WESTERN SYDNEY UNIVERSITY

Endometriosis Australia

YOUNG PERSON, PARENT/CARER, AND SCHOOL TEACHERS' UNDERSTANDING OF **PERIODS, PERIOD PAIN, AND ENDOMETRIOSIS**

Research Report: January 2024

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Executive Summary

This research project was undertaken by the Centre for Educational Research, School of Education at Western Sydney University (WSU) on behalf of Endometriosis Australia (EA). The study commenced during 2022 and investigated the type of information that can be used by young persons, their parents/carers, and teachers about how to cope with periods and period pain. It will also help in curriculum planning and teaching about periods in schools.

Menstrual health concerns are common across the population. In Australia, around 90% of those under 25 years of age experience regular period pain. Menstrual health literacy has a direct impact on young peoples' quality of life, health, academic, and professional performance.

In Australia, educational content related to menstruation is indirectly incorporated in the Australian Health and Physical Education (HPE) curriculum[3]. Within HPE, the sub-strand of 'Being healthy, safe and active', addresses the focus area of 'relationships and sexuality'. This focus area deals with the physical, social, and emotional changes that occur over time during adolescence and how these influence gender and sexual identities. Theoretically, the content covered within this area enables students to develop knowledge, understanding, and skills to navigate puberty, including menstruation, in a safe and healthy manner. However, the HPE curriculum does not directly mandate the teaching of menstrual health, therefore, it may not be specifically taught. Even if it is taught, the knowledge of the teacher may be limited and the content delivered may vary considerably from teacher to teacher and school to school.

Understanding young people's perceptions of the menstrual health education they receive/d in schools is an important starting point for developing educational strategies and approaches that support their understanding and experiences of menstruation including common conditions such as dysmenorrhea, heavy menstrual bleeding and endometriosis. Most young people get their information about menstruation from family members or teachers. However these groups may themselves not have a good understanding of menstruation, and accurate information may be mixed with outdated or incorrect beliefs and filtered through cultural or religious conceptions of menstruation. Therefore the perceptions of parents/carers and teachers of young people are important to help identify areas of unmet need. In Australia, HPE teachers are pivotal in providing critical, evidence-based information. However, to what extent this is occurring in school education is unknown.

The aim of this study was to examine menstrual health education, experiences of menstruation and menstrual pain, and the impact of menstruation on various aspects of individuals' lives with the view of developing educational interventions that focus on improving the education and management of menstruation within schools. It also sought to understand teacher practices in relation to educating and supporting students around these issues and the impact on students' emotional health, physical well-being, and academic outcomes. This will provide critical information needed to ensure the provision of consistent, evidence-based information and educational resources for young people, their parents/carers, and teachers.

3 Through the study of HPE courses, students develop the knowledge, understanding, skills, and attitudes needed to take action to protect and enhance their own and others' health, safety, well-being, and participation in physical activity in varied and changing contexts.

This report delivers an overview of the key findings for the research project: "*Understanding periods, period pain, and endometriosis*" incorporating three key stakeholder groups: 1) young people (aged 13–18 years), 2) parents/carers who spoke English, Vietnamese, Arabic, Cantonese or Mandarin, and 3) NSW secondary school teachers. In partnership with Endometriosis Australia, the study was conducted by researchers from the Centre for Educational Research, School of Education; NICM Health Research Institute; Translational Health Research Institute, Western Sydney University; and the Robinson Research Institute, School of Medicine, University of Adelaide, during 2022/23.

Key findings

Survey of young people: The survey provided insights into young people's experiences, knowledge, and preferences regarding menstruation and menstrual health education. A significant proportion of students reported needing time off school due to symptoms related to their periods, including but not limited to, period pain, tiredness, having a heavy period, and concern about bleeding through attire. It was concerning that some students took days off school because they were concerned about not being able to manage their period at school. A high percentage (78.4%) of students reported that their periods stopped them from participating in activities; the reasons reflected those given for missing school. Although almost 80% of students reported learning about menstruation in their health classes, usually in years 5, 6, and 7, mothers were also critical in providing menstrual education.

Schools provided information about the menstrual cycle and period products, as well as some of the associated physical experiences that could present when menstruating. However, respondents expressed a desire for more information on various topics, particularly endometriosis, what is considered a 'normal' period, and at what point they should seek medical advice. Other less commonly requested information included dealing with tiredness and emotional changes and gaining greater understandings about menstrual cycles and contraception for avoiding pregnancy. Respondents felt that teachers needed to acknowledge that period pain can be severe, and that it impacted on concentration and performance. Many respondents (74%) wanted schools to provide easily accessible period products.

The need for boys to be provided with education about menstruation and its symptoms was identified by over 70% of respondents. Around two thirds of the surveyed students wanted greater freedom to access the bathroom facilities when needed and to be given time out of activities when they experienced pain. The majority of students reported wanting to learn about periods at school and to be able to talk about it at home. 55% wanted online access, via websites or on their smartphone (47%).

Survey of parents/carers: The survey revealed that menstruation significantly affects individuals' lives and their ability to participate in various activities. In line with the findings from young people detailed above, parent respondents who menstruate/d also reported period pain and menstruation more generally, as curtailing their activities at school and beyond at various times. The reasons provided strongly reflected those provided by young people (e.g., pain, heaviness of period, tiredness etc). Sources of period education more strongly leaned towards family followed by friends, school over the internet, possibly reflecting a generational difference in relation to openness about the topic.

When asked about their child's experiences, nearly three-quarters reported giving their child pain medication to manage adverse symptoms. The majority of parents/carers reported that their child's periods had prevented them from, at times, engaging in school, study, sport, hobbies, social events, and/or work. The survey highlighted the need for improved education and support surrounding menstruation and period-related limitations, such as improving academic, social, and cultural outcomes; enhancing access to hygiene products and facilities; and implementing strategies and policies to effectively support students.

Survey of teachers: Over 60% of survey respondents taught about menstrual health in their school, most frequently focusing on the biology of the menstrual cycle, followed by menstrual product types. Topics related to addressing period related pain were only taught by approximately 37% of this cohort with even fewer teachers addressing how to deal with menstrual related symptoms (23.9%) or how to apply evidenced-based remedies to alleviate these symptoms (15.5%).

Teacher respondents indicated a range of viewpoints in relation to their comfort levels in addressing menstruation, with some teachers feeling comfortable and confident, while others expressed discomfort and a lack of confidence in teaching the topic. Only about one third of teachers had undertaken training on menstrual health in their pre-service teacher education. In fact, the most common source of information for teachers about menstrual health was from personal experience (60.3%). Those who did participate in courses that taught menstrual health reported that these courses concentrated on the biology of menstruation, with only about 21% learning about evidence-based remedies for managing adverse menstrual symptoms. Nearly 80% of respondents indicated that they were interested in more professional development in this area.

The survey highlighted the need for further training, resources, and comprehensive knowledge about menstruation among teachers. Respondents stressed the importance of creating a safe and inclusive classroom environment, the need to include boys in menstrual health education, and addressing the stigma and shame associated with menstruation.

Interviews of teachers: Deeper qualitative responses to questions drawn from the survey data highlighted the need for improved education, professional learning, and support for teachers in relation to teaching menstruation. The results also underscored the importance of addressing period-related limitations in schools, applying a range of teaching strategies, enhancing access to evidence-based resources, and implementing procedures to effectively support the management of period symptoms in students. Of equal importance, a 'whole-school approach' to understanding and dealing with menstruation was recommended to ensure better awareness and support in addressing these issues.

Conclusions

The research undertaken emphasised the importance of comprehensive menstrual health education that addresses young people's diverse needs and concerns, ongoing teacher training, and access to accurate information for students and parents/carers. It underscores the need to address period-related limitations such as improving academic, social, and cultural outcomes; enhancing access to hygiene products and facilities; and implementing strategies and policies to effectively support students. In particular, the results highlight current shortfalls in education such as the need to enhance support for students experiencing menstrual symptoms, accommodating cultural needs, and normalising conversations and stigma about menstruation.

The results also highlight the need for improved education, professional learning, and support for teachers in relation to menstruation. These findings underscore the importance of applying a range of teaching strategies, enhancing access to evidence-based resources, and implementing procedures to effectively manage period symptoms in students. By incorporating a whole-school approach, a more inclusive culture may be facilitated that promotes accurate and standardised information, awareness, and support in addressing menstrual issues.

Recommendations

1. Enhance menstrual health education:
    1.1. Develop comprehensive and standardised menstrual health education programs that cover topics such as the menstrual cycle; menstrual hygiene products; managing symptoms; contraception; and seeking medical advice;
    1.2. Include information about menstrual disorders, such as endometriosis and PCOS, to increase awareness and understanding; and,
    1.3. Provide age-appropriate education and resources for students at different grade levels, addressing their diverse needs and concerns.
2. Provide accurate and reliable information about menstrual health using a range of channels:
    2.1. Ensure that accurate and reliable information about menstruation is accessible to students, both in school and through other channels;
    2.2. Collaborate with healthcare professionals and organisations specialising in menstrual health to ensure that the information provided is evidence based and up to date; and
    2.3. Utilise various mediums, such as websites, smartphone apps, and educational materials to disseminate information effectively.
3. Normalise conversations about menstruation:
    3.1. Foster open and inclusive discussions about menstruation in classrooms, creating a safe and supportive environment where students feel comfortable asking questions and sharing their experiences;
    3.2. Educate students about the normalcy of menstruation and address the stigma and shame often associated with it; and
    3.3. Include boys in menstrual health education to promote understanding, reduce stigma, and foster empathy.
4. Ongoing teacher training and support:
    4.1. Provide comprehensive pre-service and in-service training for teachers, specifically focused on menstrual health education;
    4.2. Offer professional development opportunities, such as e-learning/webinars and access to educational resources, to enhance teachers' knowledge and confidence in teaching about menstruation; and
    4.3. Address the specific needs of male teachers who may feel less familiar with the topic and require additional support
5. Address period-related limitations:
    5.1. Implement strategies to support students experiencing period-related limitations, such as providing flexibility in participation, allowing time off, and creating supportive policies and accommodations during exams;
    5.2. Ensure access to clean and well-equipped bathroom facilities, including provision of free and easily accessible menstrual hygiene products; and
6. Collaborate with parents/carers to understand and address any cultural or religious considerations related to menstruation.
    6.1. Engage parents/carers and the community:
    6.2. Involve parents/carers in menstrual health education initiatives, providing them with information and resources to support their children; and
    6.3. Collaborate with community organisations and healthcare providers to enhance awareness, support, and access to menstrual health resources and services.

By implementing these recommendations, schools and the broader community may be better equipped to contribute to the well-being, academic success, and overall quality of life for individuals experiencing menstruation and their support networks.

1. Background

This project focused on examining the understandings of young people, parents/carers, and teachers in relation to period pain, endometriosis, and its implications. It also sought to understand teacher practices in relation to educating and supporting students around these issues including in terms of physical well-being, mental and emotional health, and participation in academic and extracurricular practices. In addition, it examined advice provided by parents/carers and teachers regarding menstrual education, its impact on education, and the ramifications on students' education and well-being.

