

PROBATION DEPARTMENT OF JUSTICE

RESEARCH AND ANALYSIS

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HSRC

Human Sciences
Research Council

2007



Structure of the presentation

- **Background**
- **What does the available research evidence show us?**
 - **International evidence**
 - **South African national evidence**
 - **Detailed evidence from a survey of three local Cape Town communities**
- **Conclusions**
- **Reference**

Background

- It has long been known that poverty is associated with poor health and risk-related behaviors.
 - For example, malnutrition, lack of access to health care, poor sanitation, limited resources for meeting basic needs, and conflict and violence are among the conditions of poverty that impede health and well-being.

Background (contd)

- **Perhaps more than any other illness, HIV/AIDS is concentrated in impoverished communities throughout the world.**
- **HIV infection is linked to poverty because of**
 - **poor health care infrastructure,**
 - **greater social density,**
 - **social isolation leading to closed sexual networks,**
 - **alcohol and drug abuse, and**
 - **engaging in sex in exchange for survival resources.**

Background (contd)

- **HIV/AIDS is clearly not the direct result of hunger and impoverished living conditions (Booyesen, 2004), but it is likely that poverty creates a social and environmental context that promotes the spread of HIV infection.**

FIGURE 2.4

A global view of HIV infection
38.6 million people [33.4–46.0 million] living with HIV, 2005

