evans and |
| accurately include and educate on LGBTQ+ issues (C), this improves | Rawlings 2021 |
| inclusivity and acceptance (O) as it normalises being LGBTQ and leads | |
| to people learning and asking questions (M). | |
| When gender-focused arts-based curricula are offered to children in | Vilkin et al. |
| kindergarden (age xx) through to 5th grade (age xx) (C), then children | 2019 |
| might gain increased awareness of gender norms, shifts in | |
| understandings of gender, and more positive attitudes toward gender- | |
| expansive roles, activities, and attire (O). No mechanism reported. | |
| When students who are more severely victimised based on their gender- | Kosciw et al. |
| expression and/or are in schools with poor climates have inclusive | 2012 |
| curricula teaching about positive representation of LGBT people, history, | |
| and events in schools with poor climate in schools (C) then this positively | |
| influences the self-esteem of these students (O). No mechanism | |
| reported. | |
| When curricular inclusions of diversity avoid overly focusing on 'deficit | Evans and |
| and 'at risk' narratives (C) this makes students more likely to accept | Rawlings 2021 |
| themselves and others (O) as it creates the sense that there is less to be | |
| afraid of when being LGBTQ and it is not a negative characteristic (M). | |
| If students attend schools with LGBTQ+ inclusive curricula (C), the | Fleshman |
| mental health and well-being of LGBTQ+ students improves (O) as | 2019 |
| LGBTQ+ students feel validated and role models who make valued and | |
| important contributions are visible and normalised (M). | |
| If Out in Schools events are hosted (C) then lesbian and bisexual girls | Burk et al. |
| report lower odds of suicidal ideation because the intervention improves | 2018 |
| school climate (O). No mechanism reported. | |
| school climate (O). No mechanism reported. | |

| If Out in Schools events are hosted (C) then heterosexual girls report | Burk et al. |
|--|------------------|
| lower odds of suicidal ideation because the intervention improves school | 2018 |
| climate (O). No mechanism reported. | |
| A curriculum that does not assume compulsory heterosexuality (C) | Francis 2019 |
| creates an inclusive learning environment (O) as it shows students that | |
| the power of heterosexuality and its associated prejudice and | |
| discrimination is not endorsed within that school community (M). | |
| When sexual minorities are presented positively in teaching in terms of | Francis 2019b |
| family, stability, love and commitment (C), this creates an inclusive | |
| school climate that is not seen as regulating sexuality (O) as students | |
| see sexual minorities as equal to heterosexuals rather than seeing them | |
| through a lens of deviance, deficit and risk (M). | |
| An inclusive and comprehensive sexual education curriculum (C) has | Espelage et al. |
| been associated with decreased homophobic bullying (O). No | 2019b |
| mechanism reported. | |
| When LGBTI+ topics were included in sexual health education, such as | O'Farrell et al. |
| same sex relationships, LGBTI+ terminology, sexual orientation, gender | 2021 |
| identity, approaches for STI and HIV (C) this reduced stigma, fostered | |
| self-esteem, and limited negative mental health outcomes for LGBTQI | |
| youth (O). This might be because there wasn't an assumption of all | |
| youth being heterosexual and cisgender making LGBTI+ youth feel | |
| validated and included. | |
| When LGBTI+ topics were included in sexual health education (C) then | O'Farrell et al. |
| LGBTI+ young people showed increased well-being (O) as they saw | 2021 |
| themselves represented in the curriculum (M). | |
| When teachers lack the competency and knowledge to deliver existing | Sinacore et al. |
| gender equity education (C) then SMG students might be marginalised | 2018 |
| and isolated when discussing gender issues in the classroom (O) as | |
| teachers might predominantly focus on heterosexual intercourse with | |
| little or no attention to sexual and gender diversity due to inadequate | |
| training and poor coordination (M). | |
| The second step programme - a social emotional learning intervention | Espelage et al. |
| (C) did not lead to reduction in bullying, homophobic name calling, | 2019 |
| cyberbullying or sexual harassment (O). No mechanisms reported. | |
| At the school level, when schools have LGBTQ-inclusive curricula | Snapp 2015 |
| especially in sexuality education/health classes (C), then it is likely that | |

