

Engendering School Learning Science, Attitudes and Achievement Among Girls and Boys in Botswana

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ABSTRACT

There is considerable concern today over the low numbers of women entering the fields of science and technology. For African countries, this represents a loss of valuable resources, and hinders women's full participation in the development process. This study examines and explains gender disparities in education in Botswana in terms of gender stereotyping. The study argues that the gender-typing by students of school subjects and fields of work fosters gender differences in attitudes and performance across subjects. These propositions are tested using partial least squares (PLS) path analysis to analyse data collected from a national survey of attitudes and school achievement among secondary school students in Botswana. The study focuses upon the example of science.

Clear and consistent gender-typing of attitudes towards gender roles, occupations and school subjects is evident among both girls and boys. There is strong support for the idea that women should be primarily responsible for domestic work, although both sexes consider that women should also have an economic role. Occupations in the fields of science and technology are all judged by students to be masculine, as are the majority of school subjects.

The findings show that gender role ideology is a significant factor in the achievement process, especially for girls. Socio-economic background is more influential for boys. Girls and boys with feminine gender role identities tend to perform worse in almost all school subjects, including science. Furthermore, both girls and boys show a strong tendency to regard science and science careers, as well as school science, as masculine areas of activity. The causal analysis reveals that, among boys, the gender-typing of school science as male has a small *positive* influence upon science attitudes and performance. For girls, however, it has a small *negative* influence. The fact that it is the gender-typing of school science, rather than of science in general, which depresses the achievement of girls suggests that the school plays a significant role in the gender-typing process. Another finding implicating the school is the consistent negative association between femininity and achievement, which implies that many girls are being forced to choose between competence and their femininity.