

Appendix

Questions on HIV Stigma and Knowledge

Social rejection comprises four questions: 1) Would you buy fresh vegetables from a shopkeeper or vendor if you knew that this person had HIV? 2) If a member of your family became sick with AIDS, would you be willing to care for her or him in your own household? 3) In your opinion, if a female teacher has HIV but is not sick, should he/she be allowed to continue teaching in the school? and 4) In your opinion, if a male teacher has HIV but is not sick, should he/she be allowed to continue teaching in the school?

Disclosure concerns are measured by one question: 1) If a member of your family got infected with HIV, would you want it to remain a secret or not? *Prejudiced attitudes* are measured by these questions: 1) Should people with AIDS be ashamed of themselves? and 2) Should people with AIDS be blamed for bringing the disease to the community? However, some of the questions were dropped as they became irrelevant while new ones were introduced within the period 1999-2015. Questions on willingness to take care of an HIV-positive relative and wanting to keep HIV status a secret were only asked in 1999, 2006, and 2011 waves. The question on willingness to buy from a vendor is available in 2006, 2011, and 2015 surveys while that of people with HIV should be ashamed of themselves was asked in 2006 and 2015 surveys. The question on those with HIV should be blamed is only available in the 2006 survey.

The questions that define comprehensive HIV knowledge are: 1) Can people get HIV by sharing food with a person who has AIDS? 2) Can people get HIV from mosquito

bites? 3) Can people reduce their chances of getting HIV by having just one uninfected sex partner who has no other sex partners? 4) Can people reduce their chance of getting HIV by using a condom every time they have sex? and 5) Is it possible for a healthy-looking person to have HIV?

Supplemental Table 1: Sample construction

Individual recode:	
Number of individuals interviewed in each survey:	Total
1999	8516
2006	16082
2011	16651
2015	18351
Total	59600
Number of individuals who answered all HIV stigma all questions:	
1999	8287
2006	15793
2011	16507
2015	18207
Total	58794
Main sample:	
Number of individuals who benefitted from the policies(born 1973-1978)	9207
Number of individuals who did not benefit from the policies(born 1959-1964)	3610
Total	12817
Data source:	1999, 2006, 2011, and 2015 DHS Surveys.

Supplemental Table 2: Descriptive statistics

Variable	Control Cohorts (1)	Treated Cohorts (2)	T-Statistic (1)-(2)	Whole Sample (3)	N (4)
HIV Stigma index	0.00(1.00)	-0.24(0.86)	0.24***	-0.17(0.91)	12817
HIV Stigma (dummy)	0.71(0.45)	0.56(0.50)	0.14***	0.60(0.49)	12817
1 if one agrees that one is not willing to buy from HIV ⁺ vendor (0 otherwise)	0.41(0.49)	0.25(0.43)	0.16***	0.29(0.46)	9891
1 if one agrees that a female HIV ⁺ teacher should not be allowed to teach (0 otherwise)	0.33(0.47)	0.19(0.39)	0.14***	0.24(0.43)	7377
1 if one agrees that a male HIV ⁺ teacher should not be allowed to teach (0 otherwise)	0.27(0.45)	0.21(0.41)	0.07***	0.23(0.41)	7369
1 if one agrees that HIV status should be kept a secret (0 otherwise)	0.46(0.50)	0.47(0.50)	-0.00	0.47(0.50)	10250
1 if one agrees that not willing to take care of a HIV ⁺ relative (0 otherwise)	0.14(0.30)	0.10(0.31)	0.04***	0.11(0.32)	10256
1 if one agrees that PLWHA should be blamed (0 otherwise)	0.27(0.44)	0.24(0.42)	0.04**	0.25(0.43)	4018
1 if one agrees that PLWHA should be ashamed (0 otherwise)	0.35(0.48)	0.19(0.39)	0.15***	0.23(0.42)	6531
Comprehensive HIV knowledge index	0.00(1.00)	0.26(0.83)	-0.05***	0.03(0.99)	12780
Comprehensive HIV knowledge (dummy)	0.30(0.46)	0.44(0.50)	-0.14***	0.40(0.49)	12780
Gender (1=Male; 0=Female)	0.42(0.49)	0.40(0.49)	0.01	0.41(0.40)	12817
Current residence (1=Urban; 0=Rural)	0.34(0.47)	0.35(0.48)	-0.01	0.35(0.48)	12817
Religion (1=Christian; 0=Other)	0.77(0.42)	0.79(0.40)	-0.02	0.78 (0.41)	12817
Ethnicity (1=Shona; 0=Other)	0.76(0.45)	0.77(0.42)	-0.01	0.77(0.43)	12817
Age	43.55(4.98)	31.84(5.91)	11.71***	32.89(7.71)	12817
Secondary attendance (1=Yes; 0=Otherwise)	0.34(0.47)	0.68(0.46)	-0.35***	0.59(0.49)	12817
Years of education	6.32(3.88)	9.05(2.80)	-2.73***	8.28(3.38)	12817

