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## Social and structural barriers related to menstruation across diverse schools in the Eastern Cape

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The barriers to education associated with menstruation vary from country to country and within countries. We report on a cross-sectional survey conducted in diverse schools in 2 districts of the Eastern Cape, South Africa. Using multi-stage sampling (stratified random sampling of schools, and purposive sampling of Grade 11 female-identified<sup>ii</sup> learners), we accessed 1,035 respondents with an average age of 17.2 years. Respondents completed a questionnaire developed from previous questionnaires and our readings of the literature. We report here on results pertaining to the social and structural barriers related to menstruation. Just over one fifth of young women<sup>iii</sup> across the whole sample reported missing an average of 1.8 days of school per menstrual cycle, while a significant minority reported restrictions related to sporting and classroom activities. Results show, contrary to expectations, that young women attending under-resourced schools report missing fewer days than young women attending resourced schools, despite young women in under-resourced schools experiencing inadequate sanitation facilities and feeling unsafe using these facilities. This research indicates the importance of recognising social as well as structural features when considering the gendered barriers to education that menstruation may represent.

**Keywords:** barriers; education; gender; menses; menstruation; schooling

### Introduction

Understanding the gender-related barriers to education has occupied researchers and policy makers for a number of decades now (Daoud, 2013). In line with this, menstruation has, in recent years, been highlighted as a factor in young women's absenteeism from school (Vaughn, 2013). In South Africa, the state launched an initiative, the Sanitary Dignity Programme, to "reduce absenteeism attributable to menstrual cycles ... through rolling out menstrual pads to the neediest of our girls, free of charge" (Mtshweni, 2019:para. 11). A number of non-governmental organisations (see Haberer, 2018, for example) also work with communities around menstrual management.

Research shows that the association between menstruation and missing school is not uniform across countries or even within countries (Bobel, 2019). For example, a study in rural areas of Ethiopia found that more than half of young women report missing school during their menstrual cycle, with those not having access to menstrual towels being significantly more likely to be absent from school (Tegegne & Sisay, 2014). Similarly, in Iraqi Kurdistan, Ahmed and Piro (2012) report that one quarter of young women miss school owing to menstruation related causes. Contrary to this, Oster and Thornton (2011) found in their study in Nepal that menstruation had a small impact on young women's school attendance (on average 0.4 days in a 180 day school year), and that improved sanitation technology had no effect on reducing this (small) gap. Grant, Lloyd and Mensch (2013) argue that, although one-third of young women in their Malawian study report missing at least one day of school during menstruation, menstruation accounts for only a small proportion of female absenteeism.

In addition to the above, Grant et al. (2013) found no evidence of school-level variance in menstruation-related absenteeism. They argue that absenteeism is not sensitive to school environments. In this article we report on research conducted in the Eastern Cape of South Africa. Contrary to Grant et al.'s (2013) research, our study shows how menstruation affects young women differently depending on the type of school they attend in this context. South Africa's legacy of apartheid has meant that the schooling system is highly diverse in terms of resourcing and functioning, with a strong overlay of social class and race with type of school attended. School types may be classified according to previous apartheid categories of schools or according to quintile designations.

Based on our findings, we argue that nuance is needed in terms of thinking through menstruation as a gendered barrier to education. While structural barriers to menstruation management clearly need attention, our research indicates that social barriers may, in particular contexts, be more pertinent. In the following we provide some background in terms of research conducted on menstruation and education, and the variability found in South African schooling. We then present the results of a cross-sectional survey we conducted on the

management of menstruation among female learners attending different schools in the Eastern Cape, South Africa.

#### Menstruation and Schooling

A major question in relation to menstruation and schooling is if, and how severely, menstruation affects school attendance. As indicated above, researchers have found mixed results, depending on the country. Research on barriers to school attendance has focused on three main issues: physical infrastructure; access to menstrual products; and social issues.

Research shows that many young women in the Global South<sup>iv</sup> attend schools that do not have adequate sanitation facilities. In terms of physical infrastructure, schools often lack a sufficient number of latrines, access to running water for flushing toilets and washing hands with soap, and access to disposal units for used menstrual products (Kirk & Sommer, 2006; Mahon & Fernandes, 2010; Sommer, Caruso, Sahin, Calderon, Cavill, Mahon & Phillips-Howard, 2016). Young women in these situations complain about a lack of privacy and an inability to wash themselves or dispose of products when changing menstrual ware (McMahon, Winch, Caruso, Obure, Ogutu, Ochari & Rheingans, 2011).