| there is more school sefety and loss bullying then schools with loss | |
|--|-------------|
| there is more school safety and less bullying than schools with less | |
| supportive curricula (O). This might be because when lessons are | |
| viewed as more supportive safety increases and bullying decreases (M). | |
| At the individual level, when students receive LGBTQ-inclusive curricula | Snapp 2015s |
| (C), then they might be more likely to report perceptions of safety | |
| compared to same school students that did not receive these curricula | |
| (O). This might be because inclusive curricula improve the overall school | |
| climate (M). | |
| At the individual level, when students receive LGBTQ-inclusive curricula | Snapp 2015 |
| (C), then they might be more likely to report being bullied compared to | |
| same school students that did not receive these curricula especially | |
| when supportive lessons were taught in mathematics/science, | |
| music/art/drama and PR courses (O). This might be because the | |
| presence of inclusive curricula may heighten students' awareness of | |
| bullying and safety, or schools may teach inclusive curricula in schools | |
| where the climate for LGBTQ youth is already unsafe (M). | |
| When schools have supportive LGBTQ-inclusive curricula (C), then | Snapp 2015 |
| reports of bullying might increase at the individual level but the overall | |
| positive effects of these strategies on school climate may outweigh any | |
| negative associations (O). No mechanism reported. | |

Supplementary Table 8: Context-Mechanism-Outcome (CMO)configurations for workshops including media interventions

| Context, Mechanism, Outcome (CMO) | Reference |
|---|----------------|
| When gender-diverse/transgender people share their stories with | Burford et al. |
| secondary school students during a 60-min gender diversity workshop to | 2017 |
| address bullying and promote positive environments for learning (C) then | |
| one student perceived this as especially helpful for understanding | |
| gender/diverse people (O) as students "kn(e)w how it feels to be | |
| trans/gay" (M). | |
| When secondary students attended a 60-min gender diversity workshop | Burford et al. |
| to address bullying and promote positive environments for learning (C) | 2017 |
| then students valued and understood gender/diverse people significantly | |
| more and had more accepting views after compared to prior to the | |
| workshop (O) as the workshop raised awareness about transgender | |
| discrimination and increased empathy towards transgender people (M). | |
| When secondary students attended a 60-min gender diversity workshop | Burford et al. |
| to address bullying and promote positive environments for learning (C) | 2017 |
| then 80% of students thought that the workshop would reduce bullying in | |
| schools (O) as the workshop raised awareness about transgender | |
| discrimination and increased empathy towards transgender people (M). | |
| When secondary students attended a 60-min sexuality diversity | Lucassen and |
| workshop which included a person with lived experiences discussing | Burford 2015 |
| their "coming out" experience to address bullying in schools (C) students | |
| self-reported more accepting and supportive attitudes towards sexuality | |
| diverse individuals after compared to prior to the workshop (O) as the | |
| workshop, especially the person with personal experiences, increased | |
| students' empathy towards sexuality diverse individuals as well as | |
| increased their understanding of experiences of homophobia and | |
| bullying (M). | |
| When secondary students attended a 60-min sexuality diversity | Lucassen and |
| workshop which included a person with personal experience discussing | Burford 2015 |
| their "coming out" experience to address bullying in schools (C) 75.8% of | |
| students thought the workshop will reduce bullying in schools (O) as the | |
| workshop, especially the person with personal experiences, increased | |
| students' empathy towards sexuality diverse individuals as well as | |