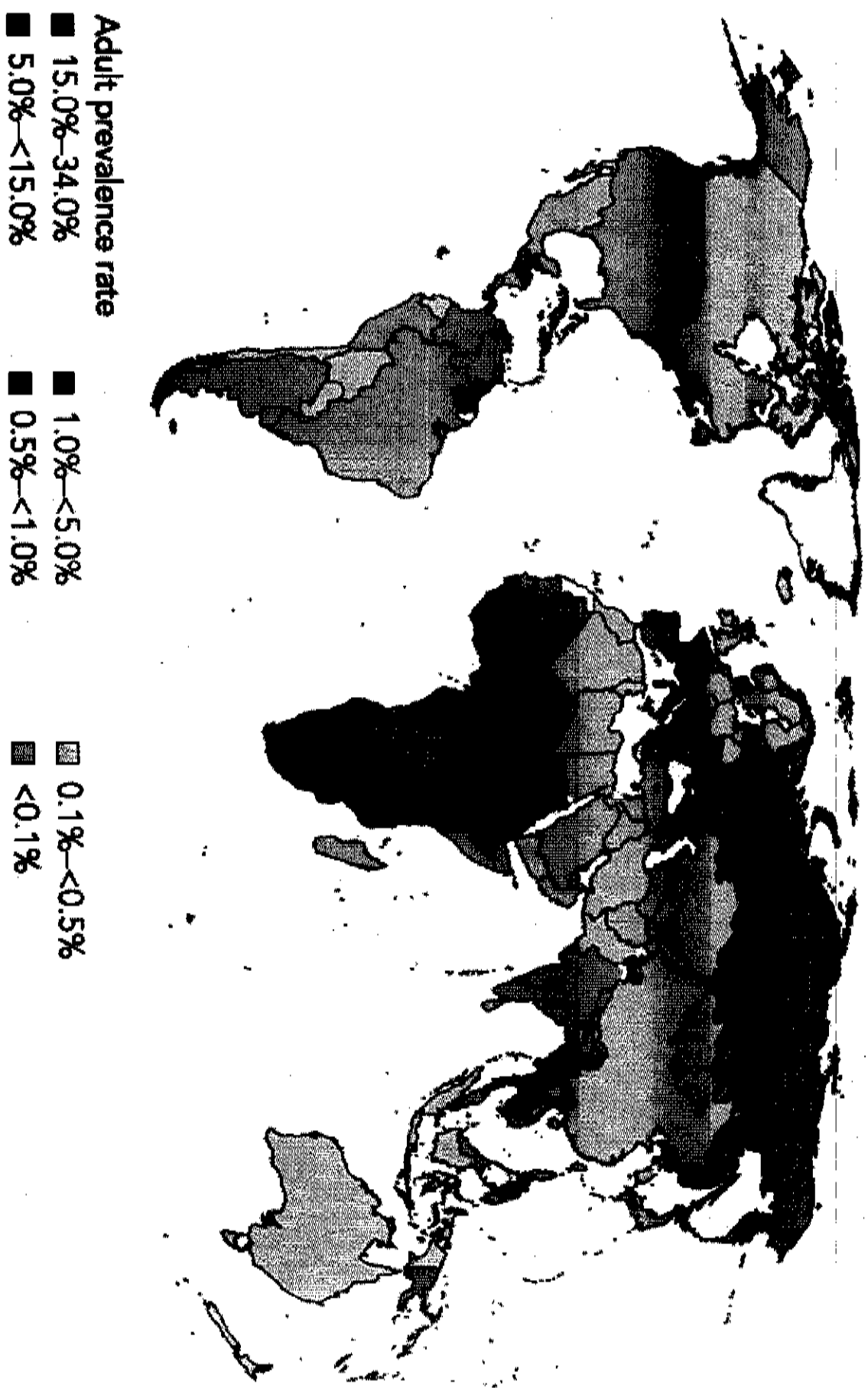
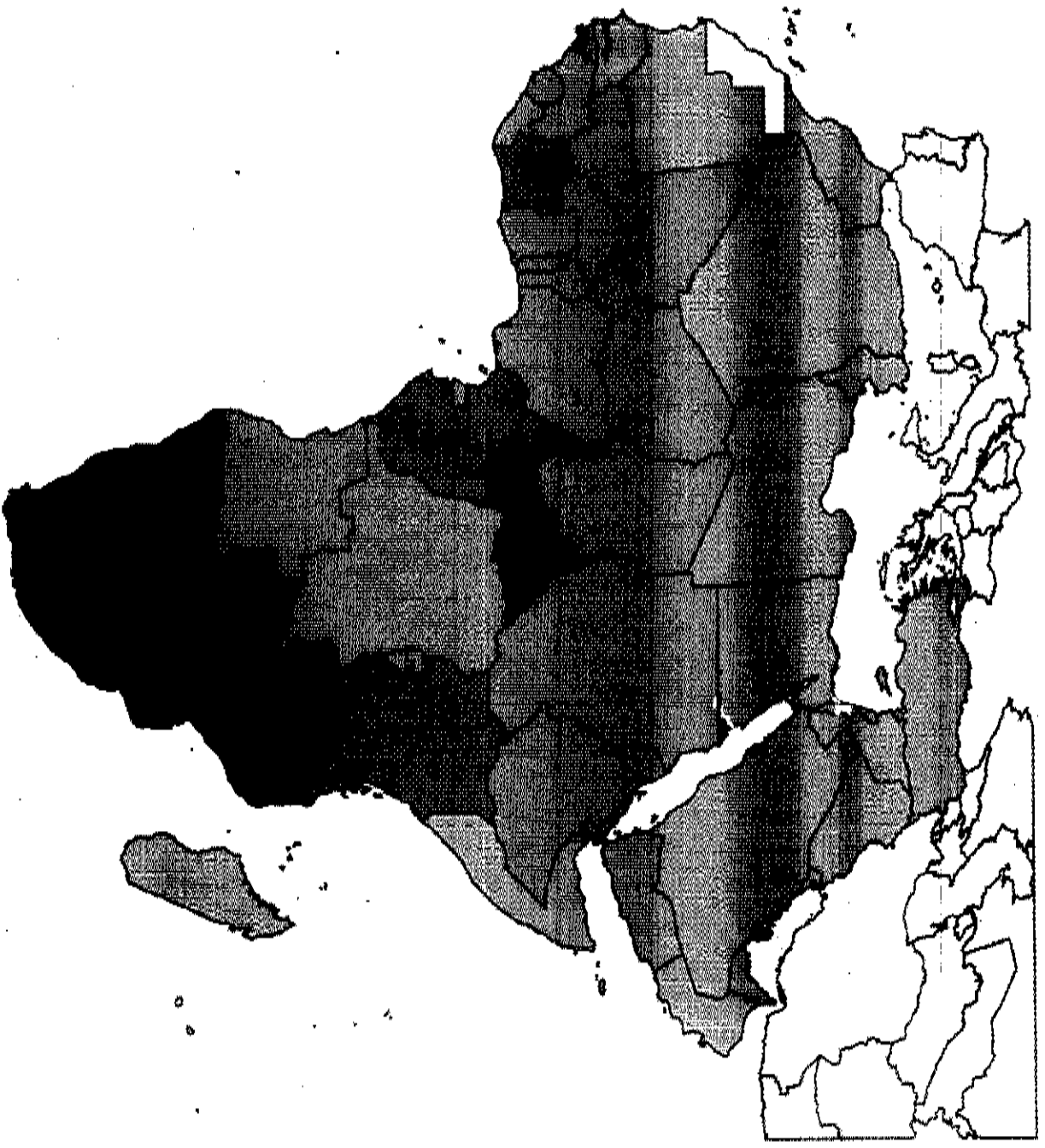