A lack of access to adequate menstrual products during menstruation has been cited as leading to anxiety among female learners (Kirk & Sommer, 2006; Sommer et al., 2016). Where commercial menstrual products are not available, young women may use cloth, toilet paper, leaves, cotton wool, extra layers of clothing and newspaper (Kirk & Sommer, 2006), which have varying levels of menstrual management effectiveness. In one study, the provision of menstrual cups – a modern, reusable commercial menstrual product – was found to have little impact on increased school attendance (Oster & Thornton, 2011).

An inadequately supportive social environment at school may also create barriers in terms of young women's attendance and participation during their monthly menses (Sommer, 2010; Sommer & Ackatia-Armah, 2012; Sommer et al., 2016). Researchers have found that the onset of menstruation creates challenges for young women, in particular fear and confusion on discovering menses, with insufficient support being provided in terms of how to manage menstruation in school (Kansal, Singh & Kumar, 2016; Mason, Nyothach, Alexander, Odhiambo, Eleveld, Vulule, Rheingans, Laserson, Mohammed & Phillips-Howard, 2013; Sommer, 2009). Menstruation is viewed by some female learners as an illness, with secrecy, fear, and shame being associated with menses (Mason et al., 2013).

Other research conducted in various countries in the Global South has focused on early menarche leading to school drop-out as a result of earlier sex-

ual debut and marriage (Glynn, Kayuni, Floyd, Banda, Francis-Chizororo, Tanton, Molesworth, Hemmings, Crampin & French, 2010). In some contexts, early menarche interacts with other social issues. For example, social variability was found in a study in Bangladesh: given the preference for marrying young women in birth order, schooling attainment of younger daughters was found to be significantly less sensitive to age of menarche than that of older daughters (Field & Ambrus, 2008). Smiles, Short and Sommer (2017) found that menstrual taboos, cultural beliefs about menstruation, and restrictive social expectations diminish young women's access to health, education, and safety in Ethiopia.

#### Background: Variability in South African Schools

One of the questions addressed in this study was whether menstrual-related absenteeism, school activity participation, use of menstrual products and sanitation facilities differed across types of schools. It is widely acknowledged that the apartheid legacy of racialised schooling persists in post-apartheid South Africa, with those schools most disadvantaged by the system of segregated schooling and Bantu Education continuing to struggle in terms of the delivery of quality education (Kallaway, 2002; Ndimande, 2016). Although South Africa's transformation policies have been directed at equity and redress, policy solutions have not managed to overcome the inequities inherent in the colonial and apartheid schooling system (Chisholm, 2012; Spreen & Vally, 2006).

Schools may, thus, be broadly categorised as follows along historical lines of inequities: (1) private schools that run solely off funds paid by parents; these schools vary with some catering for wealthy parents and others catering for less-wealthy parents disenchanted with government schools; (2) former Model C schools, which were designated for White learners under apartheid, but which are currently mixed; these schools tend to be well resourced and learners tend to perform well academically; (3) former Department of Education and Training (DET) schools located in urban areas; these were formerly designated for Black African learners living in the so-called townships (urban areas allocated to Black Africans during Apartheid); these schools tend to be under-resourced although their location in urban areas means that they have better access to certain resources than similar schools in rural areas; (4), former DET schools located in rural areas; these were formerly designated for Black African learners living in rural areas of the former Bantustans – so-called independent or self-ruling areas designated for Black African people during Apartheid; these schools are under-resourced and learners tend to perform poorly in academic terms; (5) former House of Representatives and former House of Delegates schools

designated for Coloured and Indian/Asian learners respectively during apartheid; these schools are better resourced than former DET schools, but more poorly resourced than former Model C schools.

The quintile system (which was scrapped in 2013) allocated all government schools into one of five categories. Quintile 1 schools were located in the poorest contexts and quintile 5 the most resourced. Quintiles were assigned in terms of the rates of income, unemployment and illiteracy within the school's catchment area. There is a strong overlay between the categories indicated above and quintiles (as seen in the schools accessed for this study – see discussion below).