| increased their understanding of experiences of homophobia and | |
|---|----------------|
| bullying (M). | |
| When Colour of the Rainbow workshops were given (C) then students | Douglas et al. |
| reported less homophobic bullying (O) because they were able to | 2010 |
| explore their own attitudes and subsequently change them (M). | |
| When Colour of the Rainbow workshops was given (C) then students | Douglas et al. |
| reported less homophobic bullying (O) because they were able to | 2010 |
| explore their own attitudes and subsequently change them (M). | |
| When LGBT Speaker Panels are conducted (C) then students report | Eick et al. |
| being more tolerant of LGBT people (O) because personal story | 2016 |
| activities appear to promote tolerance and acceptance (M). | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), students showed less positive attitudes towards gender | al. 2019 |
| and sexual diversity after the intervention (O). No mechanism reported. | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), male students showed a lower intention to help a bullied | al. 2019 |
| classmate, but female students should an increased intention to help a | |
| bullied classmate after compared to prior to the intervention (O). No | |
| mechanism reported. | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), students were less positive towards lesbians and gay men, | al. 2019 |
| and towards gay and bisexual classmates after the intervention (O). No | |
| mechanism reported. | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), students were less positive towards lesbians and gay men, | al. 2019 |
| and towards gay and bisexual classmates after the intervention (O). No | |
| mechanism reported. | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), students were more positive about the possibility of coming | al. 2019 |
| out at school after the intervention (O). No mechanism reported. | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), female students were more positive towards had more | al. 2019 |
| positive attitudes towards gay and bisexual classmates compared to | |
| male students (O). No mechanism reported. | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), female students had more positive attitudes towards | al. 2019 |
| | |

| lesbians and gay men after compared to prior to the intervention, but | |
|---|------------------|
| male students' attitudes didn't change (O). No mechanism reported. | |
| When students received a peer intervention to promote respect for LGB | Kroneman et |
| students (C), female students showed more positive attitudes towards | al. 2019 |
| gay and bisexual male students and lesbian and bisexual female | |
| students when compared to male students (O). No mechanism reported. | |
| When a photovoice intervention by LGBTQ+ school students was held in | Hall et al. 2018 |
| a small rural town and attended by adults from the community (C), 81% | |
| of adults stated they planned to take action or behave differently as a | |
| result of attending the intervention. The most common theme involved | |
| adults being more supportive or affirming of LGBTQ youths moving | |
| forward (O), because the intervention had raised awareness about the | |
| oppression these young people experienced and generated feelings of | |
| empathy in the adults - taking the perspective of the LGBTQ students to | |
| understand and emotionally connect with the issues they were facing | |
| (M). | |
| When students viewed a theatre performance and participated in a post- | Wernick et al. |
| performance dialogue on the topic of anti LGBTQQ+ bulling through the | 2013 |
| sharing of LGBTQQA students' lived experiences, identities and | |
| personal narratives (C), this increased their likelihood to intervene and | |
| confidence to successfully intervene when witnessing anti-LGBTQQ | |
| bullying (O) as they learned concrete information and skills to support | |
| their ally behaviours regarding bullying and harassment of sexual and | |
| gender minority youth (M). | |
| When students viewed a scripted 35–40-minute theatre performance on | Wernick et al. |
| the topic of experiences of heterosexism and genderism and participated | 2016 |
| in a post-performance 'common ground' exercise and small group | |
| discussion on the topic of issues related to identity, LGBTQQ | |
| communities, and bullying and harassment (C), this increased reports of | |
| willingness to advocate for LGBTQ+ students, and built awareness | |
| about homophobia and transphobia (O). This might be because the | |
| performance influenced the students to rethink their assessment of | |
| ' whether or not homophobia/transphobia was a problem in their school, | |
| and bolstered their considerations of the severity of | |
| homophobia/transphobia (M). | |
| | |

| The use of Popular Opinion Leader (POL) Groups in middle schools (C) | Singh et al. |
|---|--------------|
| might reduce homophobic bullying (O). This might be because | 2013 |
| behavioural norms may be changed if 15% of the school cohort shifts | |
| their behavioral norms to more positives ones, as this shift will diffuse | |
| throughout the entire cohort over time (M). | |

