Multi-Level Factors Impact School Attendance

What individual, school and household factors play a role in reducing school absence?

Background

Educational attainment has a broad range of benefits for both individuals and society as a whole. Increased educational attainment is associated with increased individual productivity and higher wages, and with a higher gross domestic product (GDP). The challenges of ensuring access to education cannot be addressed by enrollment data alone; incorporating absenteeism data into assessments provides a more comprehensive assessment of children's educational attainment. Water, sanitation and hygiene (WASH) both at school and at home, can influence rates of absence and enrollment in developing countries. When children must fetch drinking water for use at school or home, absence from school is more likely to occur. This study examines the links between **primary school attendance in western Kenya** and **school** and **household WASH conditions** from **a multi-level perspective**, combining individual-, household-, and school-level data to assess how factors may play a role in reducing school absence.

Research

In 2007, 185 eligible schools were randomly selected for the study. Individual-level data included demographics such as age and gender of students. Household-level data was compiled from structured questionnaires with a systematic sample of 25 – 40 households in communities near selected schools. School-level data was compiled from enrollment records, interviews and structured observations of school facilities for analysis. Parent-reported school enrolment and absence in the two weeks prior to data collection were recorded for all children in the household between ages 5 and 18. The initial data set comprised 7,966 children enrolled in primary school representing 3,857 households and 175 primary schools.

Findings

Absence by Individual Factors

The combined effect of wealth and gender resulted in a greater than two times increase in the odds of absence among the poorest 40% of girls when compared to the wealthiest 20% of boys. Age was also significantly associated with recent absence for both girls and boys. The odds of recent absence declined by nearly the same amount for girls (10%) and for boys (9%), for every year increase in age until 11**;** however, above age 11, girls and boys showed markedly different patterns. For boys, the protective effect of age was no longer significant, while **for girls, each year increase in age above 11 years old was significantly associated with a 9% increase in the odds of recent absence.**

Absence by Household Factors

For girls, living in a household that falls in the poorest wealth group remained a significant predictor of recent absence after adjustment for other household- and school-level factors, while the effect of wealth on absence among boys was no longer apparent. Living in a female-headed household was a highly significant predictor of absence, with girls 2.4 times more likely and boys 3.2 times more likely to have been absent in the past two weeks if they lived in a female-headed household. WASH determinants of absenteeism such as having a latrine at home was associated with a 26% decrease in the odds of absence among girls and a 33% decrease among boys. Time to current household water source greater than 20 minutes was associated with a 45% and 39% increase in the odds of recent absence among girls and boys, respectively. **Living in a household in which children are involved in water collection was associated with a 37% increase in the odds of missing school among girls, but this factor was not significant for boys.**

Absence by School Factors

School electricity, pupil-per-teacher ratio, and pupil-per-room ratio were not significant predictors of absence. Attending a school with at least partially finished floors, however, was marginally associated with a decrease in the odds of recent absence among girls (32%) and among boys (35%). Improved flooring is likely an indication of better mobilization of community resources for school infrastructure improvement. WASH determinants of absenteeism such as sanitation *quantity* (i.e. pupils per latrine) indicators were not associated with changes in the odds of absence. However, as indicators of school sanitation *quality increased* there was a significant decrease in the odds of missing school among girls (19%) and boys (25%), respectively, although this was only marginally significant for girls.

Conclusion

School WASH interventions that do not address – or at least consider – the influence of household-level factors on primary school absence may not see optimal gains in educational outcomes. Interventions that target or explicitly address the needs of girls and the poorest are needed in order to ensure that universal access to education results in similar educational opportunities for all.

Quality of school latrines was the most important school WASH factor associated with attendance whereas quantity of latrines was less important. Latrine quality is rarely emphasized in national policies of developing countries, although the Government of Kenya has recently begun to acknowledge the importance of latrine maintenance in its national school health strategy. Efforts to improve school WASH may be more effective (including cost-effective) by ensuring that a minimum number of *high-quality* facilities are available for children rather than simply providing more facilities. Looking forward, it is important to understand the potential mechanisms through which the quality of school sanitation and hygiene facilities impacts educational outcomes.