The differentiation in schools extends significantly to physical infrastructure. Historically advantaged Model C and private schools tend to have good facilities, including sanitation facilities, while the school buildings of historically disadvantaged schools tend to be in disrepair. Sanitation in these schools is often basic and poorly maintained.

### Method

Cross-sectional survey design, which allows for the collection of data from, and inferences about, a particular population at a given point in time, was used in this study. The research was conducted in schools in the Eastern Cape of South Africa.

In this article, we report on results of the following research questions: How does menstruation affect school attendance and participation in classroom or sporting activities? What menstrual products do school-going young women use, and how does this affect their participation in schooling? What sanitation facilities are available at the schools and how does this affect their participation in schooling? How does attendance, menstrual product usage and sanitation facilities differ by type of school?

The research took place in two districts of the Eastern Cape: Makana Municipality and Buffalo City Metropolitan Municipality. These two sites were selected for some diversity of location. Makana consists of a university town, commercial farming areas, and small towns and villages. Buffalo City consists of the second largest city in the Eastern Cape, various towns, two large townships, some commercial farming areas, and some rural areas of the former Bantustans.

Sampling was multi-stage. Stratified sampling was initially used as it enables researchers to divide the population into different subgroups or strata. This method was appropriate as it establishes “a greater degree of representativeness in situations where populations consist of subgroups or strata” (Durrheim & Painter, 2006:136). The young women attending schools in the Buffalo City and Makana Municipalities were divided into five strata, namely: private schools, former Model C schools,

former DET schools urban, former DET schools rural, and former House of Representatives (HOR) schools.<sup>v</sup> Twenty-four schools were randomly selected from across these strata. Finally, purposive sampling was used to target Grade 11 female learners. This sampling served the purpose of accessing young women who have probably started menstruating, and, therefore, have typically experienced having to cope with menstruation while at school. Grade 12 pupils were excluded because of examination pressures. All Grade 11 females in selected schools were invited to participate.

The sample consisted of 1,035 Grade 11 learners between the ages of 13 and 24, with an average age of 17.2. Table 1 shows the distribution of respondents from the five types of schools. The large age range is reflective of the fact that pupils in disadvantaged schools may start school late, or miss school years for financial reasons. Grade repetition may also play a role.

**Table 1** Sample distribution across types of schools

Type of school	Number of respondents	Percentage of sample	Average age	Age range
Former DET urban	161	15.6	18	14–23
Former DET rural	236	22.8	18	15–24
Model C	208	20.1	16	13–18
Former HOR	270	26.1	17	14–23
Private	160	15.5	17	15–20
Total	1,035	100.0		

Data were collected by means of a questionnaire administered in hard copy in classrooms (but outside of lesson times). A researcher explained the purpose and process, prior to learners completing the questions. The questionnaire consisted of 37 questions and included both open-ended and closed-ended questions. These questions were based on previous questionnaires (Abioye-Kuteyi, 2000; Adhikari, Kadel, Dhungel & Mandal, 2007; Ali & Rizvi, 2010; Houston, Abraham, Huang & D'Angelo, 2006; Johnson, 2008) as well as our own reading of the literature. The questionnaire went through multiple drafts with input from all researchers involved in the project, as well as researchers from the Human Sciences Research Council. Pilot sessions were conducted, with the questionnaire being refined on the basis of the feedback of administrators, participants, and observers.

Ethical approval was granted by the Rhodes University Ethical Standards Committee (Reference no: 2012Q3-5). Permission to conduct the research was obtained from the Department of

Basic Education and each school. Parental and respondent informed consent were also obtained.

Data from open-ended questions were read and re-read by two researchers. A code book of categories of responses to these questions was constructed. Data from the open-ended and closed-ended questions were coded and analysed using Statistical Package for the Social Sciences (SPSS) version 23, including descriptive statistics (frequency counts and percentages) and inferential statistics (chi-square analysis to assess whether there was a significant association between categorical independent variables, namely, the type of school and categorical dependent variables which are absence from school, menstrual products, and sanitation facilities).