FIGURE 2.5 HIV prevalence (%) in adults in Africa, 2005



Adult prevalence rate

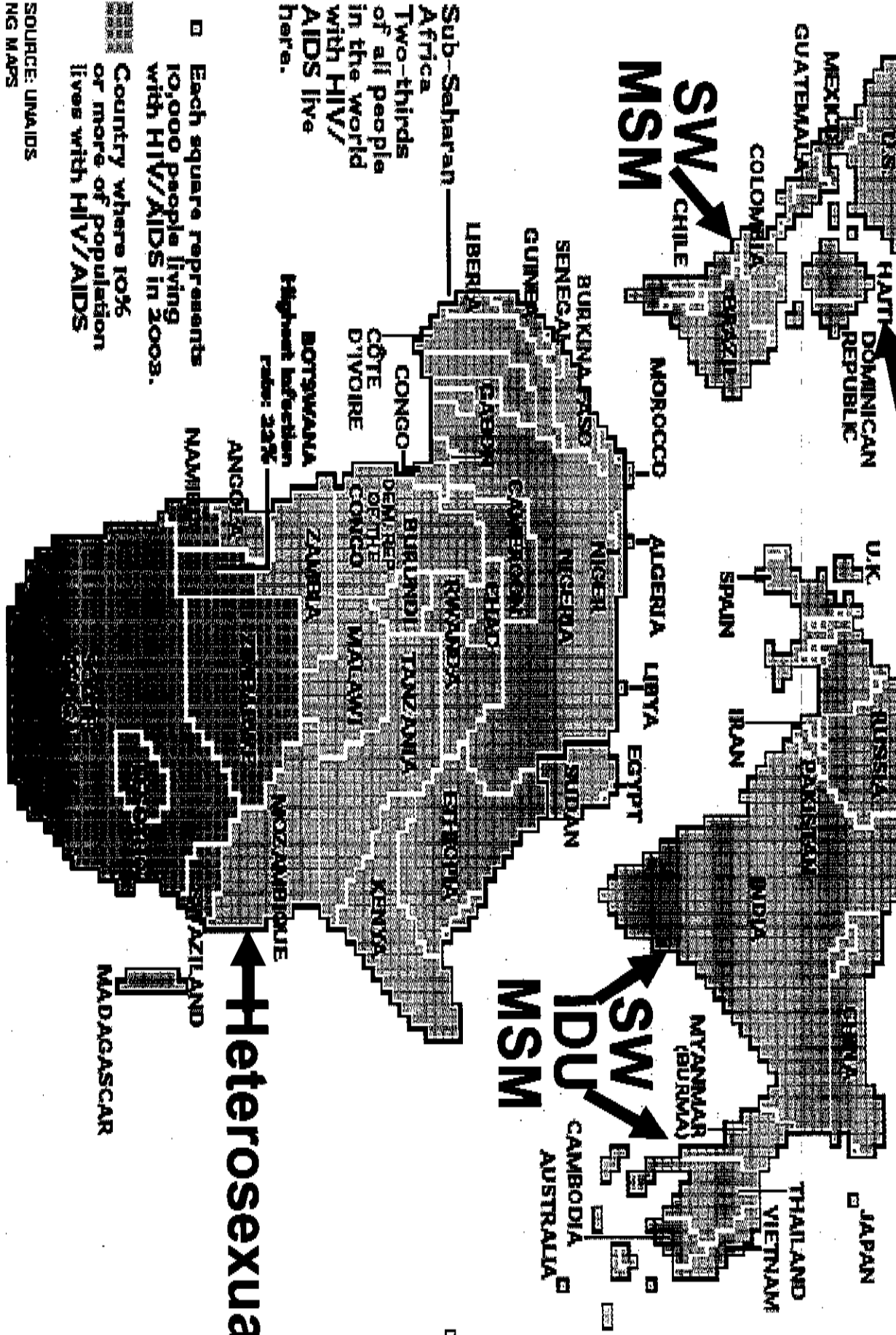
- 20.0%–34.0%
- 10.0%–<20.0%
- 5.0%–<10.0%
- 1.0%–<5.0%
- <1.0%

