# Effect of a multi-component menstrual health intervention on menstrual health, mental health, and education in Ugandan secondary schools: a school-based cluster randomised controlled trial

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On behalf of the MENISCUS Trial team

WCE
WORLD CONGRESS OF EPIDEMIOLOGY 2024

# Menstrual health

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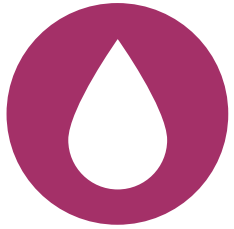
Improving menstrual health & wellbeing

A state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity, in relation to the menstrual cycle


Materials


Supportive environment

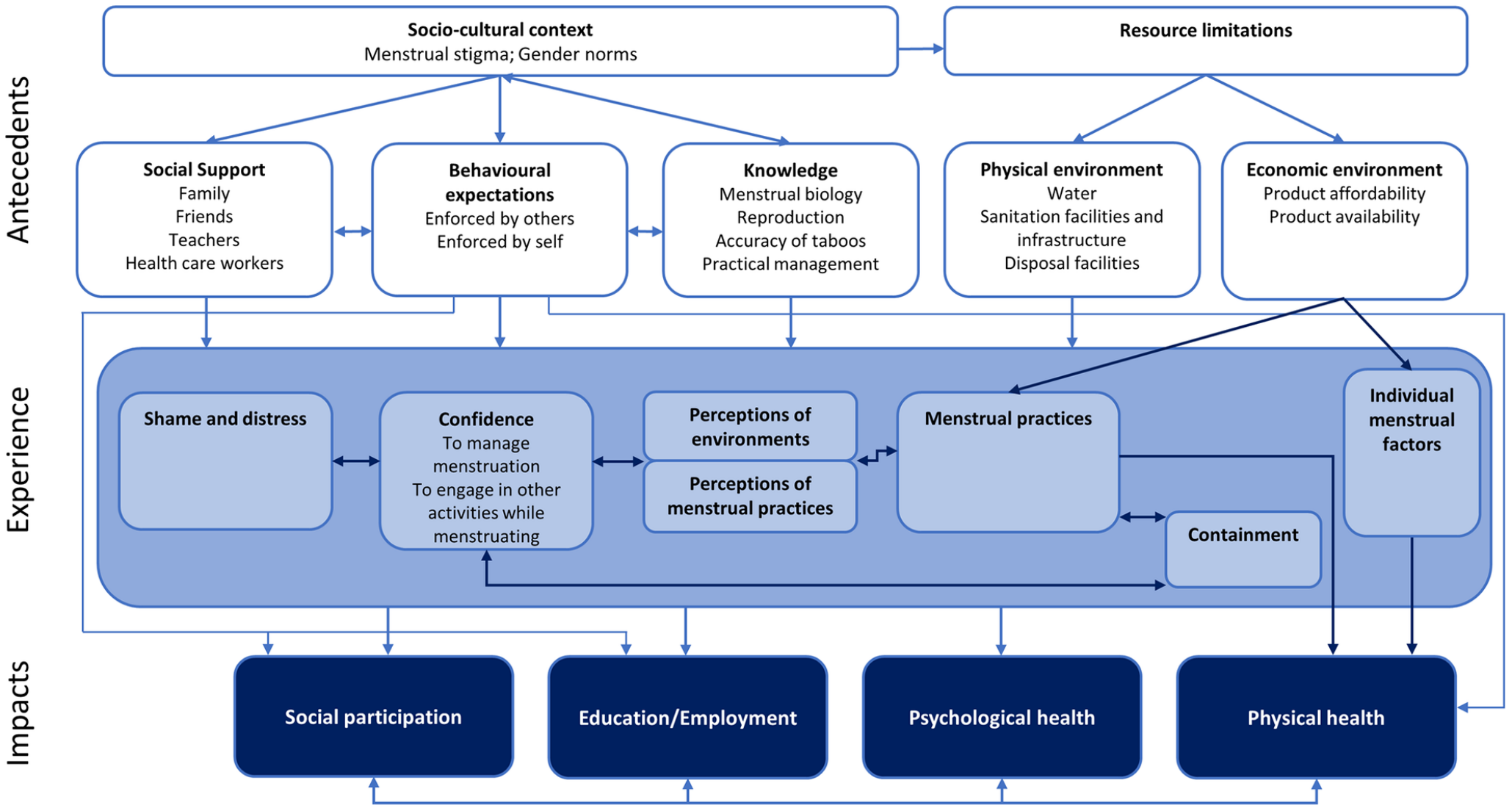

Knowledge


Access to care


Freedom to participate

Hennegan et al, Menstrual Health: a definition for policy, practice and research. Sex Reprod Health Matters 2021: 29(1): 1911618

# Model of menstrual experience




Hennegan, et al. "Women's and Girls' Experiences of Menstruation in Low- and Middle-Income Countries: A Systematic Review and Qualitative Metasynthesis." *PLOS Medicine* 16, no. 5 (2019): e1002803.

