

Deconstructing the Menstrual Barrier to Education: Examining Psychological, Social, and Structural Barriers in the Somali Region of Ethiopia

Dr. Sharlene McHolm*

Wilfrid Laurier University.



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Corresponding Author:
Dr. Sharlene McHolm*

Abstract: Documentation detailing the relative inaccessibility of education in Ethiopia's Somali Region continues to grow. Structural barriers—including limited access to school programs, a shortage of qualified teachers, insufficient funding, and scarce learning resources—act as compounding disadvantages for all learners. These realities are further exacerbated for adolescent girls by inadequate access to dedicated gender-responsive washrooms (private latrines and clean water) essential for Menstrual Hygiene Management (MHM). When girls lack access to private, gender-segregated facilities, physical limitations become a catalyst for acute psychological distress. This psychological distress (marked by shame and embarrassment), combined with social pressures (leading to planned absenteeism) and diminished cognitive engagement (distraction caused by the ongoing anxiety of leakage), results in lower overall attendance and academic achievement. These factors define the parameters of social disapproval surrounding female education. The social disapproval associated with menstruation directly impacts girls' intentions to attend school while menstruating, acting as a socially constructed mechanism of exclusion that violates the fundamental right to education enshrined by UNESCO. This study (n=450) compares girls with access to re-useable MHM kits, paired with health education to a control group. This represents a baseline study to then revisit longitudinally to see if having access to reliable MHM changes beliefs and behaviours around school attendance and engagement during menstruation. A theory-driven principal component analysis explored key factors influencing school attendance and engagement for girls in the Somali Region of Ethiopia.

Keywords: Educational parity, Ethiopia, gender access to education, menstruation, Menstrual Hygiene Management (MHM).

Cite this Article

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Introduction

Documentation detailing the relative inaccessibility of education in Ethiopia's Somali Region continues to grow (Devall-Martin & McHolm, 2024, 2026). Structural barriers—including limited access to school programs, a shortage of qualified teachers, insufficient funding, and scarce learning resources—act as compounding disadvantages for all learners. These realities are further exacerbated for adolescent girls by inadequate access to dedicated gender-responsive washrooms (private latrines and clean water) essential for Menstrual Hygiene Management (MHM).

Physical barriers alone do not capture the full extent of this issue. When girls lack access to private, gender-segregated facilities, physical limitations become a catalyst for acute psychological distress. This psychological distress (marked by shame and embarrassment), combined with social pressures (leading to planned absenteeism) and diminished cognitive engagement

(distraction caused by the ongoing anxiety of leakage), results in lower overall attendance and academic achievement. These factors define the parameters of social disapproval surrounding female education. The social disapproval associated with menstruation directly impacts girls' intentions to attend school while menstruating, acting as a socially constructed mechanism of exclusion that violates the fundamental right to education enshrined by UNESCO.

Providing girls with accurate knowledge about menstruation and its management, while opening broader dialogues around health education, remains a key missing component of the Ethiopian educational curriculum. Exploring the baseline beliefs of both boys and girls regarding menstruation is critical for developing effective Social and Behaviour Change Communication (SBCC) strategies. This study evaluates how a combined intervention of Menstrual Hygiene Management (MHM) kits and structured health education can break the link between biological cycles and educational

exclusion. In a sample of $N = 450$ adolescent girls, baseline measures of psychological safety, social pressure, and access to reliable MHM products reveal key insights into participation and attendance barriers.

Literature Review

Education is a cornerstone of human development. Despite international commitments to educational access—including Sustainable Development Goal (SDG) 4 (Quality Education) and SDG 5 (Gender Equality)—significant disparities persist for girls living in low-resource settings. Women and adolescent girls in Ethiopia face systemic barriers to attending school, including patriarchal cultural norms, insufficient infrastructure, geographic isolation, and pastoralist or nomadic lifestyles. In households with limited financial resources, girls' education is rarely prioritized over boys' education. Furthermore, many rural schools contain only a single, shared latrine, which girls often avoid due to deeply embedded cultural traditions and safety concerns. Consequently, the lack of adequate infrastructure, restrictive cultural norms, scarcity of MHM products, and limited health literacy result in lower female engagement in education (McHolm & Devall-Martin, 2026).

Crenshaw (1989) highlighted how intersecting social identities create overlapping systems of discrimination or disadvantage. Within Ethiopian educational contexts, gender intersects with rurality, poverty, cultural expectations, and health-related challenges to produce unique forms of exclusion. Educational participation among girls is governed not merely by physical access to school buildings, but by prevailing social and cultural practices that restrict full engagement (McHolm & Devall-Martin, 2026). Addressing gender gaps in educational attainment in the Somali Region has historically been under-researched. However, emerging findings across Sub-Saharan Africa indicate that menstruation, poor cycle awareness, lack of accurate reproductive health information, unsupportive social environments, and unviable MHM products collectively diminish girls' educational experiences (Ssewanyana & Bitanirwe, 2019). Although menstruation is a natural biological process, social taboos and resource scarcity routinely turn it into a barrier to attending school and learning.

