

## Supplementary Appendices. School Staff Perpetration of Physical Violence against Students in Uganda: A Multilevel Analysis of Risk Factors

### Appendix 1. Definition of Outcome Variable: School Staff Physical Violence Perpetration against Student in the Past Week in Luwero District, Uganda\*

What are the methods of physical discipline you have used with students in the past week? Have you done the following:

- Slapped them with a hand on their face or head as punishment?
- Twisted their ear as punishment?
- Twisted their arm as punishment?
- Pulled their hair as punishment?
- Hit them by throwing an object at them?
- Hit them with a closed fist?
- Hit them with a stick?
- Caned them?
- Kicked them?
- Knocked them on the head as punishment?
- Made them dig, slash a field, or do other labor as punishment?
- Hit their fingers or hands with an object as punishment?
- Crushed their fingers or hands as punishment?
- Made them stand or kneel in a way that hurts to punish them?
- Made them stay outside, for example, in the heat or rain to punish them?
- Burn them as punishment?
- Taken away their food as punishment?
- Forced them to do something that was dangerous?
- Choked them?
- Tied them up (with a rope or belt) at school?
- Tried to cut them purposefully with a sharp object?
- Made them roll over on the ground until they were dizzy as punishment?

\*Staff coded as having the outcome if answering "yes" to any of the 22 items listed.

**Appendix 2.** Composite measures generated to measure attitudes and social norms in assessing predictors for staff physical violence perpetration against students in the past week; Luwero District, Uganda