Menstrual symptoms such as pain, emotional changes and fatigue are common amongst adolescents (Armour et al., 2019). Over 90% of young people aged < 25 years in Australia experience regular dysmenorrhoea, and 50% report experiencing pelvic pain at least once per month (Armour et al., 2019). Both of these symptoms can be indicative of underlying conditions such as endometriosis. Endometriosis affects around 1 in 9 women and those assigned female at birth (Rowlands et al., 2021). Endometriosis symptoms often occur shortly after the onset of menarche (DiVasta et al., 2018) and, in Australia, the symptoms at onset are most commonly severe dysmenorrhoea and pelvic pain (Armour et al., 2020). Health-seeking behaviours are uncommon, and most people do not know how to identify symptoms of secondary dysmenorrhoea (Armour et al., 2021). This lack of knowledge around what is "normal" may contribute, at least in part, to the substantial delay in diagnosis for conditions such as endometriosis (Armour et al., 2020). Although adolescents learn about menstruation via the Health and Physical Education (HPE) curriculum, more than one in 10 young people reported that school-based information was inadequate (Curry et al., 2022), and most turn to the internet or their parent/carer for information (Armour et al., 2021). Problematically, neither HPE teachers nor parents feel fully equipped to teach or advise on menstrual health (Duffy et al., 2013).

2. Aims and objectives

The aim of this initiative was to further the work of a piloted online web-based resource (Armour et al., 25 August 2021) that aimed to improve the menstrual health literacy of young women and tailor this information to three other key stakeholder groups: 1) young people (aged 13–18 years), 2) parents/carers of young persons (aged 13–18 years), and 3) teachers.

We sought to provide evidence that can be used in conjunction with earlier research on young people's experiences of menstruation and menstrual pain to develop educational interventions that focus on improving the education and management of menstruation within schools. This aims to benefit students' health, well-being, and academic outcomes. Key objectives include:

1. Improved education: Provide young people with comprehensive education on understanding and managing menstrual health, both for themselves and others. This will empower them with knowledge and promote better menstrual health practices.
2. Enhanced school approaches: Offer information on how schools can enhance their approaches to menstruation and dysmenorrhea. This includes providing enhanced support within schools and offering professional development opportunities for teachers. By improving the school environment, students' experiences with menstruation can be more positive and supportive.
3. Inform future research: Teachers' attitudes and approaches towards menstruation education will provide valuable insights for future research. This data will form a basis for identifying areas that may require interventions and improvements within the school sector.
4. Curriculum development and teacher guidelines: Inform curriculum development and provide guidelines for teachers. This will equip educators with the necessary tools and knowledge to effectively teach and support students in managing menstruation.

Overall, this research aimed to address the gaps in menstrual health education within schools. By improving knowledge, support, and attitudes surrounding menstruation, it has the potential to positively impact students' well-being, academic performance, and overall menstrual health management.

The study findings will contribute to informing future initiatives, such as the development of educational resources, curriculum guidelines, and interventions aimed at improving awareness, support, and education surrounding periods, period pain, and endometriosis in schools.

3. Methods and procedures

3.1 Study design

Comprehensive use of both quantitative and qualitative methods was employed to gather insights into the understanding and experiences of periods, period pain, and endometriosis among three key groups: 1) young people, 2) parents/carers, and 3) teachers. The combined mixed-methods approach aimed to provide a comprehensive understanding of these issues in the context of education. Ethics approval was granted from Western Sydney University Human Research Ethics Committee (H15018) on 8 August 2022.

3.2 Sample and recruitment

The study focused on three key cohorts: 1) young people (aged 13–18 years; 2) parents/carers (of young people aged 13–18 years); and 3) teachers.

Participants were recruited via targeted social media advertising, including but not limited to, Facebook, Instagram, Twitter, Prolific, and through the research team's connections.

3.2.1 Survey of young people

Young people who were: 1) English-speaking; 2) aged between 13–18 years; 3) had at least one period; 4) had Internet access or a smartphone; and 5) were currently living in Australia were included in the sample. Participants did not need to be currently having regular periods to answer the survey questions.

Social media allowed recruiters to spread information to both passive and active candidates. Participants self-selected to complete the online survey. Invitations were posted electronically by team members via various social media channels with a link to the participant information sheet (PIS), which contained an anonymous link to the survey. Participants had an 12-week window for participation. Relevant participant information was contained in the introduction part of the survey with a link to the PIS. Screening questions were integrated into the start of the survey so that ineligible participants were screened out.

3.2.2 Survey of parents/carers

Parents/carers who: 1) were currently living in Australia; 2) aged 18+ years; 3) were a parent or guardian (male or female) to a child up to 18 years that menstruated; and 4) were able to read/write English, Mandarin, Arabic, Cantonese, or Vietnamese were included in the sample.

3.2.3 Survey of teachers

Accredited teachers who: 1) worked across the Australian primary and secondary school sectors; 2) worked in the public, independent or Catholic system; and 3) taught in any curriculum area were included in the sample.

3.2.4 Teacher interviews

Accredited teachers who: 1) worked across the Australian primary and secondary school sectors; 2) worked in the public, independent or Catholic system; and 3) taught in any curriculum area were eligible for the sample. Participants must have completed the survey component first before undertaking an interview.

At the end of the on-line survey, participants nominated whether they wished to participate in a semi-structured interview. Those that self-selected were directed to a separate survey to leave their contact details (name, mobile number, and e-mail address). In total, 10 teachers indicted their willingness to participate in the interviews. Participants were screened accordingly in the previous survey component; thus, further screening was neither applicable nor warranted to ensure eligibility.

3.3 Survey procedures, instrument, and data collection

Quantitative methods involved the use of surveys to collect data from the three participant groups as follows:

3.3.1 Survey of young people

Young people were asked to complete an anonymous self-administered 31-item online survey, in their own time and setting, designed to explore their understanding of their periods, period pain, and endometriosis, and how it affects their life. Accessing our young people from the age of 13 correlated with the regulations of Facebook and other online social media organisations that consider age 13 appropriate for teenagers to create online social media accounts. The survey took between 15–30 minutes to complete. The online survey was administered through Qualtrics XM software© (10), was distributed in English only, and included use of multiple-choice questions and open-response questions that asked about the following:

- General questions such as age, if they have had a period, and if they have had period pain;
- Understandings of menstruation, dysmenorrhea, and endometriosis;
- Where they obtained information about periods, and what information they would like to know about periods;
- Understandings about the impact of menstruation and dysmenorrhea on the health, relational, academic, and extracurricular experiences of young people; and
- Family practices in relation to menstruation and dysmenorrhea.

The survey also included the 2-part Health Literacy Questionnaire (HLQ[3]) (24 and 22 items respectively (11), which gives insight into health literacy strengths (Part 1) and limitations and ability to act on healthcare information (Part 2).

Throughout the entirety of the survey, random ordering of options was used where appropriate and skip logic questions were used to improve relevance and minimise responder burden. A description of the study purpose and terminology was provided at the beginning of the survey. At the end of the survey, participants self-selected to go into a draw to win an AUD $100 gift voucher.

3.3.2 Survey of parents/carers

Parents/carers were asked to complete an anonymous self-administered 35-item on-line survey, in their own time and setting, designed to seek understanding of their own period(s) and how periods affect the lives of their child/ren or those they care for, including their social life, emotional health, and school studies. The survey took between 15–30 minutes to complete. The online survey was administered through Qualtrics XM software© (10), was distributed in the most spoken four languages other than English (Mandarin, Arabic, Cantonese, Vietnamese) as per Australian 2016 census data (12), and included use of multiple-choice questions and open-response questions that asked about the following:

- Demographic details (e.g., age, location, ethnicity);
- Understandings of menstruation, dysmenorrhoea, and endometriosis in young people;
- Understandings about the impact of menstruation and dysmenorrhoea on the health, relational, academic, and extracurricular experiences of young people in their care;
- Learning about periods and sources of information about periods;
- Their own and their child/ren's experiences of periods, including their experiences at school;
- Family practices in relation to menstruation and dysmenorrhoea; and
- Parent/carer attitudes, approaches, and content, if appropriate, about menstruation and dysmenorrhoea.

3 HLQ is a generic multi-dimensional health literacy assessment tool that independently measures broad components that contribute to individual health literacy. It collects information on how people find, understand, and use health information, and how they manage their health and interact with the health system and healthcare providers.

In accordance with the survey of young people, the survey of parents/carers also included the 2-part HLQ instrument described above.

Random ordering of options was used where appropriate and skip logic questions were used to improve relevance and minimise responder burden. A description of the study purpose and terminology was provided at the beginning of the survey. At the end of the survey, participants self-selected to go into a draw to win an AUD $100 gift voucher.

3.3.3 Survey of teachers

Teachers were asked to complete an anonymous self-administered 36-item on-line survey, in their own time and setting, designed to glean data about periods, period pain, and educational issues in the school setting. The survey took between 15–30 minutes to complete and was completed once. The online survey was administered through Qualtrics XM software© (10), was distributed in English only, and included use of multiple-choice questions and open response questions that asked about the following:

- Demographic details (e.g., age, location, ethnicity);
- Understandings of menstruation, dysmenorrhoea, and endometriosis in young people;
- Understandings about the impact of menstruation and dysmenorrhoea on the health, relational, academic, and extracurricular experiences of young people in their charge;
- Practices around students' dysmenorrhoea;
- Teacher attitudes, approaches, and curricular content, if appropriate, about menstruation and dysmenorrhoea;
- School-based policies and practices, if any, relating to menstruation, period pain, and endometriosis; and
- Menstrual behaviour in the school sector.

Random ordering of options was used where appropriate and skip logic questions were used to improve relevance and minimise responder burden. A description of the study purpose and terminology was provided at the beginning of the survey. At the end of the survey, participants self-selected to go into a draw to win an AUD $100 gift voucher. At the same time, participants were also asked whether they wished to participate in a short on line interview.

3.4 Interview procedures, instrument, and data collection

Qualitative methods involved the use of in-depth, individual, semi-structured on-line interviews with self-selected teachers. This approach allowed for a more nuanced exploration of the issues specific to curriculum development and teaching resources relating to menstruation in schools.

The lead authors drafted the interview questions that were then circulated to the research team to obtain feedback and gain consensus on final survey questions. The interview guide was pilot tested by members of the research team and included a series of broad open-ended questions across a related range of topics relevant to provide a broader context that was informed and refined by the survey responses.

One-on-one semi-structured interviews (10) were conducted by author CC. To increase convenience and participation, interviews were conducted via Zoom (on-line video platform) at a convenient time and place of comfort for the participant.

The areas covered in the interviews included: basic demographic information; impact of menstruation and dysmenorrhoea on the health, relational, academic, and extracurricular experiences of young people; practices around students' dysmenorrhoea; approaches and curricular content about menstruation and dysmenorrhoea; school-based policies and practices relating to menstruation and dysmenorrhoea; menstrual behaviour in the school sector; standards for menstrual education; menstrual teaching skills and competencies; their own menstrual education journey (where appropriate); and views on the future of menstrual education in Australia. Since participants could self-select to go into a draw after completing the survey component, participants were not reimbursed for the interview.