Early studies frequently relied on school absenteeism as the sole metric of educational disruption. However, this reductionist approach failed to capture broader, qualitative impacts. Hennegan and Montgomery (2016), in a systematic review of MHM interventions in low- and middle-income countries, demonstrated that menstruation influences far more than attendance; psychosocial well-being, self-confidence, classroom concentration, and active participation are all mediated by the perceived reliability of MHM supports. Similarly, Ssewanyana and Bitanirwe (2019) argued that effective MHM interventions must integrate tailored health education, affordable hardware/products, and gender-responsive WASH infrastructure. Evidence demonstrates that social disapproval stemming from inadequate MHM infrastructure exerts wide-ranging consequences on adolescent girls (Anbesu & Asgedom, 2023; Boakye-Yiadom et al., 2022).

Resource provision alone is insufficient to achieve gender parity in education. Social and Behaviour Change Communication (SBCC) is a community engagement approach that ensures community engage while attempting to address social attitudes, predominantly in the health field. Social and behavioural frameworks emphasize that sustainable change requires shifting community norms,

expectations, and social acceptance. Social and Behaviour Change Communication (SBCC) approaches facilitate sustainable progress by pairing information dissemination with targeted shifts in community attitudes and local support structures (Dearden et al., 2023). SBCC strategies acknowledge community positionality, engaging local leaders to foster supportive environments for growth (Ali & Shishigu, 2020).

Parity educational access greatly depends upon shifts in social acceptance by the community. Within this paradigm, two distinct dimensions of psychological safety must be established for girls to attend school regularly: *internalized safety* (the personal absence of shame and anxiety) and *socially mediated safety* (freedom from peer stigma/disapproval and negative social judgement). Internalized safety is achieved through open discussions, biological literacy, and access to MHM kits that alleviate the fear of public embarrassment or leakage. While MHM kits resolve material scarcity, social and community interventions are required to ensure girls feel it is socially acceptable to remain in school during their menses.

Despite increasing scholarly attention to menstrual health, significant gaps remain in the literature. School attendance, although important, does not fully capture the social, psychological, and cognitive dimensions of school participation. Exploring the anxiety, distraction, social withdrawal and confidence that adolescent girls experience while engaging in educational work must be centred in the research. This student addresses this gap by examining the relationship of psychological safety, social experiences, health education and menstrual hygiene management resources with educational participation. When combining health education with broader educational within the broader school community, education shows signs of shifting the awareness and reducing the taboo nature of discussing menstruation/ menstruating in general.

Methodology

This study utilizes a mixed-methods design across five schools in the Somali Region of Ethiopia to examine menstrual health vulnerability and its relationship with educational engagement. The quantitative phase includes $N = 450$ adolescent girls, while the qualitative phase draws from semi-structured focus group discussions. Participants were categorized as Control group ($n = 252$) and a Treatment group ($n = 198$). Data were gathered following formal research ethics clearance, participant consent/assent, and field enumerator training. Primary instruments were translated from Somali into English by certified translators.

To analyse the influence of menstrual social disapproval on educational engagement, a Composite Participation Index (CPI) was constructed as a primary metric. Standard binary measures of attendance lack the sensitivity needed to capture hidden dimensions of disruption, such as cognitive distraction, masking behaviours, and suppressed classroom participation.

Descriptive Baseline Statistics

Independent sample t -tests were conducted to evaluate initial group responses regarding the perceived disruption of menstruation on educational participation (Question 20: "Do you feel that menstruation affects your participation in school?"), scored on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). At the time of baseline administration, the treatment cohort had

received initial MHM kits and basic orientation on menstrual hygiene.

Table 1 Perceived Impact of Menstruation on Educational Participation (Question 20)

Group	N	Mean	Std. Deviation
Control (0)	252	1.81	1.61
Treatment (1)	198	2.01	1.74

Participants in both cohorts indicated baseline levels of participation impact, with the Control group reporting a baseline mean score of 1.81 ($SD = 1.61$) and the Treatment group reporting a mean score of 2.01 ($SD = 1.74$; $t(448) = -1.265, p = .207$).

Principal Component Analysis

A theory-driven Principal Component Analysis (PCA) was performed to evaluate the underlying structure of the baseline survey items. Based on prior literature and the study's conceptual framework, four key domain items were evaluated: Physical Discomfort/Challenges (Q15), Internalized Shame (Q18), School Participation/Attendance (Q20), and Social/Peer Norms (Q30).

Table 2 Theory-Driven Principal Component 1 (PC1) Item Loadings

Item	Survey Domain Focus	Loading on PC1
Q20	Self-Reported Participation / Attendance Impact	0.64
Q18	Internalized Shame / Embarrassment	0.59
Q15	Physical Discomfort / Challenges	0.44
Q30	Peer Pressure / Social Norms	0.38

Following standard psychometric conventions (e.g., Rumsey, 2010), component loadings exceeding 0.40 reflect substantial contributions to the primary component. Self-reported participation limits (Q20: 0.64), internalized shame (Q18: 0.59), and physical discomfort (Q15: 0.44) load strongly onto PC1, confirming that educational exclusion is driven by a combination of physical, emotional, and social factors.