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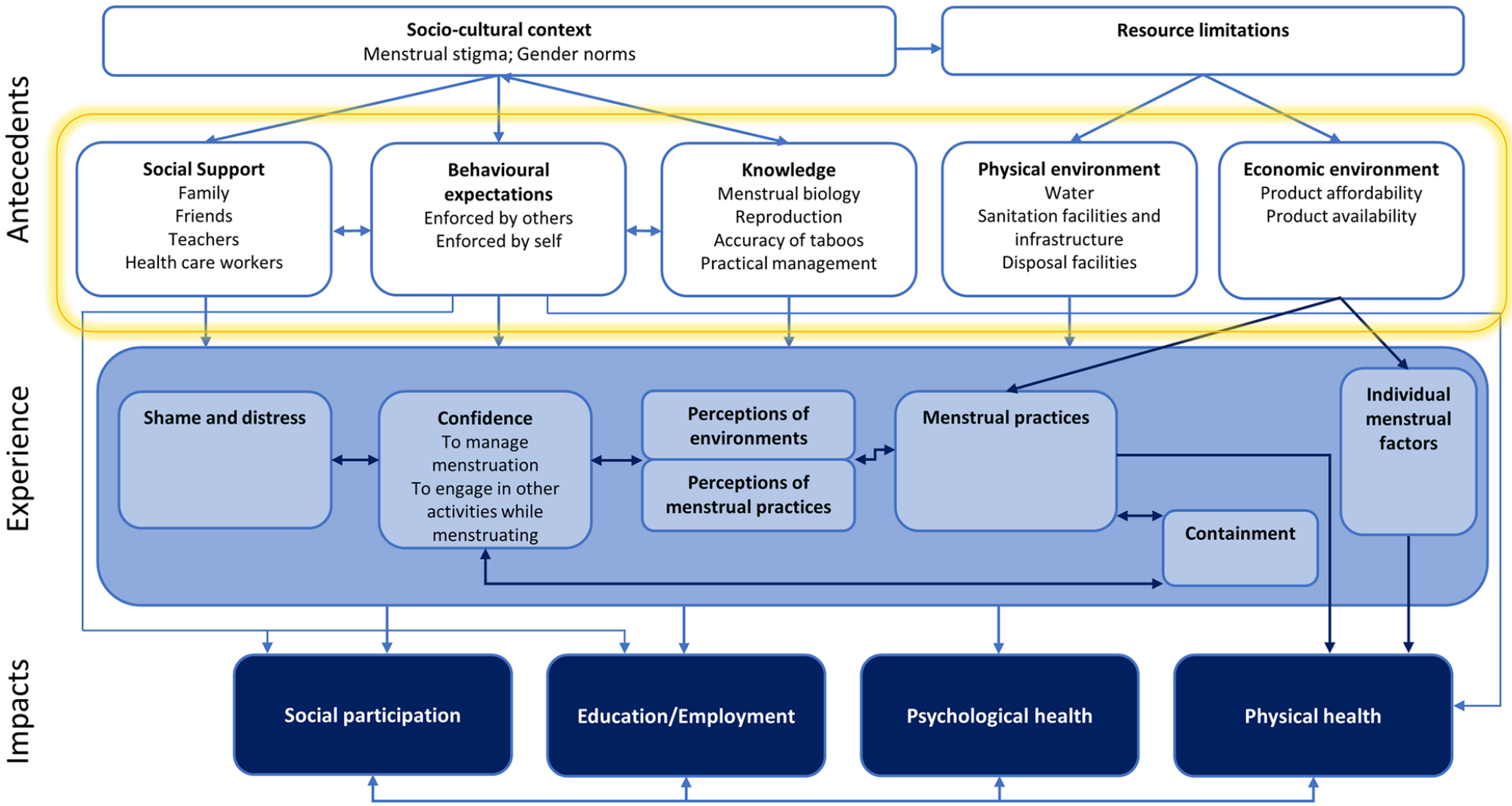