## Results

### Menstruation and Participation in School, Classroom and Sporting Activities

Results show that for a significant minority of young women menstruation interferes with attendance at school (see Table 2). Across the whole sample 22.4% of respondents indicated that they missed school as a result of menstruation. On average 1.84 days were missed. Factoring holidays into the school year, we can deduce that about one in five young women miss an average of 18 days of school per year as a result of menstruation.

**Table 2** Missing school as a result of menstruation

Frequency missed school when menstruating	Sample %	Average days missed when menstruating	Average days missed per year
232	22.4	1.836	18

Those who do go to school may restrict their participation in educational activities. Responses indicated that many young women restricted their participation either in sport or in the classroom owing to menstruation, as indicated in Table 3.

**Table 3** Restricting participation in activity owing to menstruation

Activity prevented due to menstruation	Frequency (Yes)	Sample percentage
Classroom activities	406	39.2%
Sporting activities	495	47.8%

Respondents answered an open-ended question asking them to explain why they restricted classroom and sporting activities. As the question was open-ended they could list multiple reasons. Of those who indicated that they restricted classroom activities, 51.7% ( $n = 210$ ) listed physical signs and symptoms, such as cramps, diarrhoea, and nausea. Uncomfortable social interactions such as teasing were mentioned by 23.4% ( $n = 95$ ) and not being allowed to do physical training during

physical education classes by 14.3% ( $n = 58$ ). Fear of embarrassment was expressed by 12.1% ( $n = 49$ ), and concentration problems by 10.8% ( $n = 44$ ). The self-management challenge of leaking was mentioned by 5.4% ( $n = 22$ ) and perceived increase in bleeding by 1.2% ( $n = 5$ ). Of those who indicated that they restricted sporting activities, 36.4% ( $n = 180$ ) listed physical signs and symptoms, and 22% ( $n = 109$ ) fear of swimming/unwilling to swim. Emotional/social discomfort such as embarrassment was mentioned by 17% ( $n = 84$ ), and fear of discovery by 15.2% ( $n = 75$ ). Perceived inability to perform was listed by 12.8% ( $n = 63$ ) and desire to abstain from activities by 8.5% ( $n = 42$ ). A perceived increase in bleeding was mentioned by 8% ( $n = 40$ ), and management problems by 5.3% ( $n = 26$ ).

We anticipated that the pattern of absenteeism and restricted classroom and sporting activities would be uneven across the categories of schools. This proved to be the case, but in the opposite direction to what we anticipated.

**Table 4** Cross-tabulations of type of school by missing school, restricting classroom activities, restricting sporting activities because of menstruation

School type	Missed school days*	Restricted classroom activities**	Restricted sporting activities***
Former DET rural	11.2%	28%	41.60%
Former DET urban	14.4%	27.1%	29.2%
Model C	28.9%	39.9%	67.8%
Former HOR	28.2%	51.9%	51.5%
Private	27.5%	46.2%	49.4%

*Note.* \*Chi-square shows significant association between school type and absenteeism due to menstruation,  $\chi^2(4, N = 1030) = 33.17, p = .00$ . Cramer's  $V = 0.18$  (small effect size). \*\*Chi-square shows a significant association between type of school and classroom challenges,  $\chi^2(4, N = 1020) = 44.94, p = .00$ . Cramer's  $V = 0.21$  (small effect size). \*\*\*Chi-square shows a significant association between type of school and sporting challenges,  $\chi^2(4, N = 1019) = 68.32, p = .00$ . Cramer's  $V = 0.259$  (small effect size) or 0.30 (medium effect size).

As seen in Table 4, the highest percentages of reported absenteeism due to menstruation were found in Model C (28.9%), former HOR (28.2%) and private (27.5%) schools. In comparison, former DET rural (11.2%) and former DET urban (14.4%) schools had considerably lower percentages of reported absenteeism despite being under-resourced. In terms of restricting classroom activities because of menstruation, the results show that participants from former Model C (39.9%), private (46.2%) and former HOR (51.9%) schools reported experiencing more challenges than learners from former

DET rural (28%) and former DET urban (27.1%) schools. The majority of participants from Model C (67.8%) and former HOR (51.5%) schools reported that experiencing their menstruation prevented them from taking part in sporting activities. For private school learners the percentage was slightly lower at 49.4%. Once again, the lowest percentages came from former DET rural (41.6%) and former DET urban (29.2%) schools.