4. Data analysis

The focus of the survey data analysis was quantitative, with the addition of qualitative analysis of free text options. Data from all languages formed part of the one dataset for easy reporting. Survey data were coded using SAS© v9.4 (13), and descriptive and inferential quantitative analyses of the survey data were undertaken and determined a priority. The HLQ instrument was analysed using Excel with syntaxes for scoring. The denominator used for the survey response rate was the total number of eligible respondents. For skip questions and inferential statistics, the number of survey respondents who answered the question was used as the denominator. Continuous data were summarised by mean and standard deviation, median, and interquartile range (25th to 75th percentile), and minimum to maximum. Categorical data were summarised by counts and proportions expressed as percentages.

A thematic analysis (14) of the de-identified interview transcripts and free text survey comments was conducted. Data were independently in duplicate coded by two members of the research team. The analysis involved moving back and forth between the entire data set and coded extracts. The codes were then arranged according to higher level categories or themes and analysed to identify relationships between themes and subthemes. Common and contrasting themes among responses were identified and compared. When relevant, content analysis was conducted to quantify the number of times themes appeared in the text. The final thematic framework reflected themes and subthemes meaningful to the research question and were representative of the responses that were either strongly held or commonly accepted. The final coding framework and narrative summary were appraised by the research team, and consensus decision making was used to resolve any disagreements. Descriptive statistics were used to summarise information about the participants' characteristics and frequencies of open-ended responses following coding.

Data from the surveys and interviews were first analysed separately. As the rationale for conducting the interviews was to supplement the survey results, the qualitative thematic results were then mapped against the survey data. Triangulation of the findings organised the results effectively from the different methods, groups, and perspectives. Using the principles of triangulation (15), the analyses of the two datasets were then merged and interrogated for convergence (agreement), complementary (additional) information, and dissonance (contradictions, discrepancies, or disagreements). The results are primarily presented in an aggregated form (e.g., data summaries).

5. Results

5.1 Survey of young people

The survey of young people was completed by 296 students (89% females, 1% males, 4.4% non-binary, 0.3% transgender, and 3.4% non-specified). Of the sample, 53.7% of respondents identified as Australian peoples, 12.8% of respondents identified as Aboriginal and Torres Strait Islander peoples[3], and 72.6% were located in NSW. The mean age of respondents was 16.76 years and 77.7% said that they have regular periods. Seven out of ten (71.5%) students were aware of endometriosis and 67.2% were aware of PCOS.

Appendix I provides an overview of participant demographic details.

5.1.1 Information about periods

5.1.1.1 Time taken off school when having a period

One in five students (21%) reported they had needed to take some time off school in the previous three months due to their period, with 10.2% of students stating that they needed to take time off every month. The reasons given for the time off included period pain (67.2%); tiredness (36.5%); heavy periods (28.4%); worried about bleeding through clothes (12.2%); no access to period products (3.4%); and cultural beliefs (1%). Other reasons provided by 4.7% of student respondents included fear of not being able to change tampons during class; mood swings and depression; headaches/migraines; vomiting; and to avoid swimming at school.

5.1.1.2 Activities during menstruation

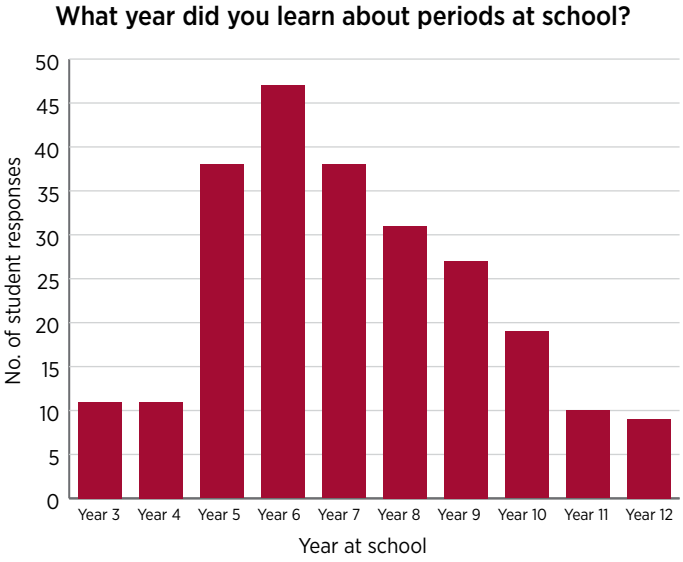
Eight out of ten students (78.4%) reported that their period (or any symptoms they got with their period) prevented them from participating in activities either at school or outside school time (e.g., sports, swimming, religious or social events). The reasons given were similar to those provided in relation to missing school, specifically, period pain (51.7%); tiredness (17.6%); worried about bleeding through clothes (13.5%); worried about period starting unexpectedly (8.8%); no access to period products (5.4%); and cultural beliefs (2.0%). Other reasons provided by 4.7% of students included not using tampons, thus, swimming was not possible; back pain; cramps; and migraines.

5.1.2 Knowledge about periods

5.1.2.1 Learning about periods in health classes

Almost 80% (79.1%) of students said they had learnt about periods in their health classes, with 12.5% replying no, and 8.5% could not remember. Students were asked which year they learned about periods, most commonly in years 5, 6 or 7 (see Figure 1)

Figure 1: What years students learn about periods at school



5.1.2.2 Sources of information about periods

Young people most frequently obtained information about periods from their mother (63.9%), followed by the internet (59.6%), and then teachers at school (54.4%). Other responses included social media (44.9%); friends (38.5%); medical professionals (29.4%); sisters (10.5%); other family members (10.5%); the school nurse (4.1%), and other health professionals (e.g., herbalists) (2.0%). Additional reasons provided by 4.1% of respondents included period tracking apps (e.g., Flo[4]); books (e.g., Puberty Girl[5]); co-workers; and external educators who visited the school.

3 In line with Western Sydney University guidelines, Aboriginal and Torres Strait Islander peoples' status is not abbreviated in the body of the document.

4 Flo is a health app that provides menstruation tracking, cycle prediction, and information regarding female health and well-being. Flo provides all-in-one tracking for period start date and length, fertile window, peak ovulation days, PMS symptoms, flow intensity, birth control, and much more.

5 Each edition of Real Girl Puberty magazine is educational for young people to learn about the journey of puberty, answer any questions, and teach best practices to maintain a healthy physical, mental, and emotional state during puberty. Content is curated from experts such as doctors, nutritionists, and counsellors.

5.1.2.3 Information content

Of the information accessed, young people were asked what this information covered. The most common responses included learning about their menstrual cycle (82.1%); period products (78.0%); symptoms like tiredness and emotional changes (67.6%); period pain (65.5%); contraception for avoiding pregnancy (58.8%); heavy bleeding (41.6%); contraception to manage periods (40.5%); when to consult with a doctor (37.8%); and endometriosis or other sources of pain (33.1%).

5.1.2.4 Further knowledge required

When asked what aspect(s) about their period they needed to know more about, 68.9% of students selected endometriosis and other sources of pain; 55.4% wanted more information about what is 'normal' and when they should seek advice from a doctor; 46.3% wanted to know more about heavy bleeding; 37.8% wanted more information about using contraception to manage periods; 35.8% wanted to know more about causes of period pain; and 29% were seeking additional information about other symptoms like tiredness and emotional changes. In other areas, 28% were seeking more details about their menstrual cycle, 14.9% about the use of contraception for avoiding pregnancy, and 10.1% about period products. Additional responses from individual students indicated that they were seeking more information about toxic shock syndrome and tampons, and that they would have liked to be exposed to more information prior to getting their first period.

5.1.2.5 School support during menstruation

Students were asked what they would like schools to do to help with their period(s), the most frequent responses were that schools need to acknowledge that period pain can be severe (79.1%), and that period pain can impact on concentration and performance (78.0%). Students also wanted schools to provide period products, such as tampons or pads (74.0%), and to make these products accessible and easy to get (74.0%). In addition, 72.6% indicated that they wanted boys to have information about periods, 68.6% wanted greater freedom to access bathroom facilities, and 66.6% of students requested that they are allowed to have time out if in pain. In the same vein, 59.8% of respondents indicated that bathroom facilities needed to be cleaner, with 51.0% requesting better sanitation facilities (such as tampon disposal bins). Similarly, 59.5% would like to see more supportive discussions about periods, and a similar proportion (59.5%) would like male teachers to be better educated about periods. Furthermore, 56.8% would like permission to wear their jumpers around their waist to hide bleeding through clothes, and 41.6% would like exams to be rescheduled, if necessary, during periods.

Other individual responses (3.0%) for better support suggested that schools could allow days off during periods and be accepted as a legitimate reason to be away from school, and that skirts should not be mandated in school uniforms because "*it's uncomfortable for girls to wear skirts during their periods*." Responses also expressed a need for gender-neutral discussions about periods and to include "*trans+gender diverse people when discussing periods and use inclusive language" and consider providing "pad/ tampon disposal units in boys' bathrooms*."

5.1.2.6 Preferences for learning about periods

Most students indicated that they wanted to learn about periods at school and to be able to talk about it at home (60.8%). In addition, 55.4% would like to be able to look up information on a website, and 47.0% would like to be able to download an appropriate app on their smartphone. Only 24.0% of students would like to learn about it at school and would not like to talk about it at home, and a further 6.4% would not like to learn about it at school or talk about it at home. A small percentage (1.7%) would like to learn about menstrual health from a community or religious leader.

In other responses, one student expressed the desire to normalise conversations about periods and "*...for it to become more normal for conversations between both men and women. Being able to engage in conversations on the topic without feeling a level of shame may increase knowledge about periods.*" Another respondent pointed out the need to ensure that all students are getting accurate information regardless of their context and that "there needs to be a factually correct and standardised set of information going out to all people who menstruate.

5.2 Survey of parents/carers

274 parents/carers completed the survey. Of those surveyed, 67.9% had menstruated with 91.4% of those having experienced pain either when younger, older, or consistently over time. Appendix II provides an overview of participant demographic details.

5.2.1 Information about periods

5.2.1.1 Participation in activities

Almost seven out of 10 (67.7%) parents/carers who had menstruated said that their period had prevented them from participating in various activities such as school, studying, sport, swimming, social events, or work. Their reasons for non-participation varied with 33.6% pointing to period pain; 25.2% saying that the heaviness of their period prevented participation; 21.9% said that their periods made them too tired; and 20.8% were worried about bleeding through their clothing. Only 2.5% of respondents said that participation was impacted by not being able to access period products, and 2.9% were influenced by cultural beliefs. Other reasons given by individual respondents related to mood swings, vomiting, inability to use tampons, and intense pain due to endometriosis.