GLOBAL SHARE AND SOURCES OF HIV INFECTIONS

Heterosexual

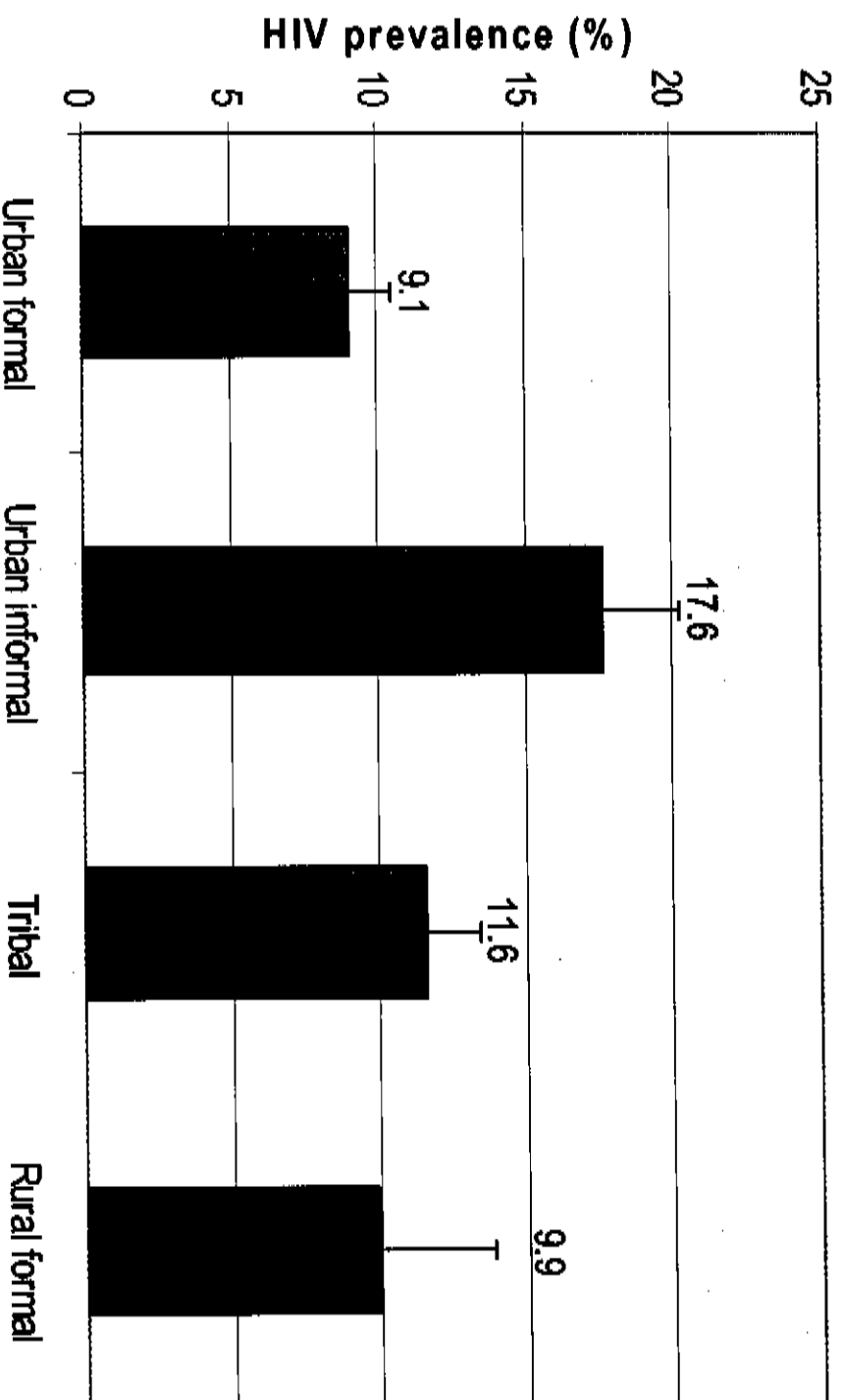
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Heterosexual

