

REVERSING THE GAP? GENDER DIFFERENCES IN READING AND MATH ACHIEVEMENT IN 14 SUB-SAHARAN AFRICAN COUNTRIES

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BACKGROUND

Indicators from the second phase of the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) show that female pupils in many countries performed similarly or better than male pupils on reading and math tests. This finding is unexpected and begs for further study as gender inequality in schooling has been well established in the African education literature (Fentiman, Hall and Bundy 1999; Lloyd and Gage-Brandon 1994).

This paper aims to explore these gender gaps in reading and math achievement using data on 6th graders from 14 sub-Saharan African countries. Not enough is known on gender differences in learning and literacy in Africa and the factors that influence these differences as the existing research on the female disadvantage in schooling has focused mainly on school enrolment and educational attainment. The purpose of this analysis is first to provide a cross-national comparison of gender differences in achievement and then to study the factors that are correlated with the size of the gender gap. The three main factors of interest are gender selectivity with respect to schooling progress, regional socio-economic status (SES) and school quality. I expect to find that gender differences in achievement will be smallest in regions with higher SES and more timely school progress and in schools with greater educational resources.

DATA AND METHODS

The data comes from a sample of 6th graders in the 2000-2002 evaluations of the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ). SACMEQ consists of 14 countries in Southern and Eastern Africa: Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zanzibar and Zimbabwe. The evaluation collected data on approximately 40,000 pupils, 5,300 teachers, and 2,300 primary schools.

I first use ordinary least squares (OLS) regressions to estimate the size of the gender gap, by country. The dependent variables of interest are reading and math scores from literacy tests administered by SACMEQ. The primary independent variables are gender and an interaction variable of gender and country. Additional independent variables control for student demographic characteristics, socio-economic status, schooling history, school quality and region of residence.

I then use a three level hierarchical linear modeling to explain cross-national differences in the size of the gender gap in achievement. The third level controls for country gross development product (GDP). SACMEQ collects data by education region within country and I use this at the second level. The variables for the second level are socio-economic composition of student population, school and teacher quality, incidence of lagging behind grade for age, and controls for gender selection in school enrollment. I use z-scores to measure the deviation in regional sex ratio (calculated separately for rural and urban areas) from national estimates assuming an imbalance in the sex ratio is caused only the highest achieving girls being enrolled

in school. At the student level I control for demographic and family characteristics, and schooling history as used in the prior OLS regressions.