Supplementary Table 9: Context-Mechanism-Outcome (CMO)configurations for LGBTQ+ ally and staff training

| Context, Mechanism, Outcome (CMO) | Reference |
|---|---------------|
| When teachers and school staff are well-informed on LGBTQ+ and | Evans and |
| gender issues, they are more likely to initiate the creation of safe spaces | Rawlings 2021 |
| (C), which improves their well-being (O), as LGBTQ+ students can relax | |
| and de-stress in said safe spaces (M). | |
| If teachers and school staff are well-informed on LGBTQ+ and gender | Evans and |
| issues, they are more likely to refer LGBTQ+ students to appropriate | Rawlings 2021 |
| sources of support in the community, counselling or psychological | |
| services (C), which improves mental health and well-being (O) as | |
| students can build connections, feel accepted and receive treatment (M). | |
| Teachers and school staff who are well-informed about LGBTQ+ and | Evans and |
| gender issues are more likely to use the correct pronouns and names for | Rawlings 2021 |
| trans and gender diverse students (C) which improves mental health and | |
| well-being (O). This was because students report: "I think, it was really | |
| weighing me down, because as soon as it had happened I was like ahh I | |
| can focus on my studies now because I have one less thing to think | |
| about, nobody's misgendering me, nobody's calling me the wrong name. | |
| Everybody knows what's up. It's cool" (M). | |
| Teachers and school staff who are well-informed about LGBTQ+ and | Evans and |
| gender issues are more likely to respect the confidentiality of students, | Rawlings 2021 |
| for example by not sharing that the student is trans, gender diverse, non- | |
| heterosexual, without their consent (C), which improves mental health | |
| and well-being (O) as it protects the student against negative treatment | |
| and makes them feel safe and protected (M). | |
| When LGBT students report the school to have a greater number of | Kosciw et al. |
| educators who are supportive of LGBT students (C) then they | 2012 |
| experienced less victimisation, greater self-esteem, higher GPAs, and | |
| fewer missed days of school (O). This might be because supportive staff | |
| might provide a personal connection helping keep students in school and | |
| buffering against severe victimisation. Staff might also create safe and | |
| affirming environments by intervening during homophobic remarks and | |
| victimisation, providing support for individual students and advocating for | |

| school-wide efforts, such as affirming and protective policies and | |
|--|----------------|
| practices among staff and administration (M). | |
| When teachers in training received Positive Space training (C) this | Mitton-Kukner |
| helped them to acknowledge and address the gender binary in school | et al. 2016 |
| (O), as the training made them more aware of the gender binary and its | |
| presence in schools (M). | |
| When teachers in training who lack experience with the LGBTQ | Mitton-Kukner |
| community and do not have GSAs at their schools received Positive | et al. 2016 |
| Space training (C) this helped them better understand the inclusive | |
| nature and purpose of GSAs (O). No mechanism reported. | |
| When teachers want to support LGBT students then the most frequent | Swanson and |
| barriers (C), they might face are limited training and resources (i.e., lack | Gettinger 2016 |
| of training, knowledge, time, and LGBT-inclusive curriculum) (O). This | |
| might be because LGBT training may increase teachers' awareness of | |
| the challenges faced by LGBT students and pinpoint ways to provide | |
| support, thereby promoting engagement with LGBT students and | |
| engendering positive attitudes (M). | |
| When teachers attend a sexuality workshop (C) this changed teachers' | Ollis 2010 |
| personal attitudes and positioning to issues of sexuality diversity (O) as | |
| they were able to place themselves in someone else's mindset (M). | |
| If teachers and school staff who are well-informed about LGBTQ+ and | Evans and |
| gender issues: For example, the school librarian introduced a sticker | Rawlings 2021 |
| system to identify books with LGBT themes and/or characters (C), which | |
| improves mental health and well-being (O) as students were more likely | |
| to perceive the school and learning environment as safe, accepting and | |
| progressive (M). | |
| If teachers and school staff who are well-informed about LGBTQ+ and | Evans and |
| gender issues: For example, the school librarian began lunch time film | Rawlings 2021 |
| screenings with diversity in the characters represented and many LGBT | |
| themed films (C), which improves mental health and well-being (O) as | |
| students were more likely to perceive the school and learning | |
| environment as safe, accepting and progressive (M). | |
| When teachers in training who felt uncomfortable talking about the | Mitton-Kukner |
| LGBTQ community and LGBTQ issues received Positive Space training | et al. 2016 |
| (C) this helped them to address homophobia and transphobia in class | |