Composite Participation Index and Group Homogeneity

The primary composite metric—the Composite Participation Index (CPI)—combines individual domain metrics (Q15, Q18, Q20, Q30) to form an aggregate index representing overall menstrual barrier intensity. To verify baseline equivalence between the control and treatment cohorts across the consolidated index, an independent samples *t*-test was calculated.

The baseline CPI mean score for the Control group ($M = 1.64, SD = 1.20$) showed no statistically significant difference from the Treatment group ($M = 1.76, SD = 1.31$; $t(448) = -0.967, p = .334, d = -0.09$). This confirms baseline homogeneity between cohorts across the integrated index.

FIGURE 1 Baseline Composite Participation Index (CPI) Mean Scores.

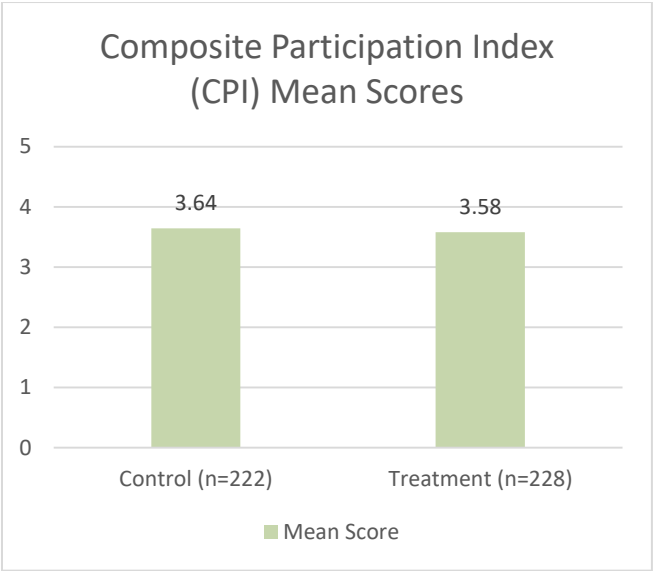


Figure 1. Baseline Composite Participation Index (CPI) Mean scores and distribution comparison between Control ($n = 252$) and Treatment ($n = 198$) cohorts ($p = .334$).

Scale Reliability and Construct Evaluation

To evaluate whether the index items measure a single unified trait or distinct construct dimensions, item-total correlations and overall scale consistency were evaluated.

Table 3 Item-Total Correlations and Construct Multi-Dimensionality

Item	Domain Category	Corrected Item-Total Correlation (r)
Q15	Physical Challenges	.035
Q18	Psychological Shame	.952
Q30	Peer Pressure / Social Norms	.973
Q20	Educational Participation	.976

The item-total correlations confirm that while Q18, Q30, and Q20 share strong construct alignment, Q15 (physical challenges) captures an independent domain. Treating these barriers independently allows target-specific intervention planning.

Cross-Cohort Distributional Analysis

Chi-square tests of independence were conducted across individual domain items to assess distributional characteristics between control and treatment cohorts at baseline.

Table 4 Chi-Square (χ^2) Tests of Independence Across Survey Items

Item	Domain	Chi-Square (χ^2)	p-Value	Interpretation
Q15	Physical Challenges	7.94	.0048	Statistically Significant
Q18	Internalized Shame	0.12	.7328	Not Statistically Significant
Q20	Educational Participation	1.33	.2494	Not Statistically Significant

Q30	Peer Pressure / Social Norms	9.12	.0583	Marginally Significant (Trend noted)
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Baseline scores for menstrual shame (Q18) were further evaluated to verify cohort balance. Mean scores for the Control group ($M = 1.94, SD = 1.70$) and Treatment group ($M = 2.01, SD = 1.74$) showed no statistically significant difference ($t(448) =$

$-0.451, p = .652$), demonstrating equivalent baseline levels of psychological vulnerability across both groups. It should be noted that although this question was constructed on a five-point Likert scale, all respondents selected 1 (little impact) or 5 (significant impact). Binary responses dilute the Mean artificially. This under-reporting bias contrasts the qualitative data from the focus groups where girls frequently spoke about intense shame and trying to hide their menstrual cycles from others. Figure 2 shows the balance between the control and treatment groups.