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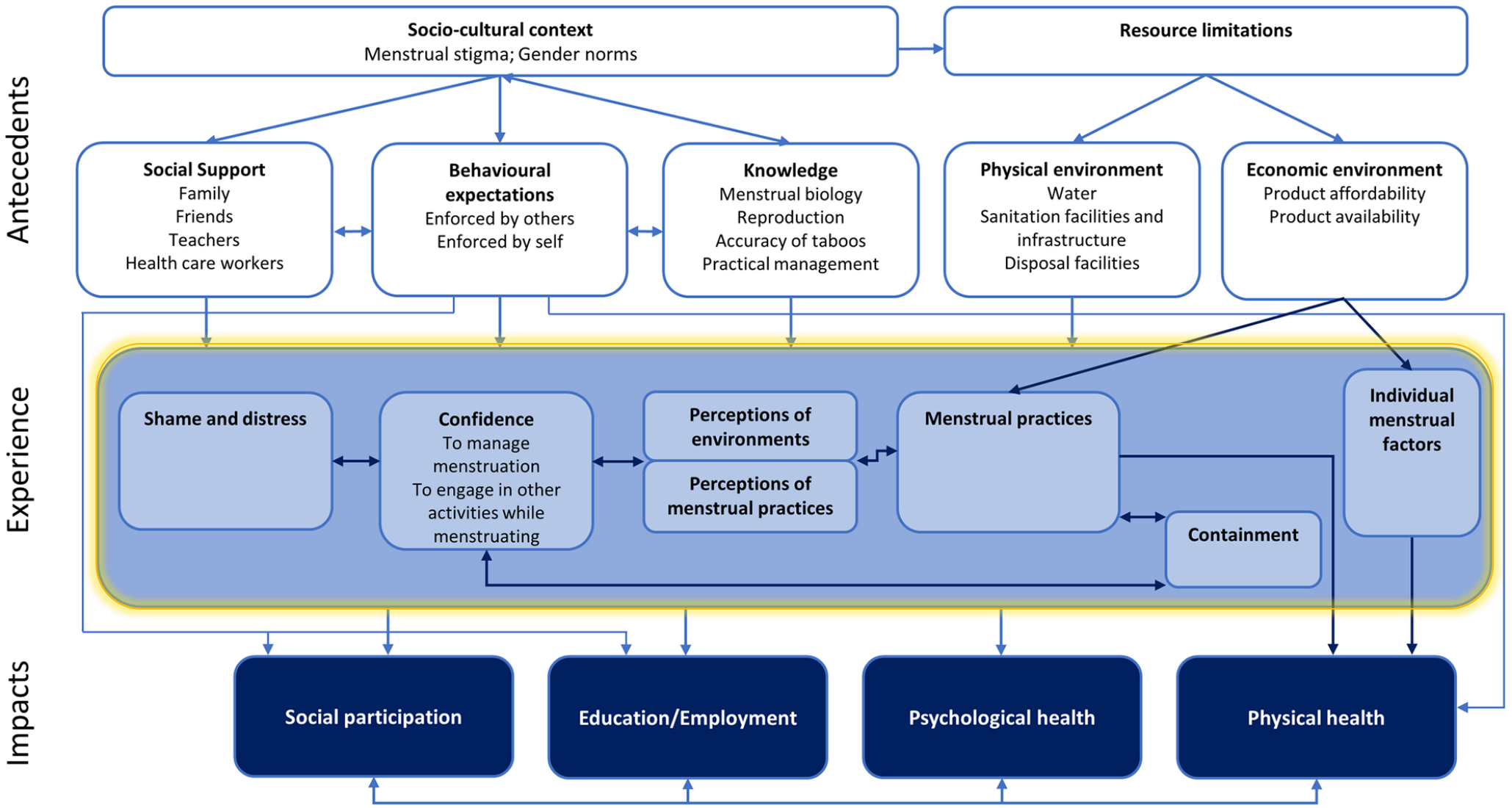