| (O), as the training provide them with the necessary language to | |
|---|----------------|
| intervene and discuss LGBTQ issues (M). | |
| When teachers in training received Positive Space training (C) this | Mitton-Kukner |
| increased their awareness and comfort discussing and intervening when | et al. 2016 |
| witnessing a homophobic or transphobic act (O), as the training showed | |
| teachers how to react and proactively create positive spaces for LGBTQ | |
| youth (M). | |
| When teachers attend a sexuality workshop (C) this impacted teachers' | Ollis 2010 |
| awareness and ability to respond to homophobia (O) as they were better | |
| equipped to deal with homophobia (M). | |
| When teachers received professional development related to | Poteat et al. |
| homophobic teasing, preventing students from engaging in name-calling | 2019 |
| using homophobic slurs, an addressing students' engagement in name- | |
| calling using homophobic slurs (C) this was associated with discussing | |
| homophobic language use with students in their class (O). This might be | |
| because professional development courses may give teachers the | |
| language to express their general disapproval of homophobic behaviour | |
| and information to share with students about discrimination against | |
| LGBTQI+ youth (M). | |
| When teachers received professional development related to | Poteat et al. |
| homophobic teasing, preventing students from engaging in name-calling | 2019 |
| using homophobic slurs, an addressing students' engagement in name- | |
| calling using homophobic slurs (C) this was not associated with | |
| intervening more consistently when students used homophobic language | |
| (O). This might be because professional development courses may not | |
| adequately prepare teachers to intervene directly when such behaviour | |
| occurs (M). | |
| When pre-service teachers received Positive Space training (C) this | Mitton-Kukner |
| increased their awareness about the LGBTQ community and | et al. 2016 |
| understanding about the potential challenges that some LGBTQ | |
| individuals may experience (O), as the training helped to recognise the | |
| severity and impact of homophobia and transphobia (M). | |
| When teachers work in a school with an active GSA or enumerated | Swanson and |
| antibullying policy and received training specifically related to LGBT | Gettinger 2016 |
| youth (C), then they might report a higher frequency of engaging | |
| behaviours to support LGBT students (O). No mechanism reported. | |
| | |

| When teachers intervene (C) when they observe slurs or bullying then | De Pedro et al. |
|--|-----------------|
| LGBT students felt safer and less victimised (O). No mechanism | 2018 |
| reported. | |
| When peers intervene when they observe slurs or bullying (C) then | De Pedro et al. |
| LGBT students felt safer and less victimised (O). No mechanism | 2018 |
| reported. | |
| When students observe teachers intervene during episodes of | loverno et al. |
| homophobic name-calling (C), then they were more likely to intervene | 2021 |
| against HNC and to observe other classmates intervene (O) as the | |
| teachers' intervention may communicate clear expectations that HNC | |
| behaviours are unacceptable in school (M). | |
| When participants observe other students intervene against HNC (C) | loverno et al. |
| they were more likely to intervene themselves (O). This might be | 2021 |
| because of peer influence and/or modelling the classroom norms (M). | |
| LGBTQ+ students (C) were more likely to alert teachers during episodes | loverno et al. |
| of HNC than heterosexual students (O). This may be because LGBTQ+ | 2021 |
| students might be more motivated to intervene as they are more likely to | |
| perceive the seriousness of HNC and to be aware of its negative impact | |
| and thus may feel greater responsibility for providing help and be more | |
| aware of how to intervene (M). | |

