

[Journal Contents](#)[SEARCH](#)[Current Volume](#)[Volumes](#)[Articles](#)[Special Collections](#)[General Information](#)[About the Journal](#)[Information for Authors](#)[Copyright Information](#)[Register for e-mail alerts](#)[Submit a Paper](#)

Sexual behaviour patterns in South Africa and their association with the spread of HIV: insights from a mathematical model

Leigh Johnson
Rob Dorrington
Debbie Bradshaw
Victoria Pillay-Van Wyk
Thomas Rehle

VOLUME 21 - ARTICLE 11

Date Received: 18 Feb 2009

PAGES 289 - 340

Date Published: 10 Sep 2009

<http://www.demographic-research.org/volumes/vol21/11/>

doi:10.4054/DemRes.2009.21.11



Click the icon to view and/or download the PDF file. Once you are in the PDF file, use your browser back button to return to this page.

Additional files

The following additional files belong to this article. Click the icon to view the files. To save them click the icon with the right mouse button and choose "Save target as..." or "Save link as..."

[21-11 Appendices](#)[21-11 SupplementaryData](#)

Abstract

This paper aims to quantify the effects of different types of sexual risk behaviour on the spread of HIV in South Africa. A mathematical model is developed to simulate changes in numbers of sexual partners, changes in marital status, changes in commercial sex activity and changes in the frequency of unprotected sex over the life course. This is extended to allow for the transmission of HIV, and the model is fitted to South African HIV prevalence data and sexual behaviour data. Results suggest that concurrent partnerships and other non-spousal partnerships are major drivers of the HIV/AIDS epidemic in South Africa.

Author's affiliation

[Leigh Johnson](#)

University of Cape Town, South Africa

[Rob Dorrington](#)

University of Cape Town, South Africa

[Debbie Bradshaw](#)

South African Medical Research Council, South Africa

[Victoria Pillay-Van Wyk](#)

Human Science Research Council, Cape Town, South Africa

[Thomas Rehle](#)

Human Science Research Council, Cape Town, South Africa

References

[▶ View the references of this article](#)

Services

[▶ Bookmark this page](#)
[▶ Send this article to a friend](#)

Download to Citation Manager

[Refman format \(RIS\)](#) [ProCite format \(RIS\)](#) [EndNote format](#) [BibTeX format](#)

Citations and Similar Articles

PubMed

- ▶ [Articles by Leigh Johnson](#)
- ▶ [Articles by Rob Dorrington](#)
- ▶ [Articles by Debbie Bradshaw](#)
- ▶ [Articles by Victoria Pillay-Van Wyk](#)
- ▶ [Articles by Thomas Rehle](#)

Google Scholar

- ▶ [Articles by Leigh Johnson](#)
- ▶ [Articles by Rob Dorrington](#)
- ▶ [Articles by Debbie Bradshaw](#)
- ▶ [Articles by Victoria Pillay-Van Wyk](#)
- ▶ [Articles by Thomas Rehle](#)
- ▶ [Article and its Citations](#)



Keywords

AIDS/HIV, sexual behavior, simulation model, South Africa




Word count (Main text)

11030

Other articles by the same author/authors (in *Demographic Research*)

-  [19-46] Sources of error and bias in methods of fertility estimation contingent on the P/F ratio in a time of declining fertility and rising mortality
-  [14-22] Modelling the demographic impact of HIV/AIDS in South Africa and the likely impact of interventions

Similar articles in *Demographic Research*

-  [19-53] Polygyny and HIV in Malawi (sexual behavior, AIDS/HIV)
-  [14-22] Modelling the demographic impact of HIV/AIDS in South Africa and the likely impact of interventions (South Africa, simulation model)
-  [S1-9] Why are they worried? Concern about AIDS in rural Malawi (sexual behavior, AIDS/HIV)

[[Back to previous page](#)]