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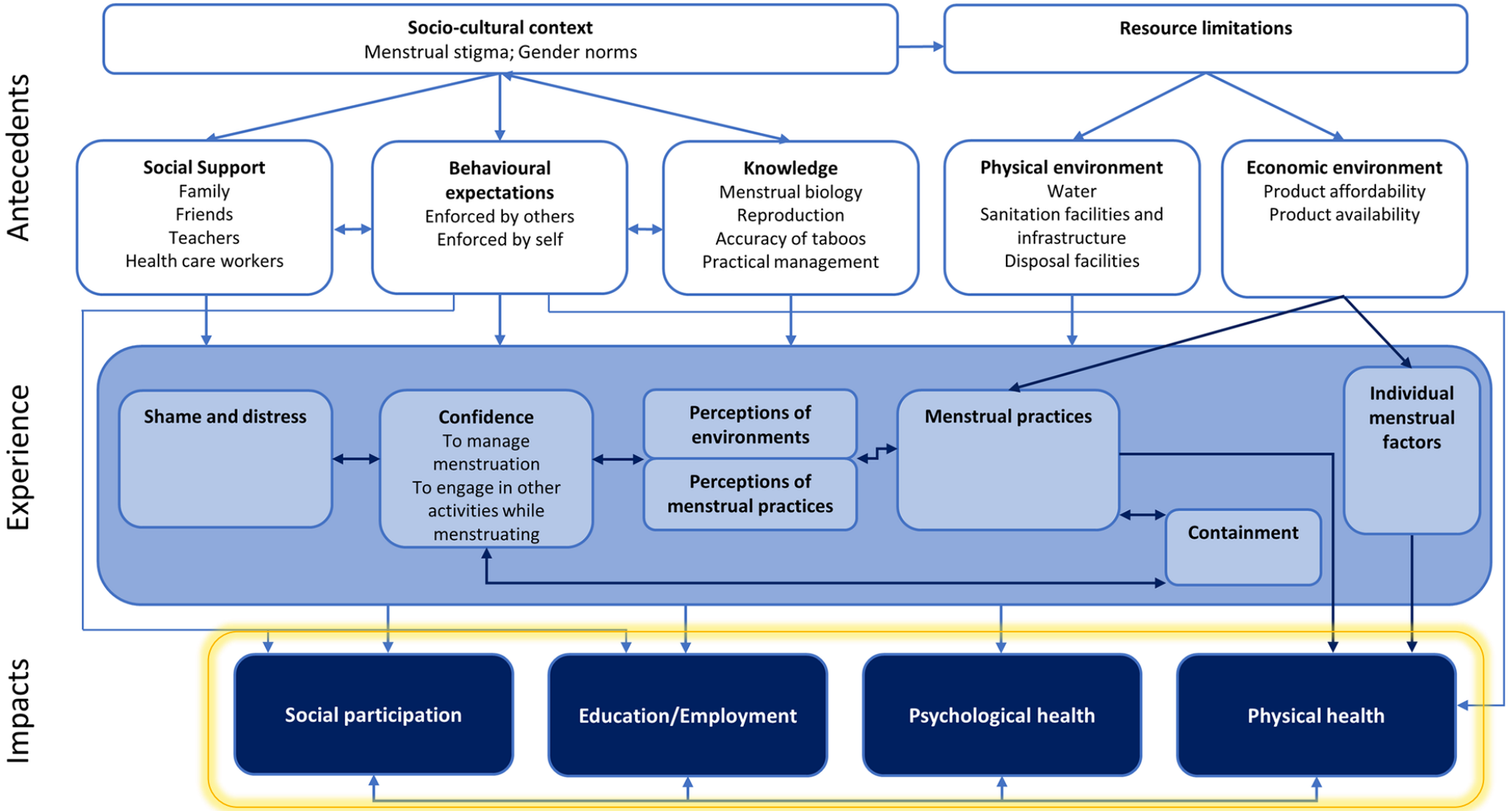


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# Work leading to the MENISCUS trial