5.2.2 Knowledge about periods

5.2.2.1 Period information sources

Of those who had currently or previously menstruated, 70.8% had sought information from their families, with other sources including friends (48.5%), educational institution (45.26%), the internet (37.6%), and via a medical consultation (31.8%). Only 9.1% had sought information from a school nurse, with a further 8.0% from social media, and 7.3% from other allied health professionals such as an herbalist or traditional healer. Another 6% of respondents also mentioned books/magazines as a source of information about their period.

When probed about information content, the parents and carers indicated that the information covered the menstrual cycle (69.0%); period products (60.2%); causes of period pain and how to manage the pain (54.4%); other symptoms like tiredness and emotional changes (53.3%); contraception to avoid pregnancy (43.8%); contraception to manage period symptoms (33.2%); when to consult with a doctor (25.2%); and endometriosis and other causes of pelvic pain (16.1%).

5.2.2.2 Managing period symptoms

Parents/carers were asked if their child/children had period symptoms, such as pain or heavy bleeding, and how they managed this. 74.1% said that they gave their child pain medication to help with adverse symptoms; 52.9% let them have time off from additional activities like music practice or sport; 50.4% let them have time off school; 48.9% provided other remedies like heat, prayer, or herbal tea; 42.7% took them to the doctor; and 6.2% too them to an alternative health practitioner such as an herbalist. In open-ended responses, one parent/carer expressed the sentiment that they "try and make it as easy as possible for them to attend school/other activities but ultimately would ask them what they need and provide support." Conversely, others stated that "if they couldn't manage school, stay at home (but do homework)."

Another respondent explained the importance of supporting students to persist with attendance regardless of the pain and reiterated that they "don't let them have time off school or sports or anything. I try and help them by getting medication or seeing a Dr, but I don't want to start that thing that some families do where every single month the kids take a couple of days off." In this same vein, it was considered "that [missing school due to periods] is setting them up for disaster. Sadly, we have to learn to manage the pain and discomfort, but I definitely help my kids to try and manage the symptoms."

5.3 Survey of teachers

116 teachers completed the survey. These teachers worked with young people aged between 13–18 years across Australia. The majority (67.2%) were female and 52.6% taught in a secondary school, and of these, 41.0% were HPE teachers. Appendix III provides an overview of participant demographic details.

5.3.1 Demographic information

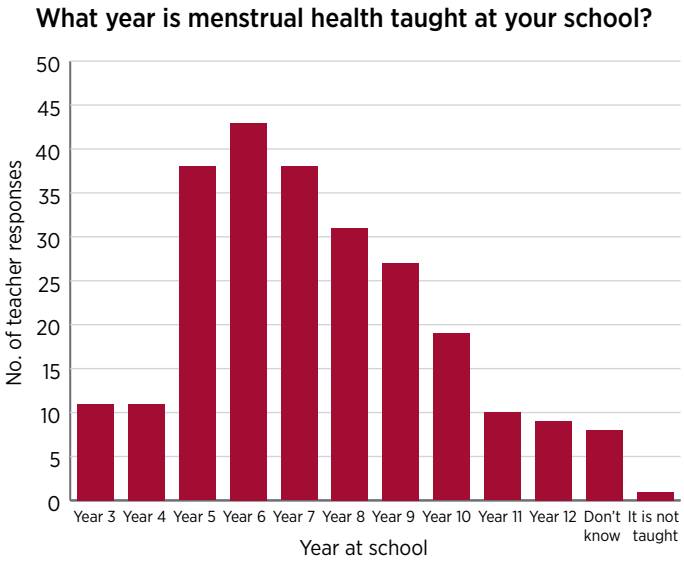
5.3.1.1 Teaching about periods

The teachers were asked to describe who teaches about periods in their school, 69.8% indicated HPE teachers, followed by year advisors (19.0%) and girls' advisers (19.0%), school nurses (16.4%), and pastoral care teachers (8.6%). In addition, 7.8% of teachers were unsure and 12.9% of teachers selected 'other' including external providers.

5.3.1.2 School years menstrual health is taught

Teachers were asked to state what year(s) menstrual heath teaching was taught, most commonly years 5–7 (See Figure 2)

Figure 2: What school years menstrual health is taught



5.3.2 Menstrual health teaching skills, knowledge, and behaviour

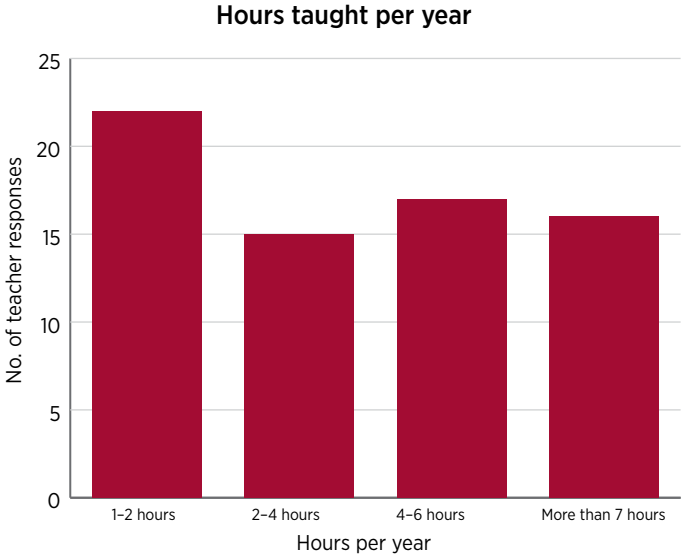
5.3.2.1 Aspects of menstrual health teaching

The majority of teachers (61.2%) indicated that they teach about menstrual health at their school. They were then asked to nominate which aspects of menstrual health that they teach. The most frequent response was the biology of a menstrual cycle (66.2%), followed by menstrual product types (52.1%); what is considered a 'normal' cycle and symptoms (47.9%); the impact of hormones on emotions (46.5%); how to use menstrual products (45.0%); hormonal impacts on the body (40.9%); how to manage symptoms and pain (36.6%); provision of lived examples and scenarios (32.4%); how to discuss issues with health professionals (29.6%); what is considered irregular (29.6%), and what to do about it (23.9%); contraception to prevent pregnancy (19.7%); contraception to manage periods (19.7%); and evidence-based remedies for managing symptoms (15.5%).

5.3.2.2 Hours dedicated to menstrual health teaching

Teachers were asked to comment on how many hours per year were spent teaching menstrual health. Figure 3 displays the hours dedicated per year to teaching menstrual health according to the teacher responses.

Figure 3: Number of hours teaching about menstrual health



5.3.2.3 Gender/sex menstrual health lessons

Teachers were asked to state whether the students were separated by gender when teaching about periods. Two-thirds of responses to this question indicated that classes were separated by gender for menstrual health le ssons.

5.3.2.4 Pre-service teacher education

Only just over one third (37.9%) of teachers indicated that they had completed a course or had content related to menstrual health in their pre-service teacher education. Of these, aspects that were covered in the course included: the biology of a menstrual cycle (75%); what is considered 'normal' (56.8%); menstrual product types (47.7%); how to manage symptoms (47.7%), specifically pain (40.9%); what is considered irregular (40.9%); how to use menstrual products (40.9%); hormonal impacts on the body (38.6%); what to do with an irregular cycle (38.6%); contraception to manage menstruation (36.4%); scenarios and examples of how to manage your menstrual cycle (31.8%); contraception to manage pregnancy (31.8%); hormonal impacts on emotions (29.5%); how to discuss issues with health professionals (22.7%); and evidence-based remedies for managing symptoms (20.5%).

Just under one third (31.0%) of teachers said that they had received professional development related to menstrual health, but 77.4% indicated that they would be interested in more training. Most teachers expressed interest in e-learning/webinars (47.4%), followed by resources (41.4%), training from an external provider (30.2%), and training delivered internally (24.1%), or via an external course (19.8%).

5.3.2.5 Period information sources

The most common source of information for teachers about menstrual health was from personal experience (60.3%), followed by the internet (56.9%); family and friends (47.4%); search engines (44.8%); education journals (38.8%); colleagues (in-person) (31.9%); social media (28.5%); classroom experience (26.7%); education blogs (25%); digital books (21.6%); popular education books (23.3%); parents/carers (19.8%); media (17.2%); professional development (13.8%); students (11.2%); cognitive journals (11.2%); and colleagues on Twitter (5.2%).

5.3.2.6 Student information sources

Teachers were asked to indicate where they thought students obtained information about periods from. The most frequent response was from their friends (73.3%), followed by the internet/google (69.8%), parents/carers (69.0%); siblings (50.9%); social media (50%); from school (43.1%); school teachers (32.8%); school nurse (32.8%); medical consultations (31.9%); other health professionals (19.0%); and by visiting a clinic (13.8%).

5.3.2.7 Student information sources

Teachers thought that students needed to know how to manage symptoms (59.5%); what is considered to be normal (57.8%); what to do if periods are abnormal (56.9%); what is considered to be regular (56.0%); how to deal with menstrual pain (55.2%); hormonal impacts on emotions and the body (50.9%); how to use menstrual products (49.1%); how to discuss issues with health professionals (48.3%); evidence-based remedies for managing symptoms (46.6%); contraception to manage menstruation (46.6%); biology of a menstrual cycle (42.2%); menstrual product types (37.9%); contraception for preventing pregnancy (37.9%); and scenarios and examples from lived experiences (32.8%).

5.3.2.8 Student activities during menstruation

Most teachers (85.5%) indicated that they did allow students to sit out from certain activities during their period, if requested, and all (100%) teachers said that they allowed students to go to the toilet during class. In addition, 70.4% of teachers said that their school made period products freely available.

5.3.3 Open-ended survey items

Several items in the survey required qualitative responses from respondents. These questions and an overview of the responses are illustrated below.

5.3.3.1 Teaching menstrual health

Respondents offered a range of different comments in relation to how they felt about teaching menstrual health to students. In total, 102 respondents provided a qualitative response to this item. Responses to the question tended to be divided into two perspectives depending on how it was interpreted. The first was how the respondent personally felt in relation to their comfort/confidence or discomfort/lack of confidence in teaching menstrual health. Aligned with this were comments related to the need for more training for educators about this topic. The second interpretation of the question related to how they felt regarding the importance or need for teaching menstrual health.

5.3.3.1.1 Comfortable and confident

The theme of feeling 'comfortable and confident' was evident in many of the responses to this question. For instance, encompassing "fairly comfortable" [and] "not a problem" [and] "great! Love it" were reflected feelings in many of the comments related to this item. Respondents who were not necessarily experts in HPE also expressed their desire to support students around menstrual health mainly because of their own experiences of menstruation or as the result of poor experiences surrounding it. Some respondents who expressed confidence also noted constraints or limitations related to the teaching of menstrual health. For instance, providing comprehensive menstrual health education was impacted by time constraints and a crowded curriculum. There was also a need for more information or training in menstrual health. This was commented upon by several respondents who simultaneously expressed their confidence in teaching about menstruation.