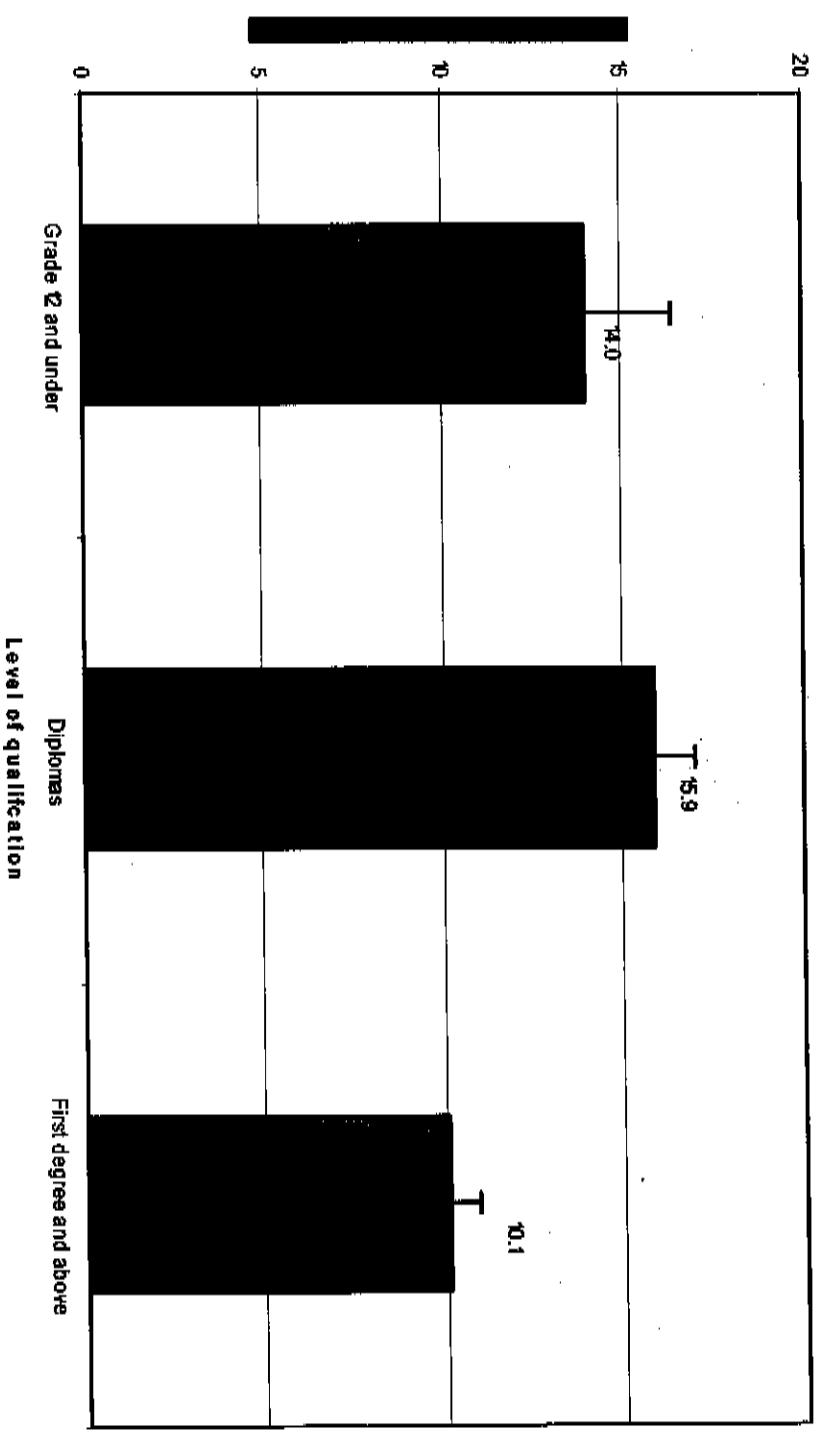


SOURCE: UNAIDS
 NG MAPS