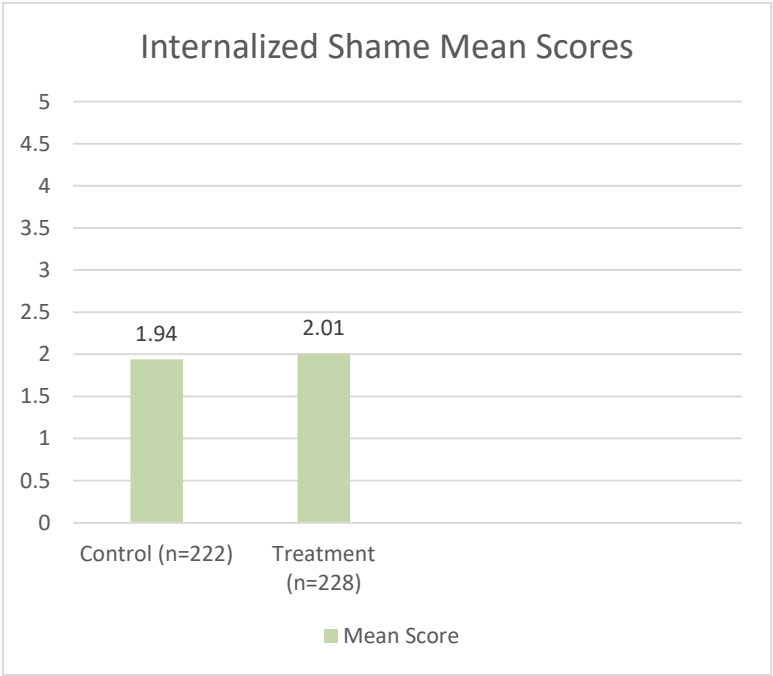


Figure2. Baseline comparison of menstrual shame (Q18) scores (1 = Low Disruption, 5 = High Disruption) between Control (n = 252) and Treatment (n = 198) cohorts (p = .652).

The variable about physical challenges included the physical discomforts of menstruation (i.e., cramping, bloating, nausea etc.) as well as the challenges of not knowing when they needed to have MHM resources in advance. Physical challenge scores (Q15) showed high baseline prevalence across both groups, with the Control group reporting $M = 0.95$ ($SD = 0.21$) and the Treatment group reporting $M = 1.00$ ($SD = 0.00$; $t(448) = -3.139, p = .0018$). Figure 3 shows the parity between the groups. It also highlights the probability of under-reporting, as similar comments about physical challenges presented in the qualitative data. Comments focused on the unpredictability of knowing when their menstruation was going to occur more so than the pain of menstrual cramps.

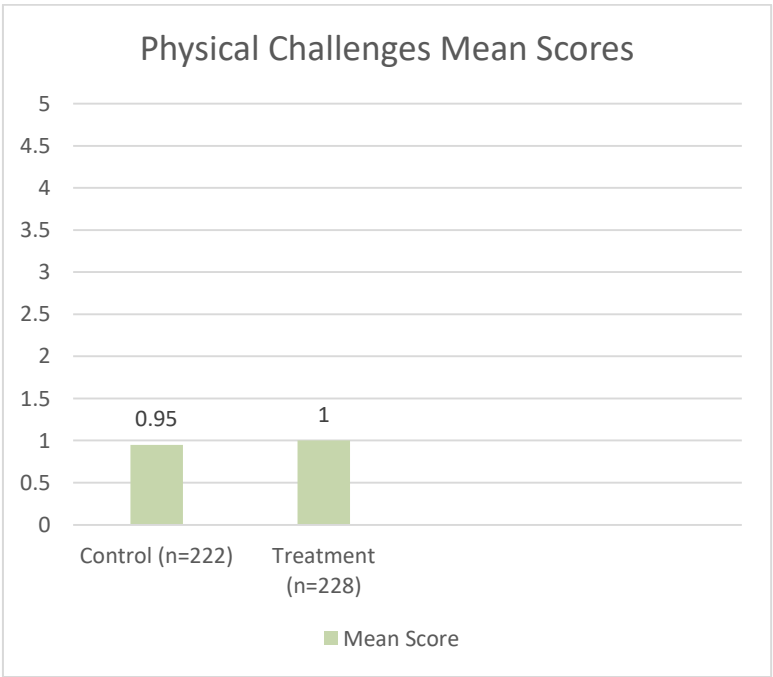


Figure 3. Baseline comparison of perceived physical challenges (Q15) indicates that the proportion of participants reporting physical challenges (Q15: 0 = No, 1 = Yes) between Control (95.2%, $n = 252$) and Treatment (100%, $n = 198$) cohorts ($p = .0018$).

The described impact of peer pressure and social norms had a more distinctive difference between the control and treatment groups. Here, the treatment groups had received education related to menstrual cycles and that it was acceptable to attend school while menstruating. Within their educational sessions, the girls had the opportunity to learn about their bodies, and the importance of hygiene. As this type of conversation was not comfortable nor common for girls to have within the cultural norms, but a notable reduction in stigma had begun. In Figure 4, you will notice that the trend shows the power of education.