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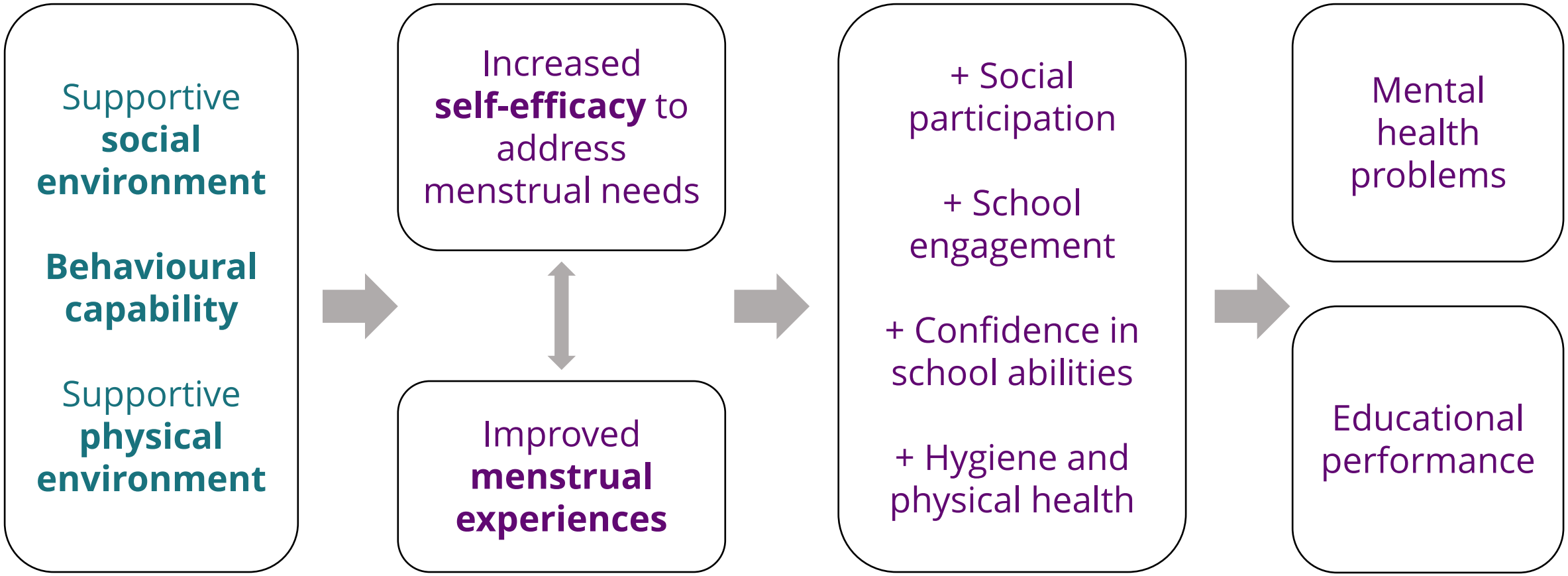
# Multi-component school-based intervention

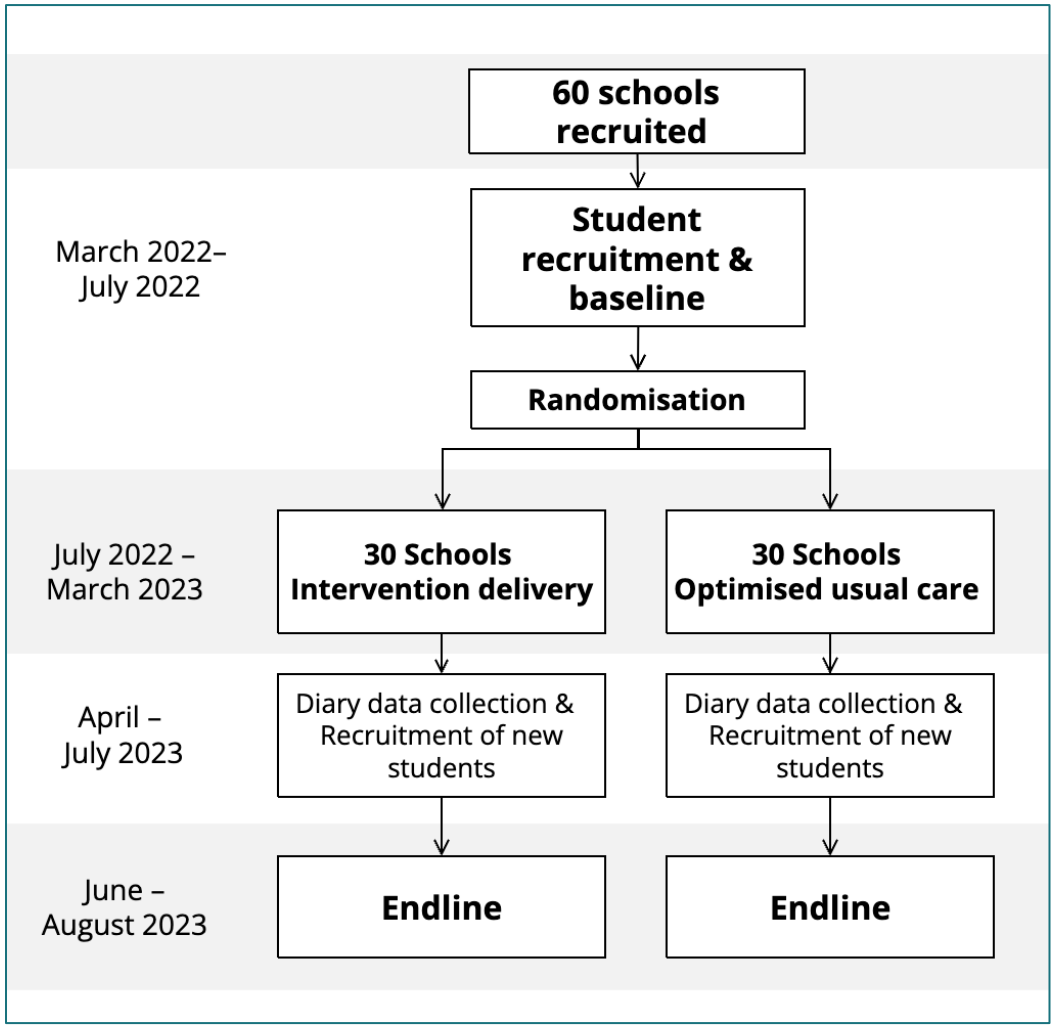
1. Puberty education
2. Drama skits
3. Menstrual health kit
4. Pain relief
5. WASH improvements