283 Supplementary Table 10: RAMESES guidelines

| TITLE | | Page |
|---|--|----------|
| 1 | In the title, identify the document as a realist synthesis or review | 1 |
| ABSTRACT | | |
| 2 | While acknowledging publication requirements and house style, abstracts should ideally contain brief details of: the study's background, review question or objectives; search strategy; methods of selection appraisal, analysis and synthesis of sources; main results; and implications for practice. | 2 |
| | Franksin andra Alexandra in a second and an shade of this Black As | 0 5 |
| 3 Rationale for review | Explain why the review is needed and what it is likely to contribute to existing understanding of the topic area. | 3-5 |
| 4 Objectives and focus of review | State the objective(s) of the review and/or the review question(s). Define and provide a rationale for the focus of the review. | 4-5 |
| METHODS | | |
| 5 Changes in the review process | Any changes made to the review process that was initially planned should be briefly described and justified. | 23 |
| 6 Rationale for using realist synthesis | | 4-5 |
| 7 Scoping the | | 22 |
| literature | of the literature. | |
| 8 Searching processes | publication outlet, state and provide a rationale for how the iterative searching was done. Provide details on all the sources accessed for information in the review. Where searching in electronic databases has taken place, the details should include, for example, name of database, search terms, dates of coverage and date last searched. If individuals familiar with the relevant literature and/or topic area were contacted, indicate how they were identified and selected. | 19-20 |
| 9 Selection and appraisal of documents | Explain how judgements were made about including and excluding data from documents, and justify these. | 20-21 |
| 10 Data extraction | Describe and explain which data or information were extracted from the included documents and justify this selection. | 21 |
| 11 Analysis and synthesis processes | | 22 |
| RESULTS | Descride details on the number of decomposite second 15 | <u>_</u> |
| 12 Document flow diagram | Provide details on the number of documents assessed for eligibility and included in the review with reasons for exclusion at each stage as well as an indication of their source of origin (for example, from searching databases, reference lists and so on). You may consider using the example templates (which are likely to need modification to suit the data) that are provided. | 6 |
| 13 Document characteristics | | 6 |

| 14 Main findings | Present the key findings with a specific focus on theory | 7-12 |
|---|---|-------|
| | building and testing. | 1-12 |
| DISCUSSION | | |
| 15 Summary of findings | Summarize the main findings, taking into account the review's objective(s), research question(s), focus and intended audience(s). | 12-14 |
| 16 Strengths, limitations and future research directions | Discuss both the strengths of the review and its limitations. These should include (but need not be restricted to) (a) consideration of all the steps in the review process and (b) comment on the overall strength of evidence supporting the explanatory insights which emerged. The limitations identified may point to areas where further work is needed. | 15-16 |
| 17 Comparison with existing literature | Where applicable, compare, and contrast the review's findings with the existing literature (for example, other reviews) on the same topic. | na |
| | List the main implications of the findings and place these in the context of other relevant literature. If appropriate, offer recommendations for policy and practice. | 15-17 |
| 19 Funding | Provide details of funding source (if any) for the review, the role played by the funder (if any) and any conflicts of interests of the reviewers. | 23 |

315 Supplementary Table 11: Search terms

316

| PICO | Search Terms |
|--------------|---|
| Population | LGBTQ+, LGBT*, LGB*, queer, sexual identit*, sexual orientation, gender identit*, lesbian, gay, bisexual, transgender, nonbinary, non-binary, asexual, pansexual, sexualit*, intersex, omnisexual, "questioning sexuality", "questioning gender", demisexual, aromantic |
| Intervention | School or school-based or educat* AND intervent* or program*or policy or curriculum |
| Outcomes | N/A |
| Comparison | N/A |

317

Records identified through database searching (n = 5,155)