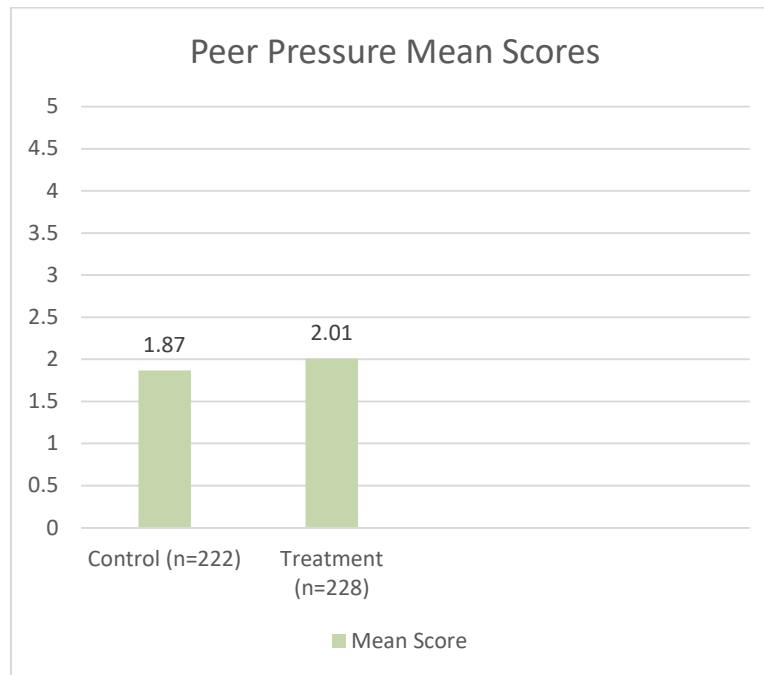


Figure 4. Baseline comparison of peer pressure / social support between Control ($n = 252$) and Treatment ($n = 198$) cohorts ($p = .389$).

Perceived peer pressure and social support (Q30) showed comparable baseline levels across cohorts, with the Control group averaging $M = 1.87$ ($SD = 1.62$) and the Treatment group averaging $M = 2.01$ ($SD = 1.74$; $t(448) = -0.863, p = .389$). This was an unexpected outcome, as it contradicts the qualitative data, to be discussed in a later section.

The final variable considered was Question 20: “Do you feel that menstruation affects your participation in school?”. The participant responses were expressed on a 5-point Likert scale, with 5 indicating strongly agreed and 1 indicating strongly disagreed. At the time of the questionnaire, the treatment group had received the MHM kits and some basic education about menstruation cycles and the care of the washable menstrual pads. Even with the initial opportunity to receive health education and a MHM kits, there were promising indicators that girls’ perceptions

of the “manageability” of menstruating while at school had improved. Females in both the control group and the treatment group found that menstruating had a negative impact on their ability to participate in school. The control group sited menstruation as having a strong negative impact on participation in school at 3.90 out 5. The slightly lower results of 3.62 for girls that had just received the kits, education and training, seems to suggest that understanding how to predict their menstruation and having menstrual pads, even without using them yet, lower their perceptions of the negative impact of menstruation and attending school.

Figure 6 shows that shows a difference between Control and Treatment groups, with the Control group experiencing more of an impact on their attendance decisions while menstruating.

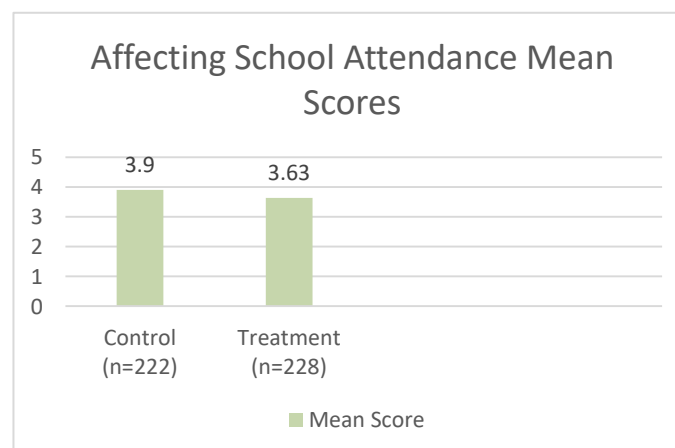


Figure 6, Menstruation Affects School Attendance shows an emerging distinction is unfolding in Mean Scores.

School attendance / engagement / participation used a self-reporting lens. This measure is susceptible to reporting bias. Unfortunately, the schools participating in the research did not collect attendance data accurately, and therefore self-reporting was the only data collection point. What is valuable in this metric is that it gets at the individual's thinking behind their attendance. Do

they believe that they on average attend or not attend school based on their menstrual cycle? This is valuable information to examine. It should also be noted that this research only reaches those girls that currently attend school. Hence, the survival bias would indicate that the actual impact of menstruation on all Ethiopian girls in the region could be much higher than the research captures

