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**Kanyongo, Gibbs Y.; Schreiber, James B.**

**A structural equation model explaining 6th grade mathematics achievement using SACMEQ III data.**

Rogerson, Alan (ed.), The mathematics education for the future project. Proceedings of the 13th international conference 'Mathematics education in a connected world', Catania, Sicily, Italy, September 16–21, 2015. Münster: WTM-Verlag (ISBN 978-3-942197-44-1/pbk; 978-3-942197-86-1/ebook). Conference Proceedings in Mathematics Education 1, 189-197 (2015).

Summary: This study utilized structural equation modeling to explain mathematics achievement among 6th grade students in Zimbabwe using the Southern African Consortium for Monitoring Educational Quality (SACMEQ) III data. Specifically, the study looked at family background and demographic variables and how they are related to mathematics achievement. The variables included in the model are: homework explained, socio-economic status, number of meals per day, extra tuition, help with homework, given homework, homework corrected, parents' education, home quality and gender. To fit the model, a path-analytic model using Lavaan Beta 2.1 in R with maximum likelihood estimation with robust standard errors was used. Results showed that the final model was a slightly better fitting model than the hypothesized as measured by three core fit indices, TLI = .99, CFI = .99, RMSEA = .012 CI(0.0, 0.54).

*Classification:* C33 C63

*Keywords:* achievement; family background; demographic variables; homework explained; socio-economic status; extra tuition