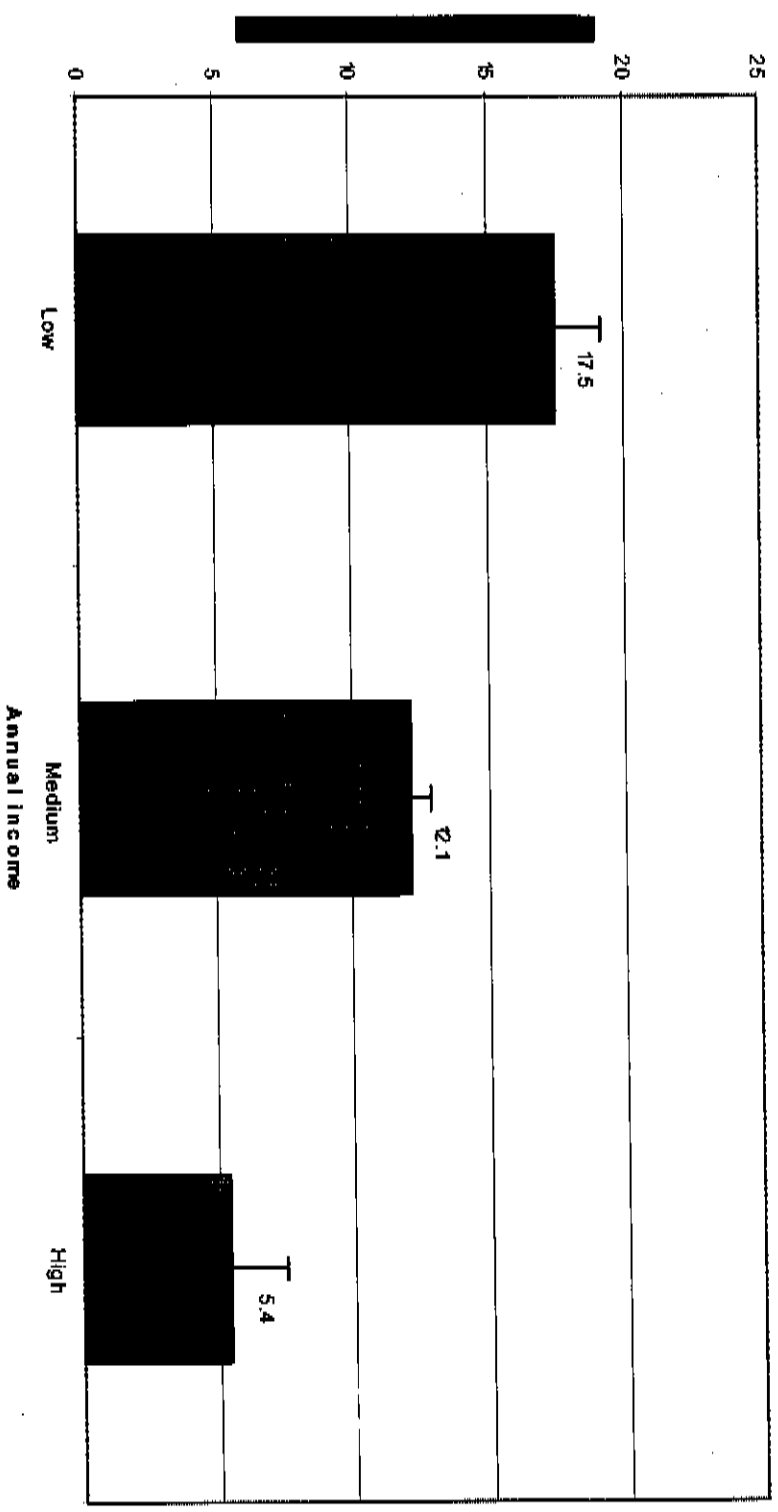
National HIV prevalence by geotype, ≥2 years: South Africa 2005