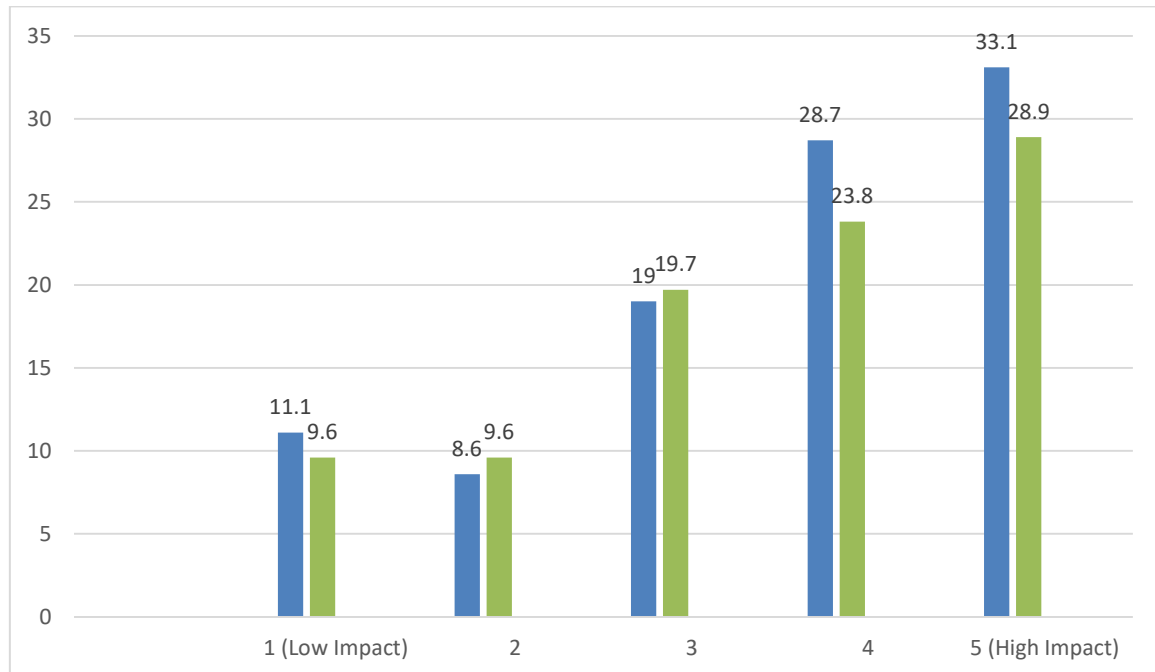


Figure 7: Self-reporting Impact on School Participation and Attendance. Note: Blue columns represent the Control group (n= 252) and grey columns represent the Treatment group (n=198).

Figure 7 shows that 61.8% of the control group agreed that menstruation had a strong negative impact on their school engagement, whereas 52.7% of girls that had just received the MHM kits and health education felt that menstruation has a negative impact on school participation. This result suggests that health education and the availability of reliable MHM resources have a positive effect on school attendance. A follow-up study will be needed to see if this diverging trend continues.

Baseline Inferential Summary

Independent sample *t*-tests on overall index scores and baseline individual metrics confirm that randomization produced equivalent cohorts prior to intervention deployment. In Tables 5 and 6, parity between the Control and Treatment groups is shown once again. We can see that conditions are similar for both cohorts.

Table 5 Summary of Baseline T-Test and Effect Size Metrics

Metric Comparison	Control (n=252)	Mean	Treatment (n=198)	Mean	t-Statistic	p-Value	Cohen's d	Effect Standard	Size
Composite Index (CPI)	1.64		1.76		-0.967	.3340	-0.09	Negligible Equivalent	/
Q15 (Physical Discomfort)	0.95		1.00		-3.139	.0018	0.298	Small Difference	
Q18 (Internalized Shame)	1.94		2.01		-0.451	.6520	0.043	Negligible Equivalent	/
Q20 (Participation Disruption)	1.81		2.01		-1.265	.2065	0.120	Negligible Equivalent	/
Q30 (Social / Peer Norms)	1.87		2.01		-0.863	.3887	0.082	Negligible Equivalent	/

In Table 6 also confirm effect size across the CPI is similar for each variable.

Table 6 Detailed Effect Size Parameters for Baseline Variables

Variable Domain	Parameter Estimate	Point Estimate	95% Confidence Interval (Lower, Upper)
Q15 (Physical Challenges)	Cohen's <i>d</i>	0.298	[0.111, 0.485]
	Hedges' <i>g</i>	0.298	[0.111, 0.484]
Q18 (Internalized Shame)	Cohen's <i>d</i>	0.043	[-0.143, 0.229]
	Hedges' <i>g</i>	0.043	[-0.143, 0.229]
Q20 (Attendance Impact)	Cohen's <i>d</i>	0.120	[-0.066, 0.306]
	Hedges' <i>g</i>	0.120	[-0.066, 0.306]
Q30 (Peer Pressure)	Cohen's <i>d</i>	0.082	[-0.104, 0.268]
	Hedges' <i>g</i>	0.082	[-0.104, 0.268]

The baseline calculations in Table 5 and Table 6 confirm statistical parity between the Control and Treatment groups across key domain variables prior to intervention implementation.

Qualitative Data Results, Discussion and Findings

For the purposes of this article, five schools participated in semi-structured interviews through a focus-group approach. The groups were small so that students would feel more comfortable discussing a culturally taboo topic. Once the discussions were transcribed and then translated from Somali to English, information was shared with the researchers. The information within this dataset showed trends but lack the verbatim records that would have been more illuminating.

The researchers read through the translated documents seeking patterns within the four areas of analysis. There was consistency between quantitative and qualitative data. Patterns showed anxiety about leakage, falling out of traditional menstrual hygiene methods, and shame experienced from leakage. There was consistent discussion around the importance of WASH facilities and a lack of awareness as to how to talk about challenges with peers, staff and male family members. These records of individual experiences aligned directly with the quantitative data.

Alleviating school engagement barriers for girls within the Ethiopian Somali Region is a complex task. Addressing the limitations with infrastructure (WASH facilities), Menstrual Hygiene resources, lessening social and psychological distress and empowering the girls with health knowledge will enhance their ability to participate in education more fully. Through a concerted effort of allocated resources and education, girls can increase their confidence to engage in school. With fuller attendance and participation within classes, the social disapproval related to menstruation can be eliminated.