5.3.3.1.2 Not confident/uncomfortable

The theme of feeling 'not confident/uncomfortable' was also evidenced in many of the responses. Many respondents to this question highlighted how they did not feel at ease teaching menstrual health to students. The reasons, when given, ranged from inexperience and a lack of training, through to general anxiety about the content and its potential contentiousness. Some respondents placed menstrual health education within medicalised discourses suggesting that those with medical training should teach it, claiming that they "*prefer [red] nurse teaches it. I am not a doctor.*" This preference for others to teach reinforced a need for greater training around this topic for educators.

Perhaps those feeling most uncomfortable/not confident were male teachers who had no personal experience of menstruation. Undoubtedly, this lack of experience combined with inadequate training and discourse position menstruation as private, taboo, and not to be discussed. Within this landscape, many respondents felt that, typically, "*as a male it is an unfamiliar subject and one I struggle to do" [and]"uncomfortable teaching it to young females, as a male. However, I would feel comfortable if it were my children.*"

5.3.3.1.3 More training needed

Some respondents alluded to a perceived lack of training and information in relation to menstrual health education, both at the pre- and in-service levels. Teachers felt that they "would feel positive and confident about it if [we] had relevant training and access to accredited resources." Such participants felt ill-equipped to comprehensively deliver menstrual health education. The results highlighted the imperative for more training at the pre-service stage and for professional learning opportunities at the in-service stage to ensure that teachers feel comfortable and confident to effectively educate their students about this topic.

5.3.3.1.4 Important for students to know about

The second interpretation of this question involved how respondents felt in relation to the importance of, and subsequent need for, teaching menstrual health. Comments were positioned in discourses of normalisation where menstruation was seen as "*important" [and that] "everyone needs to know it's healthy and normal.*" There was a recognition that menstrual health education is a critical part of young peoples' education although not always dealt with sufficiently in schools. Accordingly, respondents felt that "*it doesn't happen enough*" [and] "*I wish we did it more.*" The general consensus was that it was of high relevance to students' lives. Some respondents provided a very gendered approach in terms of for whom this knowledge is important; that is, girls and women. However, there was an awareness, by some, that menstrual health education also had relevance to, and was, "*extremely important for both male and female students, and male and female teachers.*"

5.3.3.2 Menstrual health topics

Teachers were asked what sort of topics regarding menstruation did they need to know more about. Across the 71 responses to this question, three key themes relating to a desire for increased knowledge acquisition predominated the analysis. These themes included: 1) menstruation; 2) 'abnormalities' – dysmenorrhoea/disease and treatments; and 3) strategies and approaches to teach about menstruation. These themes are detailed below.

5.3.3.2.1 Menstruation

This theme identified a need for more knowledge about menstruation. The topics highlighted ranged from the specific aspects of menstruation through to more broad education that covered "*all of it"* [and] "*everything, I know little beyond my personal experience.*" Other concepts related to physical aspects of menstruation, such as "*how to understand menstruation correctly*" [and] "*irregular cycles and symptoms*" through to understanding the [range of] "*symptoms.*" Some concepts highlighted more detail about uses of contraception in the regulation of menstruation and "*why contraception is used to control it*" and the use of menstrual cups. There was also a desire to understand more about emotional well-being around menstruation and being able to "cope with the arrival of menstruation" [as well as] "*the impacts of the menstrual cycle on other health aspects such as mental health, concentration, cognition*" [and] "*mood swings during a period.*"

5.3.3.2.2 Abnormalities– dysmenorrhoea/disease and treatments

Concepts around the theme 'Abnormalities – dysmenorrhoea/disease and treatments' ranged from a desire to know more about period cycles, in particular, "*mainly irregularities in menstrual cycles*" [and] "*more about how to treat irregularities [and] what the options are for those with irregularities*" through to wanting information on issues related to menstruation and treatments for associated conditions as reported below. A few respondents requested information on testing. However, only two highlighted the need for additional information on gender diverse experiences, such as "*trans health*" [and] "*non-binary menstruation – approaching general topic via greater degree of inclusivity at large.*"

5.3.3.2.3 Strategies and approaches to teach about menstruation

The third key theme reported respondents' wishes for more information and resources related to strategies and approaches to teaching about menstruation. There was a considerable need for information about age-appropriate ways to educate on this topic, particularly for young students. Education for young people is critical, considering that some students start menstruating in early primary school, well before this topic is dealt with in any comprehensive way, in most classrooms. The concept of "*how to explain it to younger students*" was prevalent among responses.

Many respondents were also aware of the sensitive nature of this topic and the need to broach it carefully, whilst simultaneously being mindful of students' comfort. There was also recognition by some respondents that cultural differences need to be accommodated and that stigma and shame often surround menstruation. Due to these factors, respondents highlighted the need to make classrooms safe for discussion about menstruation.

5.3.3.3 Important content for menstrual health teaching

Respondents were asked to comment on what other content they felt should be taught about menstruation at school. Beyond general responses related to menstruation, many of which are mentioned in responses to other questions from the survey, issues related to (mostly) binary-gender inclusions in menstrual education reported by the participants as content that should be taught. These allusions to gender were in relation to boys being exposed to, and included in, the teaching of menstruation. Typical responses centred around the concept that "*...there should be more focus on irregularities.*" [and] "*...I also think boys should be introduced to the topic so it isn't so foreign to them*" [and] "*boys should have a greater understanding and awareness of what menstruation is.*"

The importance of increased knowledge about menstruation was also extended to teachers; that is, male teachers were seen as requiring additional support so that they can teach students about this topic in more personal ways. Only one respondent mentioned how menstruation can trigger gender identity issues for some young people and, therefore, should be taught in the curriculum.

5.3.3.4 Responding to period pain

When teachers were asked how they respond when students tell them they have period pain, respondents offered a range of different approaches to addressing issues of period pain with students. Of these, 94 respondents provided a qualitative response to this item. Responses were coded according to the respondents' articulated action when encountering a student in this situation. It should be noted that there was some overlap across codes. Four main themes were identified as follows: 1) external assistance; 2) respect and listen; 3) inquire; and 4) physical interventions, which will now be detailed.

5.3.3.4.1 External assistance

Approximately one-third of the respondents stated that they would refer the student with menstrual pain to another individual, in particular, "*send them to the [school] nurse*" for further assistance or "*send [them] to the sick bay*" [or] "*school office*" where more focused attention could be paid to the individual. At times, this response was for immediate action and entailed "*...ask[ing] them how they feel and take them to the nurse*" with little information provided in terms of what support the nurse or sick bay may offer.

Some respondents identified the type of external assistance that the student required, illustrating familiarity with menstrual pain, either self-experienced or witnessed. This prompted some respondents to "*send [students] to the school nurse for pain relief medication, [or recommend] a lie down or heat bag.*" Other respondents voiced the need to "*tell them to visit the school nurse for pain killers, [and] ask if they have products.*"

Several respondents pointed to the lack of medical support that they could legally offer the student and pointed to options such as "*heat pack, nurse [because] we aren't allowed to do much for them*" [and] "*if it's really bad they will need to go home for Panadol because we cannot provide that at school.*" [and] "*they can rest at the back of the classroom if it's manageable.*" Other respondents offered students "*... the sick bay [and] ask[ed] if they have pain meds in their bag.*" Where referring the student for medication, this highlighted a likely strategy to overcome the legal constraints of physically providing minors with medication at school, thereby, asking students if they had their own drugs to support their dysmenorrhoea.

5.3.3.4.2 Respect and listen

Another frequently cited response for this theme involved expressing empathy towards the student in pain and endeavouring to address the situation respectfully. This did not always reflect any actual strategies for addressing the problem (although sometimes it did), but suggested, more so, how the teacher engaged on an emotional level with the distressed student. There was broad recognition that the student required support and teacher time in these responses.

Although teachers wanted to assist their charges, there was recognition by some respondents related to how students are agentic and often know what they might need to do to alleviate their pain symptoms. In such instances, respondents acted quickly to "*comfort them and then ask them about remedies they have done at home.*" Some respondents also highlighted how they affirmed the student's experience of pain, even aligning the student's experience with their own, with notions of empathy favouring "*I get it.*"

5.3.3.4.3 Inquire

Another theme that was akin to 'Respect and listen' was where the respondent inquired into what the young person in distress normally did to alleviate pain. This was often to establish the degree of frequency of dysmenorrhoea and to also identify avenues for pain relief. Many respondents commented that while it "*depends on the specific pain and situation*" [most will always] "*listen and ask appropriate questions to gather more information before offering advice.*" At times, these questions were to establish whether the student could remain in the classroom context or whether seeking external support was required.

5.3.3.4.4 Physical interventions

Many respondents offered advice to the hypothetical student experiencing dysmenorrhoea in terms of actions they could take to alleviate their symptoms or provided suggestions about how to address this phenomenon with unwell students more generally. Non-medical approaches that were encouraged, but were not limited to, the use of hot compresses, drinking warm water or lemon water, and being warm and getting adequate rest. Some respondents also recommended pain killers as a solution to dysmenorrhoea.

The qualitative responses to this open-ended item were, overall, highly supportive of young people experiencing period pain at school. Many respondents clearly felt that successfully addressing dysmenorrhoea was beyond their expertise, thus, advising students to seek medical attention; this often started with recommendations to attend the school nurse, but also included seeking more specialist advice. Most ideas for support reflected approaches recommended by complementary medicine professionals, which could be enacted quickly and inexpensively by the student; however, clearly some students require clinical assessment and support.

5.4 Teacher interviews

One-on-one interviews were conducted with 10 teachers who worked with young people aged between 13–18 years in NSW. The interviews provided deeper qualitative examination of menstrual health issues as they play out in schools. Of the 10 participants, seven worked in the state/public education system and three in the Catholic education system. Teaching experience ranged between 10–30 years. Appendix III illustrates the characteristics of the participants. Four main themes were generated from this data and are summarised below.

5.4.1 Teaching menstrual health education

In NSW secondary school education, menstrual health is taught as part of the year 7–10 (Stage 3 and 4) Personal Development, Health and Physical Education (PDHPE) curriculum. All teachers said that they covered it in year 7 as part of growth and development, and most would cover it again briefly in years 8–10. Teachers were aware that it was necessary to cover the topic in theory lessons [and] "*teach the changes that occur throughout their high school years, puberty is covered, and menstruation is part of that*" even though it was not specifically articulated in the syllabus. As part of growth and development, menstrual health teaching was considered part of the changes that occur in young people through adolescence.