Cross-tabulation of reasons for restricting classroom activities and category of school revealed an even spread of percentage of learners across the schools mentioning uncomfortable social relations as a reason (between 20.3% and 25.3%). Management problems and fear of discovery were seen as more significant in DET rural (13.3%; 20%) and DET urban (12.5%; 26.6%) schools than Model C (3.6%; 9.6%), HOR (1.4%; 5.7%) and private schools (4.1%; 9.5%). Conversely, physical problems/symptoms were mentioned more often by respondents in Model C (54.2%), HOR (60%), and private (59.6%) schools than respondents in DET rural (37.8%) or DET urban schools (31.3%).

Cross-tabulation of reasons for restricting sporting activities and type of school revealed some of the resource differences between the schools. Fear of swimming was not mentioned at all by respondents from DET rural schools and minimally by respondents from DET urban (1.5%) and HOR schools (4.3%), probably because these schools do not have, or have limited access to, swimming pools. In contrast, this reason was listed by respondents in Model C schools (54.6%) and private schools (31.7%). Once again physical problems/symptoms were mentioned more often by respondents in Model C (39.7%), HOR (41%) and private schools (44.3%) than in DET rural (26.9%) and DET urban (20.3%) schools. Conversely, fear of discovery featured more often in DET rural (19.4%), DET urban (30.4%) and HOR (15.8%) schools than in Model C (5%) and private (8.9%) schools. The inability to physically perform sporting tasks was mentioned by respondents across all schools (DET rural (20.9%); DET urban (16%); HOR (30%); Model C (17.8%); private (10.1%)).

#### Menstrual Products and Participation in School

Table 5 lists the menstrual products used by young women across the whole sample. Respondents were able to tick more than one option. Menstrual pads emerged as the most commonly used product, with tampons being used by fewer than one in five (17.2%) young women. The use of non-commercial products is low (cloth 5.4%; toilet paper 3.5%; newspaper 0.4%) as is the use of menstrual cups (0.2%).

**Table 5** Menstrual products used

Menstrual product	Count	%
Menstrual pads	992	95.8
Tampons	178	17.2
Cloth	56	5.4
Toilet paper	36	3.5
Newspaper	4	0.4
Other	4	0.4
Menstrual cups	2	0.2

A cross-tabulation of category of school and menstrual products revealed some differences in use across the schools. Young women in Model C schools (36.1%) and private schools (25%) are more likely to use tampons than young women in HOR (9.6%), DET rural (8.7) and DET urban (9.7%) schools. Young women in DET rural (16.8%) and DET urban (8.1%) are more likely to use cloth than young women in Model C (2.9%), HOR (1.1%), or private schools (0.6%).

#### Sanitation Facilities and Participation in School

Sanitation facilities formed a major concern for many young women. Across the whole sample, 68.9% indicated that they did not feel safe using the bathrooms at school. Differences emerged in school category, with a majority of learners in former DET rural schools (75.8%), DET urban (90.3%) and former HOR schools (81.5%) feeling unsafe, as shown in Table 6.

**Table 6** Cross-tabulation of school type and respondents not feeling safe using sanitation facilities

School type	Unsafe	Safe
Former DET rural	75.8%	24.2%
Former DET urban	90.3%	9.7%
Model C	25.5%	74.5%
Former HOR	81.5%	18.5%
Private	65.6%	34.6%

*Note.* Chi-square shows a significant association between type of school and feeling of safety when using school sanitation facilities,  $\chi^2(4, N = 1003) = 2.89, p = .00$ . Cramers'  $V = 0.53$  (Large effect size).

The major reasons cited in an open-ended question for not feeling safe when using the school's sanitation facilities were: dirt/infections/diseases (43.5%); lack of facilities (toilets, water/good water, hygiene products) (29.5%); lack of privacy (17.1%); personal safety (sexual violence, bullying, infrastructure) (12%); young men using young women's toilets (4.8%); bad odours (3.6%); and social stigma in using facilities (2.1%). There were minor, non-significant differences between categories of schools in terms of reasons for feelings of safety.