There are promising signs that Education 4 Change and Days for Girls efforts are already having the intended impact. Shortly after receiving the kits, the treatment group saw slight, but noticeable improvements in their perception of the manageability of menstruation hygiene while at school. The comparison means of 3.9 (control) versus 3.62 (treatment group) to describe the difficulty of managing school participation while menstruating indicates a real difference. With a *p* value of 0.0069 a statistically highly significant result. This proves that the shift is not accidental or random and can be attributed to the intervention. It also highlights that the compounding effect of small shifts in thinking and experiencing leads to a significant shift in the total burden of the barriers.

Also of note is the effect size and its practical significance points to the need to continue the work. With a Cohen's *d* effect size of *d* =

0.3, with a *p* value of 0.0069 indicates that the average girl within the treatment group experienced barriers by 0.3 deviations. This corresponds to a 58.5% probability that a randomly chosen treatment group student experienced fewer barriers than a control group student to their education because of their menstrual cycle.

The theory-driven PCA and the PCI show validity in the dependent variables of analysis; physical, psychological and social have on the outcome variable of school engagement. But equally as important is the decoupling of variables to explore individual shifts due to the involvement in the study. The chi-squared analysis showed that Peer Pressure/Social Norms were readily addressed ($\chi^2 = 18.05, p = 0.0012$), whereas Shame ($\chi^2 = 9.60, p = 0.0583$) is a laggard variable, requiring more education and use of the MHM kits to improve confidence and reduce the impact of shame. Internalized shame takes longer to abate.

Qualitative Results Discussion

The voice of participants must be centred in this work. By listening to girls, we are more able to direct resources and training in the most impactful ways. The discussion highlights these findings. Thematically presented, this section will be organized under the psychological barriers (including shame, fear and anxiety), the physical barriers (including pain and unpredictability), the social tax (including peer pressure, cultural norms and the taboo nature of menstrual hygiene discussion) and finally the outcome of “preventative absenteeism”. These four areas lead to voices of empowerment and optimism about the changes the girls feel these resources and knowledge will afford them.

Psychological Barriers: Shame, Anxiety, and Distraction

Shame, being the most difficult to shift barrier, has devastating impacts on the psychological safety of girls in Ethiopia's Somali Region. One participant shared, “I experienced fear and shame from the boys, and it hurt my soul ... schools should raise awareness”. In one of the focus groups, one participant described a scenario of having leakage showing on her clothing and the boys laughing at her. She ran away from the school that day and did not attend again until her menarche had concluded. Another student share that she believed, “all the living and learning environment is hindered by [the menstruation] obstacle and [the] shame [surrounding it]. One of the control group participants posited that the “school community should change the attitude because menstruation should not be seen as a shame”. The presence of shame within participants' experiences highlights the gaps in equity resources. Such forms of shame make it difficult to be

confident in attending and participating in school during the menarche.

Another psychological form of distress for the participants includes the physical anxiety related to “make-shift” menstrual hygiene protection. For many in the Ugas Hassan Focus Group, the fear of the hygiene folded clothes “falling out” caused anxiety. Other Focus Group participants noted worried about leaking or staining of clothes. Some participants explained that they did not participate in class discussions to avoid movement. They also shared that they did not participate in physical activities one the days of their menstrual flow. Anxiety lessens the ability of students to attend fully to the learning in the classroom. In Kaah High School, students shared that they can’t focus because they are worried about leakage. Participants also shared optimism about the MHM kits. They described them as being “very secure” and “we don’t have a fear it may fall [out]”. The reduction in anxiety and cognitive load will allow for deeper learning in the classroom.

Social Norms, Peer Pressure, and Preventative Absenteeism

Educational exclusion occurs when students feel that social norms and peer pressure dictates that girls should stay home when menstruating. This is a social tax that leads to preventative absenteeism. In Alfalah, all participants had the practice of taking the entire week off when they were menstruating. One participant shared the reality that, “girls miss school to hide their periods”. In Kunka, one girl said that she “must stay away from school to rest”. When girls miss approximately 25% of their classes, they will not be able to keep up to the boys in their classes. This can lead to lower attainment and less progress in their learning. Eventually, this will lead to fewer girls continuing their education.

Physical Discomfort and Material Scarcity

Students were asked about the physical pain associated with menstruating and if that impacted their attendance at school. Due to the lower availability of comfortable purpose-made menstrual hygiene protection, more students use traditionally created substitutions. This is usually old cloth or going without. Table 7 shows the availability of purpose-made menstrual hygiene products.

Table 7: Availability of Purposed Made Menstrual Products

	Ver y Easy	Somewha t Easy	Somewha t Difficult	Very Difficul t	No acces s
Shinille	56%	15%	4%	18%	7%
Jijiga	48%	31%	12%	9%	0%

Godey	43%	11%	20%	26%	0%
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In Table 7, the three jurisdictions where the study took place shows that varying availability of menstrual hygiene protection is available. Across the three jurisdictions, less than half of participants have access to commercially purposed disposable products. For those that did not would have to find alternative methods to provide protection or would have to go without entirely. Traditionally this meant using old cloth scraps and folding them to absorb flow. The participants shared that it was difficult to always find cloth at home and that sometimes these substitutions were uncomfortable to use. They furthered that sentiment to suggest that “pain and discomfort decrease [d their] attention” in class.