All teachers said they had always covered the content from a science-based perspective of changes in the body. Most of the teachers acknowledged that it was much broader now with greater awareness of period pain, with a few teachers raising the media and online attention to endometriosis and how "*it's been interesting to hear about menstruation being more openly talked about, most of the girls in my class are very open about it.*"

The teachers in the co-educational schools all said it would be great if they could spend more time with the girls unpacking the topic further, but it just was not practical, particularly in the small number of hours available to teach health education each week. Participants felt that "*generally, the boys are pretty good if it is framed the right way and they can relate it back to their mum or sister; however, their interest level is not very high.*" Teachers largely reiterated that "*the girls are less likely to ask questions in a co-ed class about this topic, so it is important to apply a range of teaching strategies beyond discussion.*" The male teachers felt more uncomfortable teaching menstruation and admitted to brushing over it as part of puberty changes. Most of the male interviewees felt that they could "*...teach about changes but at the end of the day most of the girls know more than [them].*"

The common pedagogy was exploring the body and changes through activity sheets, online body resources, such as ClickView[6], and reading information and answering questions. A couple of teachers used an anonymous discussion board to allow students to pose questions that they then answered. With this approach, the teachers had a good response as it was anonymous and it gave them the opportunity to look at more information. In particular, one participant noted that "*some questions were a bit more detailed*" [while another] "*wanted to make sure [they] gave the right advice*". In most cases, "*it [was] a matter of finding the right information*" [and] "*usually go[ing] to a scientific or medical website.*" None of the teachers mentioned research, and only a few mentioned online resources with no specific site other than the NSW Department of Education PDHPE website, ClickView, mentioned by the public-school teachers.

5.4.2 Greater professional learning

Professional learning was considered important in teacher education and for in-service teachers. In particular, male teachers felt ill-equipped to teach something they had not experienced. None of the teachers could recall specific menstrual health education in their teacher education degrees other than learning "*...about the changing body and periods but never about pain management, it really was not something that was talked about.*" Another teacher said they remembered hearing that some students will try to get out of physical education and that they were encouraged to "*...brush the students off and say that they need to do more exercise as this will stop the pain.*"

None of the 10 teachers interviewed had undertaken any professional learning about menstrual health, which is surprising given that most had taught for between 10–30 years. This demonstrated that, as a topic, it is not a focus area and may still hold some taboo around it. Teachers talked about the full curriculum and having to prioritise topics such as drugs, sexuality, and nutrition, which also offered easier access to resources and professional learning. No teachers were familiar with specific professional learning offered about menstruation. Most participants highlighted that "*we just don't have the time to explore this topic*" [and] "*to be honest, when I've googled resources, it was very limited and confusing.*"

Teachers all said that they were not across the recent research and would like to learn more about how best to teach the topic and recognise the different experiences particularly around pain management. Around this concept, there was acknowledgment that "*some of the girls have a hard time, and they miss school.*" Other respondents elaborated further and commented that "*I've suggested heat packs and light exercise but beyond that I don't know.*" Overall, however, it was noted that "*we can't recommend Panadol as that is not our role to do that.*"

6 As part of the PDHPE Website, ClickView offers high-quality educational videos and teaching resources suitable for primary schools, secondary schools, and further education settings. Designed to promote student engagement and deeper subject understanding, all ClickView-produced content has been developed to align with the Australian Curriculum.

5.4.3 Access to resources

It was evident from the interviews that teachers would like to see a one-stop shop where they can receive up-to-date information supported by evidence-based research that also offers an effective unit of work or at least some prepared lessons. Although there are resources available, participants reiterated that while "*a lot comes up on a general search … you have to spend time going through the links and seeing if there is any resources that can be used.*" In voicing the difficulty of distinguishing their credibility, participants agreed that it would be "*much better if we have access to a tested resource which is supported or endorsed.*"

Participants agreed that engaging students was vital, and they wanted resources that achieved engagement and effective knowledge. Most of the teachers said they would like easy professional learning activities that would allow them to be across the latest information and/or research so they could better equip their students.

5.4.4 Whole-school approach

Teaching menstrual health education as part of the PDHPE curriculum was considered vital; however, just as important was ensuring a 'whole-school approach' was underpinned by awareness and support. While teachers acknowledged that it was still embarrassing for some students to talk about it, it was felt that "*they are so much more open than we were, nothing seems to be off limits.*" It was felt that this was due to the younger generation being more open about their bodies and the sharing of personal information in general. Conversely, there were still students who were uncomfortable as menstruation was not something openly discussed at home.

In some schools, the PDHPE staff had sanitary items in their staff room and then there was also usually some at the front office. Some schools had moved, or were moving to, vending-style machines in the girls' toilet to help students who might be embarrassed to ask for items. Others have used money to purchase period items. Some respondents noted that "*we have students who come from very low-income families and due to the expense, they just can't afford pads and tampons*". Similarly, other participants voiced that they "*used to always get boxes at the beginning of the year, but this seems to have stopped.*" In other instances, participants noted that they had "*purchased period undies to help these girls, so they continue to have their own item.*"

The teachers all talked about how they were more aware of transgender and gender-nonconforming[7] (TGN) students and the challenges that this created particularly being a PDHPE teacher. Teachers commented that PDHPE teachers were progressive and much more open and supportive of diversity. Even so, they still felt they had to understand the topic and ensure any bias was not brought into their teaching. Some of the teachers commented that they "*heard others talk about it [TNG students] being a phase and a group of students following each other*". As such, participants felt that [they] *"have a responsibility to give [their] students the right to be who they are and provide a supportive environment. Generally, the other kids are really supportive.*" The Catholic school teachers said it was less common for TGN students to be in Catholic schools and they had not experienced this yet.

The public schools all provided TGN toilets and ensured there were sanitary items in there for use. As many of the schools were old, the only way TGN toilets could be accommodated was by repurposing a staff toilet.

7 'Transgender' is a general term used to describe people whose gender identity differs from the sex they were assigned at birth.

'Gender nonconforming' refers to people who do not adhere to societal pressures to conform to gender norms and roles based on the female or male sex they were assigned at birth.

'Transgender' and 'Gender nonconforming' are umbrella terms that often encompass other terms such as transsexual, cross dresser, gender queer, femme queen, A.G., Two Spirit, and many more. It is important to refer to people with the term they prefer.

6. Discussion and Conclusions

6.1 Survey of young people

The survey conducted among 296 young people provided valuable insights into their experiences, knowledge, and preferences regarding menstruation and menstrual health education. The key findings are as follows:

1. Period-related school absences: A significant proportion of students (21.0%) reported needing time off school due to their periods in the previous three months. The reasons for these absences included period pain; tiredness; heavy periods; concerns about bleeding through clothes; and cultural beliefs. Additional reasons mentioned were related to symptoms such as mood swings; headaches; and vomiting.
2. Awareness and education: The majority of students (79.1%) indicated that they had learned about periods in their health classes. They also demonstrated awareness of conditions, such as endometriosis and PCOS. Mothers, the internet, and teachers were the primary sources of information about periods for students, followed by social media and friends.
3. Areas for further information: Students expressed a desire for more information on various topics, including endometriosis and other sources of pain; what is considered 'normal' and when to seek medical advice; heavy bleeding, contraception for managing periods; causes of period pain; and other associated symptoms.
4. Recommendations for schools: Young people provided valuable suggestions for improving support during menstruation. These included acknowledging the severity and impact of period pain; providing accessible period products; educating boys about periods; ensuring clean and well-equipped bathroom facilities; fostering supportive discussions about periods; improving education for male teachers; accommodating students' needs during exam; and normalising conversations about periods.
5. Preferred learning methods: Most young people expressed a preference for learning about periods at school and discussing it at home. They also showed interest in accessing information through websites and smartphone apps.

Overall, the findings emphasise the importance of comprehensive menstrual health education that addresses young people's diverse needs and concerns. By implementing the recommendations put forth by students as well as ensuring accurate and standardised information, schools can play a crucial role in promoting awareness, understanding, and support surrounding menstruation.

6.2 Survey of parents/carers

The survey conducted among 274 parents/carers revealed significant insights into the impact of menstruation on various aspects of individuals' lives and the management of associated symptoms. The findings indicate the following key points:

1. Period-related limitations: A majority of parents/carers (67.7%) with children who had experienced menstruation reported that their periods had prevented them from participating in activities such as school, studying, sports, swimming, social events, or work. The reasons varied, including period pain; heaviness of flow; fatigue; and concerns about bleeding through clothing. Only a small percentage mentioned challenges related to accessing period products or cultural beliefs.
2. Sources of information: When seeking information about periods, respondents primarily turned to their families; friends; educational institutions; the internet; and medical consultations. School nurses, social media, and other healthcare professionals were less frequently cited as sources. The information obtained covered various aspects, including the menstrual cycle; period products; management of pain and other symptoms; contraception; and when to consult a doctor. Some respondents also mentioned learning from books and magazines.
3. Managing period symptoms in children: Parents/carers outlined their approaches to managing period symptoms in their children. The majority (74.1%) provided pain medication, while others allowed time off from activities, school, or sports, offered remedies like heat, prayer, or herbal tea, consulted doctors, or sought complementary health practitioners. Some emphasised the importance of supporting their children to attend school while providing necessary support and understanding.

Overall, the survey highlights the need for improved education and support surrounding menstruation. It underscores the importance of addressing period-related limitations, enhancing access to accurate information, and implementing strategies to effectively manage symptoms in young people. By addressing these areas, we can contribute to the well-being, academic success, and overall quality of life for individuals experiencing menstruation and their support networks.

6.3 Survey of teachers

The survey conducted among 116 teachers provided valuable insights into the current state of menstrual health education in schools. The findings indicate the following key points:

1. Menstrual teaching: HPE teachers were primarily responsible for teaching about periods in schools, followed by year advisors, girls' advisors, school nurses, and pastoral care teachers. The survey also revealed that menstrual health education was taught in various years, with the majority of teachers indicating that it was covered in Year 7 or Year 8.
2. Menstrual teaching topics: Teachers reported covering a range of topics related to menstrual health. The most commonly taught aspects included the biology of the menstrual cycle; menstrual product types; what constitutes a 'normal' cycle and associated symptoms; the impact of hormones on emotions; and how to use menstrual products. However, there were variations in the extent to which these topics were covered, and some areas received less attention, such as evidence-based remedies for managing symptoms and contraception to manage periods.
3. Menstrual health content: In terms of content that should be taught about menstruation, respondents stressed the importance of including boys in menstrual education. They suggested increasing awareness and understanding of menstruation among boys to normalise the topic and reduce stigma. Some respondents also mentioned the impact of menstruation on gender identity and emphasised the need to address this aspect in the curriculum.
4. Further menstrual knowledge: Teachers identified several areas where they felt students needed more knowledge, including managing symptoms; understanding what is considered irregular; dealing with menstrual pain; and comprehending the hormonal impacts on emotions and the body. It is crucial to address these gaps and provide comprehensive education that empowers students to make informed decisions about their menstrual health.
5. Teacher education: Only a minority of teachers had received pre-service education specifically focused on menstrual health. However, there was a strong interest among teachers in professional development opportunities in this area, particularly e-learning/ webinars and access to educational resources. This suggests a need for ongoing training and support for teachers to enhance their knowledge and confidence in delivering comprehensive menstrual health education.
6. Teachers' feelings about teaching menstrual health: The responses were divided into two main perspectives. Some teachers expressed feeling comfortable and confident, emphasising the importance of supporting students based on their own experiences or the need to address the topic due to negative experiences surrounding menstruation. This was often attributed to inexperience, insufficient training, or anxiety about the content and its potential contentiousness. Male teachers, in particular, highlighted their unfamiliarity with menstruation and the challenges they faced in teaching this topic.