Facilities were also, in many instances, inade-

quate as indicated in Table 7. One in five young women (21.4%) indicated that they did not have access to running water. One third (33.6%) reported experiencing challenges in disposing of menstrual products; almost two-thirds (61.9%) indicat-

ed that they could lock doors when needing privacy. Just over 80% of young women reported experiencing at least two challenges in the form of lack of soap and towels.

**Table 7** Inadequate sanitation facilities

Item	% indicating NOT provided in school
Towels in school bathroom	80.5
Soap in school bathroom	80.1
Door locks in school bathroom	61.9
Toilet paper	58.6
Basin with running water	21.8
Running water	21.4
Bins for menstrual products	33.6

Table 8 presents a cross-tabulation of the four top mentioned missing sanitation facilities by school type. Results show that learners at Model C

schools experience the least number of challenges in relation to sanitation facilities, followed by private schools.

**Table 8** Cross-tabulation of type of school and four top inadequate sanitary facilities

School type	Missing sanitation facilities			
	Toilet paper	Doors that lock	Soap	Towels
Former DET rural	83.85	57.14	96.89	95.03
Former DET urban	88.98	73.72	96.18	97.03
Model C	2.4	25.96	29.8	36.53
Former HOR	64.44	81.85	96.29	93.7
Private	51.25	62.5	77.5	76.25

## Discussion

In line with other research showing menstruation as a gendered barrier to schooling, our study revealed that for about one-fifth of young women, menstruation leads to their being absent for an average of 18 school days per year. Thus, for these female learners just under 10% of their school days are lost to menstrual difficulties, in addition to other days that may be missed because of illness, bereavements, etc. This represents a significant loss of educational time.

Our study showed that even when at school, many young women indicated restricting their classroom and sporting activities for a range of reasons, including physical symptoms, management problems, and fear of discovery or embarrassment. This resonates with previous research which shows that adolescents may believe that there are certain activities in which women should not engage when menstruating (Marván, Vázquez-Toboada & Chrisler, 2014). Previous research has also similarly shown that reminders of a woman's menstruation status lead to negative reactions to her (Roberts, Goldenberg, Power & Pyszczynski, 2002), and that fear of discovery and teasing may lead young women to restrict classroom activities (Mason et al., 2013).

Contrary to our expectations, learners in more resourced schools were significantly more likely to miss school and restrict classroom and sporting activities when at school as a result of menstruation than those in less resourced schools. These results

hint that menstruation related absenteeism or restriction of classroom or sporting activities is not only about the physical resources available/unavailable but also highlights the unique social context in which female learners experience their menstruation.

Exact reasons for this difference are not clear and should be the focus of further research. Hypotheses about these differences could include: the value attached to attending school, with those from less privileged backgrounds placing more value on attending school; the possibilities of catching up learning time, with those from resourced schools being able to catch up school work more easily; and different constructions of femininity and menstruation in these contexts.

Learners in resourced schools mentioned physical problems or symptoms as major reasons for not participating in school activities, while those in under-resourced schools referred to management problems and fear of discovery. It seems, thus, that learners from resourced schools place greater emphasis on the physical experience of menstruation, while those in under-resourced schools focus on the social aspects. This may, in part, explain the differences in absenteeism, with those from under-resourced schools "making a plan" in terms of managing their menstruation to reduce social negativity.

Sanitation facilities at schools were revealed to be inadequate: 80% of respondents experienced at least two challenges and many experienced sub-

stantially more. Unsurprisingly, learners in Model C schools experienced the least challenges. Apart from the consideration of the dignity of learners in managing their menstruation and in feeling safe using the facilities, improvement of facilities may have a substantive effect on young women's participation in activities while at school.

The vast majority (95.8%) of respondents had access to menstrual pads. Anecdotal evidence from our work on the *Siyahluma* project, of which this research forms a part, suggests that older women in poorer households tend to use non-commercial products in order to afford commercial products for the younger women in the household. Nevertheless, as management difficulties and fear of discovery were listed as major reasons for restricting school activities by young women in these schools, increased access to good menstrual products may help to reduce these restrictions for those having to use inadequate products.