This study showcases that girls attend school less than their male counterparts. Participants indicated that not have appropriate menstrual hygiene protection, like the MHM kits, led to them avoiding school attendance during their menstrual cycle. They also did not understand the pattern of their cycle, so there was an unpredictable nature of their cycles until their received some basic health education. The girls shared barriers of physical discomfort, psychological discomfort and social norms/peer pressure to not attend school during menstruation. This led to lower attendance and heightened cognitive load while attending. They often feared leakage and named reduced participation in school programming during menstruation.

The findings within the qualitative data triangulate the quantitative data presented. Together they paint a picture of significant barriers impacting girls’ attendance and engagement in learning during their menstrual flow. Layering on top of this research is the reality of infrastructure gaps such as WASH facilities creates educational exclusion for the girls of Ethiopia’s Somali Region.

Programmatic Implications and Strategic Framework

Addressing menstrual health barriers requires a comprehensive strategy that goes beyond product distribution alone. Sustainable progress relies on a three-stage framework that initially addresses physical needs and safety, then a second stage is to work with the community to normalize attendance and activities for girls while menstruating and the third stage looks to providing ongoing support to reduce internalized shame through institutionalizing health education. This would require the enactment of SBBC approaches for sustainable, transformative change. Figure 6 shows the SBCC process of community engagement that is necessary to address the barriers facing girls attending school.

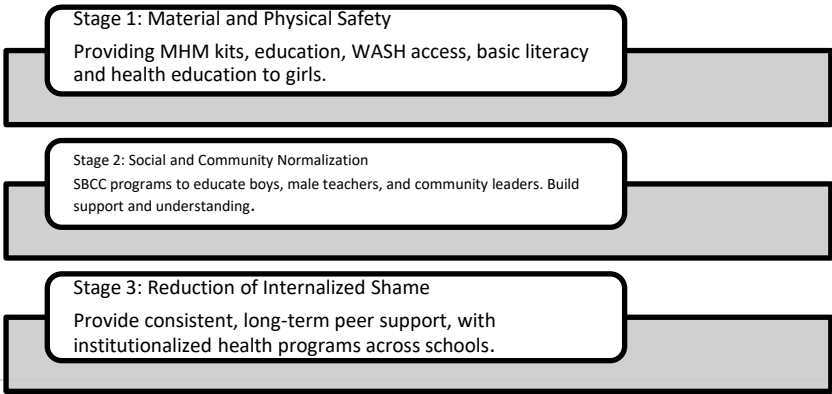


Figure 6: Three Staged Approach to Reduce Barriers Impacting Girls' School Participation.

By initially providing girl-centric support, Stage 1 can have immediate impact on girls' confidence levels when menstruating.

Stage 2 represents a significant barrier, where boys and community leaders require education to consider different ways of thinking about girls' biological needs. The second stage of this study requires addressing the social norms and peer pressure experienced by girls while they are menstruating. The topic was seen to be normalized with the group education. But much of the anxiety was related to how boys responded to mishaps of leakage or staining. This suggests that further education that includes boys would help reduce negative peer pressure and social norms. It is only through normalization throughout the community; will girls experience less peer pressure.

The final stage of addressing internalized shame is the last step towards equity of school participation. The initial impact of peer pressure reduction shows promising results for a secondary impact on internalized shame mitigation. By developing broader understanding within the entire community, greater empowerment of girls will occur. They will be able to focus more on their studies and less on the management of your menstrual hygiene.

In the Ethiopia's Somali Region, girls face many barriers to attend school. This initial research attempts to establish baselines related to the barriers related to menstruation. Through the development of a composite participation index four distinct variables were explored. Seeking understanding of the possible intersection of girls experiencing physical discomfort or anxiety about the unknown timing of their menstruations (Q15), the shame / embarrassment experienced at school while menstruating (Q18), peer pressure / social norms (Q30) related to menstruations and school attendance (Q20) were explored. These three distinct independent variables (Q15, Q18, Q30) indicated critical factors for future development of a factor analysis. Applying this theory driven principal component analysis indicated that girls' school attendance is influenced by shame and peer pressure, more so than physical discomfort. This indicates that a multi-pronged approach of education is necessary to address peer pressure and social norms related to school attendance while menstruating.

This study indicated that there is significant work yet to do to reduce barriers for girls' education within the Somali Region of Ethiopia. This study will act as critical baseline to follow-up studies where students (both girls and boys) will receive educational support to reduce the unpredictability and social taboo related to menstruation. Adding to the academic knowledge in the Ethiopian landscape, local solutions can be developed that involve communities. Without that more holistic approach through Social and Behavioural Change Communication (SBCC) engagement strategies, the factors of shame and peer pressure will continue to act as a formidable challenge for girls' consistent attendance and engagement in education.

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