7. Responding to students who report period pain: Some teachers referred students to external assistance, such as the school nurse or sick bay, for further support. Others expressed empathy, listened to the students, and acknowledged their pain. Many teachers inquired about the students' usual remedies for pain relief and offered suggestions based on non-medical interventions. Overall, the responses demonstrated a supportive attitude toward students experiencing period pain, with an understanding that more severe cases may require medical attention.

   The survey also revealed that most teachers allowed students to sit out from activities if requested due to their periods, and schools generally made period products freely available. These practices contribute to a supportive and inclusive environment that acknowledges the unique needs and challenges associated with menstruation.

8. Sources of information: Teachers relied on various sources of information about menstrual health, including personal experience, the internet, family and friends, and education journals. They believed that students primarily obtained information from their friends, the internet, parents/carers, and siblings. This emphasises the importance of ensuring accurate and reliable information is accessible to students, both in school and through other channels.

The survey responses revealed the importance of addressing menstrual health education in schools. Teachers expressed a need for more training, knowledge, and resources to effectively teach about menstruation and support students. As evidenced elsewhere (16), it is crucial to create inclusive and safe learning environments where menstruation is normalised, stigma is addressed, and all students are educated about this topic. In particular, men consider menstruation something to be self-conscious about (17), which renders the topic difficult to teach for some male educators. Furthermore, stigma and shame often surround menstruation (18, 19), indicating that cultural differences need to be accommodated. By providing teachers with the necessary tools and support, schools can play a significant role in promoting menstrual health and well-being among students.

In the teacher survey, only two respondents highlighted the need for additional information on trans and non-binary experiences. This is an interesting finding considering a) the increase in visibility of young people who do not identify within the binary gender identities (20); and b) the reported omissions of these perspectives in PDHPE (21). Similarly, only one respondent mentioned how menstruation can trigger gender identity issues for some young people and, therefore, should be taught in the curriculum. This is a critical area that is entirely overlooked in most PDHPE classrooms yet can have considerable impact on gender identity, both for binary gender and non-binary individuals (22).

The teacher survey also indicated a need for more training and information on menstrual health. Many respondents expressed discomfort and lack of confidence in teaching menstrual health, a finding in line with other research in the area (23). Respondents expressed a desire for comprehensive knowledge about menstruation, including its physical aspects, emotional well-being, and impacts on overall health. They also highlighted the importance of understanding menstrual abnormalities, dysmenorrhoea, and related treatments. Additionally, teachers expressed a need for guidance on age-appropriate strategies and approaches to teaching about menstruation, particularly for younger students. They emphasised the importance of creating a safe and inclusive classroom environment that accommodates cultural differences and addresses the stigma and shame often associated with menstruation.

The findings indicate both strengths and areas for improvement in menstrual health education. It highlights the need for comprehensive and standardised education, ongoing teacher education, and access to accurate information for students. The survey responses also provided valuable insights into teachers' perspectives on teaching menstrual health and addressing period-related issues in schools. The findings revealed a range of viewpoints and highlighted the need for further training and resources in this area. By addressing these aspects, schools can better support students' menstrual health and contribute to their overall well-being and educational success.

6.4 Teacher interviews

The one-on-one interviews conducted among 10 teachers provided valuable qualitative exploration of menstrual health education in schools. The findings indicate the following key points:

1. How menstruation is taught: In all 10 schools, menstruation education was taught by the PDHPE staff. In the eight co-educational schools, the boys/girls remained in the class together. This, in turn, only allowed 1–2 lessons on the topic as it was not covered in detail. Participants from the two public high schools noted that there are TGN students at their school and accommodations were made with providing a TGN toilet for use. While navigating this space was challenging, they ensured that sanitary items were accessible
2. Menstrual health in the curriculum: All participants mentioned that menstruation was taught in year 7 (stage 4) PDHPE class. Some students had encountered it in primary school or knew information from older siblings or parents/caregivers. However, there were some students that they felt knew very little. In addition, it was felt that boys had limited knowledge. In general, menstruation was briefly visited each year from years 7–9. Teachers taught the topic mainly from a science-based approach with a focus on growth and development, including changes to the body. Five female teachers reported that that they covered period pain and discussed heat packs.
3. Teaching about menstruation: All female teachers felt comfortable teaching about menstruation. While the male teachers said they were fine to teach it from a science-based approach, they felt they could not delve into the details as they had not experienced it and did not have any professional development in this topic.
4. Menstrual health educational resources: All teachers said that there were limited resources available. Half the teachers further elaborated that what they found was too long and not easily transferred into a lesson. Some teachers said they used the Department of Education PDHPE website, ClickView, which is science based and underpinned by their own knowledge.
5. Menstrual health supports: All teachers mentioned that their schools offered sanitary items at the front office. A couple of teachers said that they found it better value to purchase period undies so that the students could keep them and reuse them. They said that previously the school would be provided with sanitary items but this had reduced or ceased in the last couple of years.
6. Formal training in menstrual health: All participants highlighted that they had limited to no professional learning in their teacher education or since becoming a teacher. Three female teachers felt they had adequate knowledge from their own experiences and were aware of endometriosis and some recent information. All teachers felt that more had to be done to increase teacher knowledge. Some teachers raised the importance of ensuring that all staff within a school have a greater understanding so students experiencing menstrual pain can be supported appropriately. In turn, this led to the concept of a whole-school approach.
7. School climate and menstrual health education: All teachers said that there was access to items but there was no emphasis in relation to menstrual health education. It was seen to be the focus of PDHPE teachers and not beyond that. Particularly now that schools can no longer issue Panadol, it was highlighted that schools are not able to adequately support pain management, other than students resting in the sick bay or, if extreme, their parent/care giver being contacted to pick them up from school.

8. Menstrual pain knowledge and management: Most participants encouraged students with period pain to rest and, if it was severe, encouraged them to go to the front office. Participants highlighted that it was vital for front office staff to be educated and well equipped to support students experiencing mental health.

   In physical education lessons, some teachers said that they encouraged students to continue to participate as light exercise was a good way to manage the pain. Other teachers suggested that they sit out or walk around. In some cases, participants felt that some students used menstrual pain as an excuse to not participate in practical lessons, particularly notable that they were never keen participants in physical education.

9. Student toilets: All participants highlighted that all toilets are separated by sex (M/F) and all the public schools had a unisex toilet. Conversely, however, the Catholic schools consider and uphold the religious beliefs.

Overall, the interviews highlight the need for improved education, professional learning, and support for teachers surrounding menstruation. These results underscore the importance of addressing period-related limitations in schools, applying a range of teaching strategies, enhancing access to evidence-based resources, and implementing procedures to effectively manage period symptoms in students. Of equal importance, a whole-school approach was recommended, which ensures awareness and support in addressing these issues.

7. Recommendations

Based on the findings from the surveys conducted among young people, parents/carers, and teachers regarding menstrual health education and the impact of menstruation, the following recommendations are proposed:

1. Enhance menstrual health education:
   - Develop comprehensive and standardised menstrual health education programs that cover topics such as the menstrual cycle; menstrual hygiene products; managing symptoms; contraception; and seeking medical advice.
   - Include information about menstrual disorders, such as endometriosis and PCOS, to increase awareness and understanding; and
   - Provide age-appropriate education and resources for students at different grade levels, addressing their diverse needs and concerns.
2. Provide accurate and reliable information:
   - Ensure that accurate and reliable information about menstruation is accessible to students, both in school and through other channels;
   - Collaborate with healthcare professionals and organisations specialising in menstrual health to ensure that the information provided is evidence based and up to date; and
   - Utilise various mediums, such as websites, smartphone apps, and educational materials to disseminate information effectively.
3. Normalise conversations about menstruation:
   - Foster open and inclusive discussions about menstruation in classrooms, creating a safe and supportive environment where students feel comfortable asking questions and sharing their experiences;
   - Educate students about the normalcy of menstruation and address the stigma and shame often associated with it; and
   - Include boys in menstrual health education to promote understanding, reduce stigma, and foster empathy.
4. Ongoing teacher training and support:
   - Provide comprehensive pre-service and in-service training for teachers, specifically focused on menstrual health education;
   - Offer professional development opportunities, such as e-learning/webinars and access to educational resources, to enhance teachers' knowledge and confidence in teaching about menstruation; and
   - Address the specific needs of male teachers who may feel less familiar with the topic and require additional support.
5. Address period-related limitations:
   - Implement strategies to support students experiencing period-related limitations, such as providing flexibility in participation, allowing time off, and creating supportive policies and accommodations during exams;
   - Ensure access to clean and well-equipped bathroom facilities, including provision of free and easily accessible menstrual hygiene products; and
   - Collaborate with parents/carers to understand and address any cultural or religious considerations related to menstruation.
6. Engage parents/carers and the community:
   - Involve parents/carers in menstrual health education initiatives, providing them with information and resources to support their children; and
   - Collaborate with community organisations and healthcare providers to enhance awareness, support, and access to menstrual health resources and services.

By implementing these recommendations, schools can contribute to the well-being, academic success, and overall quality of life for individuals experiencing menstruation and their support networks.

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Appendix I: Characteristics of young people

Table 1: Demographic details of survey participants

AGE[2]	Mean (SD)	Median (IQR)	Min to Max
In years	16.8 (1.3)	17 (16–18)	13–18
	n = 296[1]		

GENDER[3]	*n*	%
Male	3	1.0
Female	265	89.8
Non-binary/third gender	13	4.4
Transgender	1	0.3
Prefer not to say	3	1.0
Other identified gender	10	3.4

ETHNICITY[4]	*n*	%
Australian peoples	158	53.7
New Zealand peoples	3	1.0
Polynesian	3	1.0
Southern European	3	1.0
South-Eastern European	2	0.7
Eastern European	4	1.4
Western European	13	4.4
Northern European	3	1.0
British	18	6.1
Irish	8	2.7
Jewish	1	0.3
Peoples of the Sudan	2	0.7
Other North African and Middle Eastern	2	0.7
Arab	7	2.4
Mainland South-East Asian	10	3.4
Maritime South-East Asian	5	1.7
Chinese Asian	20	6.8
Other North-East Asian	2	0.7
Southern Asian	21	7.1
North American	1	0.3
South American	2	0.7
Caribbean Islander	1	0.3
Central and West African	2	0.7
Southern and East African	3	1.0

SCHOOL STATE/TERRITORY	*n*	%
New South Wales	215	72.6
Victoria	27	9.1
Queensland	16	5.4
Western Australia	10	3.4
South Australia	17	5.7
Tasmania	2	1.0
Australian Capital Territory	9	3.0

ABORIGINAL AND TORRES STRAIT ISLANDER STATUS[5]	*n*	%
Aboriginal but not Torres Strait Islander origin	28	10.0
Torres Strait Islander but not Aboriginal origin	5	1.80
Both Aboriginal and Torres Strait Islander origin	3	1.10
Neither Aboriginal nor Torres Strait Islander origin	245	87.2