A. Pubmed (14.09.2021), 1,678 hits

320 ("lgbtq+"[Title/Abstract] OR "lgbt*"[Title/Abstract] OR "lgb*"[Title/Abstract] OR

321 "homosexual*"[Title/Abstract] OR "queer"[Title/Abstract] OR "sexual identit*"[Title/Abstract]

- 322 OR "sexual orientation"[Title/Abstract] OR "gender identit*"[Title/Abstract] OR
- 323 "lesbian"[Title/Abstract] OR "gay"[Title/Abstract] OR "bisexual*"[Title/Abstract] OR
- 324 "transgender"[Title/Abstract] OR "nonbinary"[Title/Abstract] OR "non-binary"[Title/Abstract]
- 325 OR "asexual*"[Title/Abstract] OR "pansexual*"[Title/Abstract] OR "sexualit*"[Title/Abstract]
- 326 OR "intersex"[Title/Abstract] OR "omnisexual*"[Title/Abstract] OR
- 327 "demisexual*"[Title/Abstract] OR "aromantic"[Title/Abstract]) AND ("school
- 328 intervent*"[Title/Abstract] OR "school based intervent*"[Title/Abstract] OR "school-based
- 329 intervent*"[Title/Abstract] OR "education intervent*"[Title/Abstract] OR "educational
- 330 intervent*"[Title/Abstract] OR "school program*"[Title/Abstract] OR "school based
- 331 program*"[Title/Abstract] OR "school-based program*"[Title/Abstract] OR "education
- 332 program*"[Title/Abstract] OR "educational program*"[Title/Abstract] OR "school
- 333 polic*"[Title/Abstract] OR "school-based polic*"[Title/Abstract] OR "school based
- 334 polic*"[Title/Abstract] OR "school curricul*"[Title/Abstract] OR "school-based
- 335 curricul*"[Title/Abstract] OR "school based curricul*"[Title/Abstract] OR
- 336 "curricul*"[Title/Abstract])
- 337

338 B. Web of Science (14.09.2021), 1,272 hits

- 339 https://www.webofscience.com/wos/woscc/summary/22366e8d-7608-4a28-86cb-
- 340 acaaf28d112b-0853e2a9/relevance/1

341 (AB=("school intervention*" or "school based intervention*" or "school-based intervention" or

342 "education* intervention*" or "school program*" or "school-based program*" or "school based

343 program*" or "education* program*" or "school polic*" or "school based polic*" or "school-

344 based polic*" or "education* polic*" or "school curricul*" or "school based curricul*" or

- 345 "school-based curricul*" or "education* curricul*")) AND AB=(LGBTQ+ or LGBT* or LGB* or
- 346 homosexual* or queer or "sexual identit*" or "sexual orientation" or "gender identit*" or

- 347 lesbian or gay or bisexual* or transgender or nonbinary or non-binary or asexual* or
- 348 pansexual* or sexualit* or intersex or omnisexual* or "questioning sexuality" or "questioning
- 349 gender" or demisexual* or aromantic)
- 350

351 C. PsycINFO (14.09.2021), 2,205 hits

| 1. (LGBTQ+ or LGBT* or LGB* or homosexual* or queer or sexual identit* or sexual orientation or gender identit* or lesbian or gay or bisexual* or transgender or nonbinary or non-binary or asexual* or pansexual* or sexualit* or intersex or omnisexual* or questioning sexuality or questioning gender or demisexual* or aromantic).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh] | 98815 |
|---|--------|
| 2. (school intervention* or school based intervention* or school-based intervention or education* intervention* or school program* or school-based program* or school based program* or education* program* or school polic* or school based polic* or school-based polic* or education* polic* or school-based polic* or education* polic* or school-based curricul* or school based curricul* or school-based curricul* or education* curricul*).mp. [mp=title, abstract, heading word, table of contents, key concepts, original title, tests & measures, mesh] | 102240 |
| 3. 1 and 2 | 2231 |
| 4. limit 3 to abstracts | 2205 |