Given our other results, however, in particular that female learners in low resourced schools were less likely to miss school as a result of menstruation than those in resourced schools, the roll-out of menstrual products to schools is not likely to have a significant impact on school attendance in the absence of further accompanying educational intervention work. In addition to the issues raised above (pain relief; good sanitation facilities), open and honest school-level discussions aimed at de-stigmatising menstruation could prove useful. Indeed, the United Nations Educational, Scientific and Cultural Organization (UNESCO, 2018:18) in its technical guidance on sexuality education recommends that menstruation be included in comprehensive sexuality education as "failure to discuss menstruation can contribute to the persistence of negative social and cultural attitudes towards it [which] may negatively impact the lives of girls, contributing to lifelong discomfort about their bodies and leading to reticence in seeking help when problems arise."

### Conclusion

Our research indicates that menstruation represents a barrier to school attendance and participation in school activities for a significant minority of female learners. The results highlight the necessity of nuance around initiatives that address the management of menstruation as a gendered barrier to education. Access to good menstrual products and sanitation facilities may increase attendance and participation in activities while at school, but they are insufficient. Young women at resourced schools were, surprisingly, more likely to miss school or restrict participation in school activities because of menstruation than young women from under-resourced schools. This, despite the fact that they had reasonable access to menstrual products, and school sanitation facilities are better than those in

under-resourced schools (although not perfect). Young women in these schools emphasised the physical experience of menstruation in listing the reasons for restricting school activities, which points to the need for a different strategy when addressing the management of menstruation as a gendered barrier to education in these schools. Pain management and relief and the availability of remedies (from medication to hot bottles) in schools may help overcome some of the reluctance of young women to participate in school activities during their menses.

Our findings are in line with Bobel's (2019:281) analysis of the Menstrual Hygiene Movement in Global South countries in which she argues for "a reframe of the fundamental problem to focus more squarely on menstrual stigma and, accordingly, channel more resources to teaching menstrual literacy." While the South African government's drive to enable access to menstrual products is an important intervention in addressing menstruation-related barriers to female participation in school, additional work is needed. This includes improved sanitation facilities, especially in under-resourced schools, pain management assistance, and de-stigmatising dialogues within the school context.

As indicated by Burrows and Johnson (2005:235): "developing and changing, context specific, socio-cultural representations and practices construct meanings in relation to menstruation." This has certainly been the case in this research. Menstruation is not taken up or acted upon in a similar fashion across all schools in the Eastern Cape of South Africa, pointing to the need for multiple, context-specific approaches to tackling its management as a gendered barrier to education.

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### Authors' Contributions

Catriona Ida Macleod wrote the first draft of the article; Ryan du Toit conducted the quantitative analyses and contributed to writing the article; Sharli Paphitis and Lindsay Kelland collected the data and contributed to writing the article. All authors co-conceptualised the study.

### Notes

- i. Please note that all authors were based at Rhodes University when the research was conducted; two have subsequently changed affiliations as indicated. Ryan du Toit is currently affiliated to the School of Psychology,

- University of KwaZulu-Natal, Durban, South Africa, while Sharli Paphitis is currently affiliated to the Global Health Research Group, Kings College London, London, England.
- ii. As indicated by Bobel (2019), not all menstruators are cisgender women. Nevertheless, the respondents in this study were all identified as female by their schools. This does not mean that all would self-identify as female.
  - iii. We use the term “young women” in preference to “girls,” partially because the latter invokes a host of cultural understandings regarding childhood, and partially because the respondents in this study ranged in age from 13 to 24.
  - iv. The term “Global South” is increasingly being used to refer to geographic regions outside of Europe and North America. The Global South encompasses the typically low-income and politically marginalised regions of Latin America, Asia, Africa and Oceania. The term has become increasingly popular as opposed to terms such as “Third World,” “Developing” or “Periphery,” because it “marks a shift from a focus on development or cultural difference towards an emphasis on geopolitical power relations” (Dados & Connell, 2012:12).
  - v. Former House of Delegates schools (formerly designated for Indian learners) were not used in the stratified sampling owing to the demographics of Buffalo City and Makana.
  - vi. Published under a Creative Commons Attribution Licence.
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