COUNTRY OF BIRTH[6]	*n*	%
Albania	1	0.4
Argentina	1	0.4
Australia	229	81.2
Austria	1	0.4
Bangladesh	1	0.4
Belarus	1	0.4
Canada	1	0.4
China	3	1.1
Germany	1	0.4
Hong Kong (S.A.R.)	1	0.4
India	8	2.8
Indonesia	2	0.7
Ireland	4	1.4
Lebanon	2	0.7
Malaysia	1	0.4
Nepal	1	0.4
New Zealand	3	1.1
Philippines	1	0.4
Poland	1	0.4
Singapore	3	1.7

South Africa	1	0.4
Sri Lanka	2	0.7
Sweden	1	0.4
Turkey	1	0.4
United Arab Emirates	1	0.4
United Kingdom of Britain and Northern Ireland	6	2.1
United States of America	2	0.7
Zimbabwe	2	0.7
LANGUAGE SPOKEN AT HOME	***n***	**%**
English	218	73.7
Mandarin	14	4.7
Italian	8	2.7
Arabic	5	1.7
Cantonese	4	1.4
Greek	1	0.3
Vietnamese	6	2.0
Other	41	13.9
RELIGION	***n***	**%**
No religion	151	51.0
Catholic	53	17.9
Anglican (Church of England)	17	5.7
Other Christian	30	10.1
Islam	19	6.4
Buddhism	9	3.0
Hinduism	9	3.0
Judaism	1	0.3
Other	7	2.4

YEAR AT SCHOOL	***n***	**%**
Year 6	1	0.3
Year 7	3	1.0
Year 8	14	4.7
Year 9	27	9.1
Year 10	33	11.2
Year 11	40	13.5
Year 12	136	46.0
Not attending school	42	14.2
TYPE OF SCHOOL[7]	***n***	**%**
State/public	148	51.2
Catholic	56	19.4
Independent	58	20.1
Other	27	9.3

1. Unless otherwise stated.
2. n = 278 participants.
3. n = 295 participants.
4. n = 294 participants.
5. n = 281 participants.
6. n = 282 participants.
7. n =289 participants.

Respondents could select one option only.

Appendix II: Characteristics of parents/carers

Table 1: Demographic details of survey participants

AGE[2]	Mean (SD)	Median (IQR)	Min to Max
In years	39.7 (9.0)	38.5 (33–46)	19–68
ARRIVED IN AUSTRALIA[3]	**Mean (SD)**	**Median (IQR)**	**Min to Max**
In years	39.7 (9.0)	38.5 (33–46)	19–68
	n = 274[1]		

GENDER	*n*	%
Male	85	31.0
Female	173	63.1
Non-binary/third gender	1	0.4
Other identified gender	15	5.5
ETHNICITY	***n***	**%**
Australian peoples	155	56.6
New Zealand peoples	6	2.2
Southern European	6	2.2
South-Eastern European	3	1.1
Eastern European	2	0.7
Western European	10	3.7
Northern European	5	1.8
British	26	9.5
Irish	5	1.8
Jewish	1	0.4
Other North African and Middle Eastern	2	0.7
Mainland South-East Asian	9	3.3
Maritime South-East Asian	1	0.4
Chinese Asian	16	5.8
Southern Asian	19	6.9
North American	3	1.1
South American	2	0.7
Central American	1	0.4
Central and West African	2	0.7

ABORIGINAL AND TORRES STRAIT ISLANDER STATUS[4]	*n*	%
Aboriginal but not Torres Strait Islander origin	14	5.5
Both Aboriginal and Torres Strait Islander origin	5	2.0
Neither Aboriginal nor Torres Strait Islander origin	237	92.6
COUNTRY OF BIRTH[5]	***n***	**%**
Australia	1	1.2
Bangladesh	1	1.2
Brazil	2	2.4
Canada	2	2.4
China	7	8.3
France	1	1.2
Germany	2	2.4
Hong Kong (S.A.R.)	1	1.2
India	5	6.0
Indonesia	2	2.4
Ireland	2	2.4
Israel	1	1.2
Italy	1	1.2
Japan	1	1.2
Malaysia	5	6.0
Mexico	2	2.4
New Zealand	7	8.3
Norway	1	1.2
Pakistan	3	3.6
Peru	1	1.2
Philippines	4	4.8
Poland	1	1.2
Portugal	1	1.2
Russian Federation	1	1.2
Singapore	1	1.2
South Africa	2	2.4
Sri Lanka	1	1.2
Sweden	1	1.2
United Kingdom of Britain and Northern Ireland	18	21.4
United States of America	2	2.4
Vietnam	4	4.8

LANGUAGES SPOKEN AT HOME	*n*	%
English	221	80.7
Mandarin	13	4.7
Italian	2	0.7
Arabic	2	0.7
Cantonese	4	1.5
Greek	2	0.7
Vietnamese	5	1.8
Other	27	9.9
RELIGON[6]	***n***	**%**
No religion	152	55.9
Catholic	56	20.6
Anglican (Church of England)	13	4.8
Other Christian	23	8.5
Islam	11	4.0
Buddhism	5	1.8
Hinduism	4	1.5
Judaism	2	0.7
Other	6	2.2
HIGHEST SECONDARY SCHOOL	***n***	**%**
Year 12 or equivalent	253	92.3
Year 11 or equivalent	9	3.3
Year 10 or equivalent	10	3.7
Year 9 or equivalent	1	0.4
Year 8 or equivalent	1	0.4
HIGHEST POST SCHOOL	***n***	**%**
Postgraduate Degree	60	21.9
Graduate Diploma or Graduate Certificate	33	12.0
Bachelor's Degree	98	35.8
Advanced Diploma or Diploma Level	33	12.0
TAFE Certificate (any level)	30	11.0
Do not have a post-school educational qualification	20	7.3

1. Unless otherwise stated.
2. n = 258 participants.
3. n = 81 participants.
4. n = 256 participants.
5. n = 84 participants.
6. n = 272 participants.

Respondents could select one option only.

Table 2: Children status of survey participants

CHILDREN	Mean (SD)	Median (IQR)	Min to Max
Number of children[2]	1.5 (0.7)	1 (1–2)	1–5
Age of children[3]	13.7 (4.1)	14 (12–16)	1–27
Age of children by gender[4]			
Boy/man[5]	11.9 (5.5)	12 (8–16)	1–27
Girl/woman[6]	14.2 (3.4)	14 (13–16)	2–24
Prefer not to say[7]	15.3 (1.5)	15 (14–16)	14–18
Other identified gender[8]	13.6 (4.1)	14 (12–16)	1–23
	n = 217[1]		

GENDER[4]	*n*	%
Boy/man	94	22.5
Girl/woman	315	75.5
Prefer not to say	7	1.7
Other identified gender	38	9.1
YEAR AT SCHOOL[9]	***n***	**%**
Year 1	10	2.9
Year 2	5	1.4
Year 3	8	2.3
Year 4	13	3.7
Year 5	23	6.6
Year 6	15	4.3
Year 7	47	13.4
Year 8	47	13.4
Year 9	56	16.0
Year 10	40	11.4
Year 11	34	9.7
Year 12	42	12.0
Daycare	1	0.3
Kindy	1	0.3
Prep	3	0.9
Finished	1	0.3
University	5	1.4

1. Unless otherwise stated.
2. n = 273 participants.
3. n = 415 participants.
4. Multiple responses were allowed.
5. n = 94 participants.
6. n = 313 participants.
7. n = 7 participants.
8. n = 38 participants.
9. n = 351 participants.

Appendix III: Characteristics of teachers

Table 1: Demographic details of survey participants

	n = 217[1]	
GENDER	***n***	**%**
Male	36	31.0
Female	78	67.2
Prefer not to say	2	1.7
ETHNICITY	***n***	**%**
Australian peoples	81	69.8
New Zealand peoples	2	1.7
Melanesian and Papuan	1	0.9
South-Eastern European	2	1.7
Western European	9	7.8
Northern European	1	0.9
British	2	1.7
Irish	2	1.7
Other North African and Middle Eastern	1	0.9
Arab	1	0.9
Mainland South-East Asian	1	0.9
Chinese Asian	4	3.5
Southern Asian	6	5.2
North American	2	1.7
Central and West African	1	0.9
ABORIGINAL AND TORRES STRAIT ISLANDER STATUS[2]	***n***	**%**
Aboriginal but not Torres Strait Islander origin	9	9.0
Torres Strait Islander but not Aboriginal origin	4	4.0
Both Aboriginal and Torres Strait Islander origin	6	6.0
Neither Aboriginal nor Torres Strait Islander origin	81	81.0

COUNTRY OF BIRTH[3]	***n***	**%**
Algeria	1	1.0
Australia	81	82.7
Canada	1	1.0
Egypt	2	2.0
France	1	1.0
Japan	1	1.0
Nepal	1	1.0
New Zealand	1	1.0
Nigeria	1	1.0
Qatar	1	1.0
Sri Lanka	2	2.0
United Kingdom of Great Britain and Northern Ireland	2	2.0
United States of America	2	2.0
Zimbabwe	1	1.0
STATE/TERRITORY[4]	***n***	**%**
New South Wales	36	31.6
Victoria	32	28.1
Queensland	18	15.8
Western Australia	8	7.0
South Australia	6	5.3
Tasmania	4	3.5
Australian Capital Territory	10	8.8
SYSTEM TEACH IN[4]	***n***	**%**
State/public	65	57.0
Catholic	22	19.3
Independent	26	22.8
Other (casual across all systems)	1	0.9
TEACHING LEVEL	***n***	**%**
Primary school teaching (years K–2)	11	9.5
Primary school teaching (years 3–6)	44	37.9
Secondary school teaching (years 7–12)	61	52.6

AREAS OF TEACHING[5]	*n*	%
English	10	16.4
Mathematics	5	8.2
Science	5	8.2
Humanities and Social Sciences	7	11.5
Health and Physical Education (HPE)	25	41.0
Languages	2	3.3
Technologies	2	3.3
Arts	3	4.9
Other (learning difficulties and disabilities; commerce)	2	3.3

1. Unless otherwise stated.
2. n = 100 participants.
3. n = 98 participants.
4. n = 114 participants.
5. n = 61 participants.

Respondents could select one option only.

Table 2: Demographic details of interview participants

	n = 10	
GENDER	***n***	**%**
Male	3	30.0
Female	7	70.0
ETHNICITY	***n***	**%**
Australian peoples	10	100.0
Central and West African	1	0.9
SYSTEM TEACH IN	***n***	**%**
Co-educational State public high school	5	50.0
Girls' State/public high school	2	20.0
Co-educational Catholic high school	3	30.0
Other (casual across all systems)	1	0.9
YEARS TEACHING	***n***	**%**
0–10 years	3	30.0
11–20 years	2	20.0
21–25 years	2	20.0
26–30 years	2	20.0
31–35 years	1	10.0
SCHOOL STATE/TERRITORY	***n***	**%**
New South Wales	10	100.0
TEACHING LEVEL	***n***	**%**
Secondary school teaching (years 7–12)	10	100.0
AREAS OF TEACHING	***n***	**%**
*PDHPE	10	100.0

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