Note: Standard deviations are shown in parentheses. *p<0.1, **p<0.05, ***p<0.01. T-statistic is control cohorts minus treated cohorts.

Supplemental Table 3: The impact of education on outcomes (multiple hypothesis testing)

	Model Coefficient	Model p-value	Resample p-value	Romano-Wolf p-value
HIV Stigma	-0.086	0.002	0.004	0.007
HIV Stigma index	-0.184	0.005	0.001	0.001
Comprehensive HIV knowledge	0.038	0.028	0.021	0.032
Comprehensive HIV knowledge index	0.167	0.001	0.001	0.004
Female HIV ⁺ teacher should not teach	-0.046	0.083	0.066	0.233
Male HIV ⁺ teacher should not teach	-0.019	0.306	0.284	0.738
Not willing to buy from HIV ⁺ vendor	-0.100	0.003	0.013	0.007
Not willing to take care of a HIV ⁺ relative	-0.008	0.435	0.451	0.738
PLWHA should be blamed	0.022	0.521	0.522	0.738
PLWHA should be ashamed	-0.069	0.043	0.027	0.053
HIV status should be kept a secret	-0.054	0.061	0.084	0.088

Supplemental Table 4: The impact of education on outcomes – Robustness on clustering

	No clustering (1)	Clustering at birth year (2)	Clustering at cluster level (3)
HIV Stigma	-0.086*** (0.033)	-0.086** (0.015)	-0.086*** (0.032)
HIV Stigma index	-0.184*** (0.065)	-0.184** (0.074)	-0.184*** (0.064)
Comprehensive HIV knowledge index	0.167*** (0.060)	0.167*** (0.053)	0.167*** (0.060)
Comprehensive HIV knowledge	0.038** (0.019)	0.038** (0.016)	0.038** (0.019)

Notes: The survey weights were used in all models. All estimates include all controls, provincial, and survey year fixed effects. All specifications include linear slopes on either side of the cutoff. *p<0.1, **p<0.05, ***p<0.01.

Supplemental Table 5: The impact of education on HIV-related outcomes (2006 and 2011 surveys only)

	(1) HIV Stigma	(2) HIV Index	(3) Stigma Comprehensive HIV knowledge	(4) Comprehensive HIV knowledge index
Years of education	-0.069** (0.032) {0.021}	-0.169** (0.082) {0.047}	-0.36** (0.017) {0.033}	-0.159** (0.079) {0.043}
Control mean	0.760	0	0	0
R-squared	0.161	0.159	0.110	0.127
Observations	7413	7413	7377	7377

Notes: Robust standard errors are in parentheses, clustered at the year of birth and provincial level. The wild cluster bootstrap p-values are reported in curly brackets. The survey weights were used in all models. All estimates include all controls, provincial, and survey year fixed effects. All specifications include linear slopes on either side of the cutoff. *p<0.1, **p<0.05, ***p<0.01.