Scale	Statements	Response Options	Notes
<p><b>Personal acceptance of physical discipline</b>                      •6 items                      •Cronbach's alpha: 0.75                      •Interitem correlation: 0.319-0.371                      (mean: 0.351)</p>	<ul style="list-style-type: none"> <li>•Physical discipline of students by teachers is normal.</li> <li>•Students who misbehave should be physically disciplined.</li> <li>•Sometimes teachers must hit students to make them listen.</li> <li>•Sometimes teachers must hit students to make them learn.</li> <li>•Sometimes physically disciplining students is the only way to make them respect you.</li> <li>•In your opinion, is it OK to physically discipline children when they misbehave?</li> </ul>	<ul style="list-style-type: none"> <li>•Strongly agree</li> <li>•Agree</li> <li>•Disagree</li> <li>•Strongly disagree</li> </ul>	<ul style="list-style-type: none"> <li>•Data derived from school staff surveys (n=499).</li> <li>•Score range= 0-18. Scores were summed and grouped in thirds to represent low, medium, and high acceptance of physical discipline.</li> <li>•In addition to being analysed at the individual level, items were aggregated and a mean score was derived for each school. These scores were then grouped in thirds to approximate social norms accepting of physical discipline at the school level.</li> </ul>
<p><b>Perceived quality of school climate</b>                      •16 items                      •Cronbach's alpha: 0.75                      •Interitem correlation: 0.153-0.175                      (mean: 0.160)</p>	<ul style="list-style-type: none"> <li>•In your opinion, do you have enough opportunities to say what you think and contribute to how the school is run?</li> <li>•Do students in your school have an opportunity to say what they think?</li> <li>•Do students in your school have an opportunity to contribute to how the school is run?</li> <li>•Do you feel that your views on how the school's policies could be improved are welcomed?</li> <li>•How often do you take any actions to change how your school is run?</li> <li>•Do you feel that there is anybody at your school you can talk to if you feel unhappy about work?</li> <li>•Thinking about your school as a whole, do you feel like you are part of a team?</li> <li>•Do you have regular staff meetings?</li> <li>•Would you say that students feel comfortable talking to you/want to confide in you if they are unhappy about something at home or at school?</li> <li>•Do you feel that students respect their peers and adults?</li> <li>•Do you feel that school staff respect their students?</li> <li>•Do you have a good relationship with the students?</li> <li>•Do you have a good relationship with parents?</li> <li>•Do you feel concerned about how other school staff members behave at school? (reverse coded)</li> <li>•How often does this school experience problems with physical violence? (reverse coded)</li> <li>•How often does this school experience problems with bullying (e.g. verbal abuse of staff or students)? (reverse coded)</li> </ul>	<ul style="list-style-type: none"> <li>•All the time</li> <li>•Most of the time</li> <li>•Sometimes</li> <li>•Never</li> </ul>	<ul style="list-style-type: none"> <li>•Data derived from school staff surveys (n=499).</li> <li>•Score range= 0-48. Scores were summed and grouped into thirds as high, medium, and low perceived quality of school climate.</li> <li>•Items were selected with reference to existing school climate scales: School Climate Survey (57), Charles F. Kettering Ltd. School Climate Profile (58), California School Climate and Survey-Short Form (59), and the SRS Safe Schools Survey (60).</li> <li>•In addition to being analysed at the individual level, items were aggregated and a mean score was derived for each school. These scores were then grouped in thirds to approximate perceived quality of school climate at the school level.</li> </ul>
<p><b>Job satisfaction</b>                      •5 items                      •Cronbach's alpha: 0.65                      •Interitem correlation: 0.223-0.288                      (mean: 0.245)</p>	<ul style="list-style-type: none"> <li>•How often would you say that you enjoy your job?</li> <li>•Do you feel valued as an employee?</li> <li>•Do you take pride in your work?</li> <li>•Do you feel that your employers care about your wellbeing?</li> <li>•Do you feel adequately rewarded financially for what you do?</li> </ul>	<ul style="list-style-type: none"> <li>•All the time</li> <li>•Most of the time</li> <li>•Sometimes</li> <li>•Never</li> </ul>	<ul style="list-style-type: none"> <li>•Data derived from school staff surveys (n=499).</li> <li>•Score range= 0-15. Scores were summed and grouped in thirds to represent high, medium, and low job satisfaction.</li> </ul>
<p><b>Social norms accepting of physical discipline in communities</b>                      •7 items                      •Cronbach's alpha: 0.86                      •Interitem correlation: 0.459-0.497                      (mean: 0.475)</p>	<ul style="list-style-type: none"> <li>•Students who misbehave should be physically disciplined.</li> <li>•Sometimes teachers must hit students to make them listen.</li> <li>•Sometimes teachers must hit students to make them learn.</li> <li>•Children who misbehave should be physically disciplined.</li> <li>•Sometimes parents must hit students to make them listen.</li> <li>•Sometimes parents must hit children to make them learn.</li> <li>•Sometimes physically disciplining children is the only way to make them respect you.</li> </ul>	<ul style="list-style-type: none"> <li>•Strongly agree</li> <li>•Agree</li> <li>•Disagree</li> <li>•Strongly disagree</li> </ul>	<ul style="list-style-type: none"> <li>•Data derived from caregiver surveys (n=828).</li> <li>•Score range= 0-21. Scores were summed and a mean score was derived for each school. These scores were then grouped in thirds to approximate social norms accepting of physical discipline within communities surrounding schools.</li> </ul>

**Appendix 3.** Index generated to measure socio-economic status of students' families in assessing predictors for staff physical violence perpetration against students in the past week; Luwero District, Uganda

Statements (n=14)	Response Options
•Do you own or rent a property, live somewhere without paying or does your employer pay for your accommodation?	Owns; rents; other
•How many adults aged 18 years and older sleep in the same sleeping area with you? (n=746)	0; 1+
•Yesterday, how many meals did you eat? (n=827)	1 meal; 2 meals; 3 meals; other
•Thinking about your house where you live now, what is the main material of the floor? (n=803)	Earth/sand; cement; other
•Thinking about your house where you live now, what is the main material of the roof?	Thatch/palm leaf; metal; calamine/cement; fibre; roofing shingles; other
•Does your household have...electricity? (n=824)	No; yes
•Does your household have...a radio?	
•Does your household have...a television?	
•Does any member of your household have...a watch?	
•Does any member of your household have...a mobile phone?	
•Does any member of your household have...a bicycle?	
•Does any member of your household have...a motorcycle?	
•Does any member of this household own land that can be used for agriculture?	
•Does any member of this household own any livestock, herds, other farm animals, or poultry?	

Notes: Generated using Principal Components Analysis; completed by 828 caregivers.