*MH Action Group*


# Theory of change



# Trial design & population




- Parallel arm, cluster randomised controlled trial in two districts
- All **female students** in S2 eligible

  + 15 **male S2 students** per school
- **Daily diary** sub-study
- **Trial population:** 3841 female students recruited at baseline; mean age 15.5 years
- **Intervention effects** estimated as a comparison between arms at endline
- Outcomes along theory of change

# Intervention effects

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**Primary outcomes**: No evidence of an intervention effect

| | | |
|---|---|---|
| **Educational performance**<br>Mean z-score on exam | aMD (95% CI):<br>0.05 (-0.10, 0.19) | p = 0.54 |
| **Mental health problems**<br>Strengths and Difficulties Questionnaire (SDQ) | aMD (95% CI):<br>0.05 (-0.40, 0.50) | p = 0.84 |

**Secondary outcomes**:

- Consistent evidence of impacts on most dimensions of menstrual health; male student attitudes
- No evidence of an impact on school attendance; UTI prevalence; confidence in maths and science, male knowledge

n = 3360 endline female participants
aMD = adjusted mean difference

# Menstrual-related secondary outcomes

| Outcome | Control (n=1617)* Mean (SE) or n (%) | Intervention (n=1621)* Mean (SE) or n (%) | Adjusted MD, OR, or IRR (95% CI) | p-value |
|---|---|---|---|---|
| Knowledge (out of 9) | 5.61 (0.03) | 6.15 (0.03) | aIRR: 1.10 (1.07, 1.13) | <0.001 |
| Attitudes (out of 3) | 1.84 (0.02) | 2.20 (0.02) | aIRR: 1.20 (1.14, 1.26) | <0.001 |
| Menstrual experience (MPNS) | 2.28 (0.01) | 2.34 (0.01) | aMD: 0.09 (0.05, 0.13) | <0.001 |
| Self-efficacy (SAMNS) | 64.1 (0.47) | 68.5 (0.48) | aMD: 4.95 (3.31, 6.59) | <0.001 |
| Pain management | 845 (66.6%) | 919 (75.4%) | aOR: 1.50 (1.25, 1.80) | <0.001 |
| Adequate MHM | 835 (55.6%) | 797 (53.8%) | aOR: 0.91 (0.76, 1.08) | 0.27 |

MPNS: higher score = fewer unmet needs (poss. range 0-3)
SAMNS: higher score = greater confidence (poss. range 0-100)

*n = 2989 female participants menstruating in past 6m

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# Summary of trial findings

- Largely well-implemented intervention, widely appreciated by schools and participants
- Improved **multiple dimensions of menstrual health**, including self-efficacy and menstrual experience
- These improvements were likely **not sufficient** to show an impact on more distal outcomes
- Most participants had adequate menstrual materials → important to go beyond “hardware”

# Conclusions

- Multi-component interventions can improve schools' physical and social environments around menstrual health
- Our findings are consistent with other recent menstrual health trials failing to show impact on education and mental health outcomes
- Time to reframe the 'why' of improving menstrual health?

# Thank you

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WoMena Uganda

MRC/UVRI and LSHTM Uganda Research Unit

UKRI Medical Research Council

Uganda Virus Research Institute

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