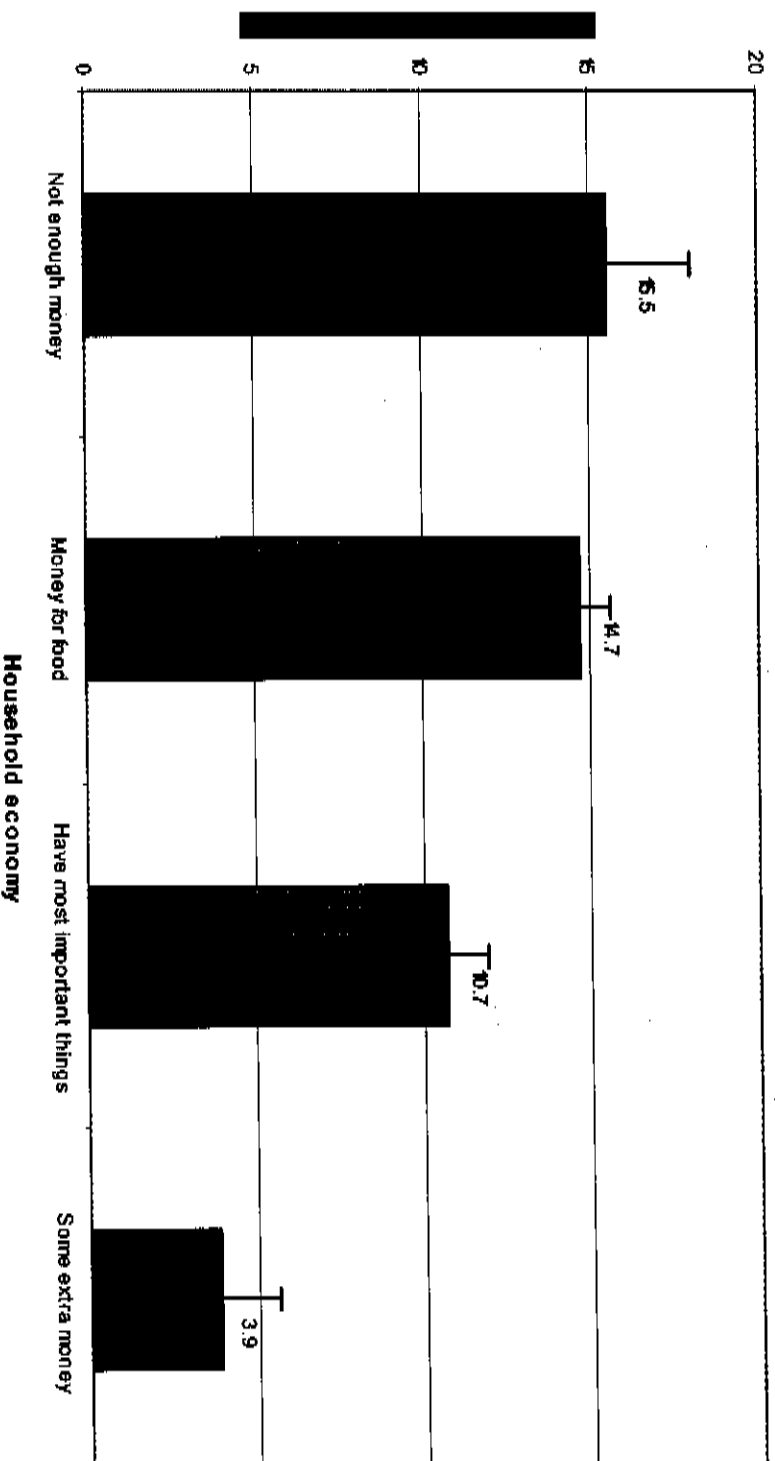
Level of qualification of teachers & HIV prevalence: South Africa 2005



Annual income of teachers & HIV prevalence: South Africa 2005



Teachers household economy & HIV prevalence: South Africa 2005



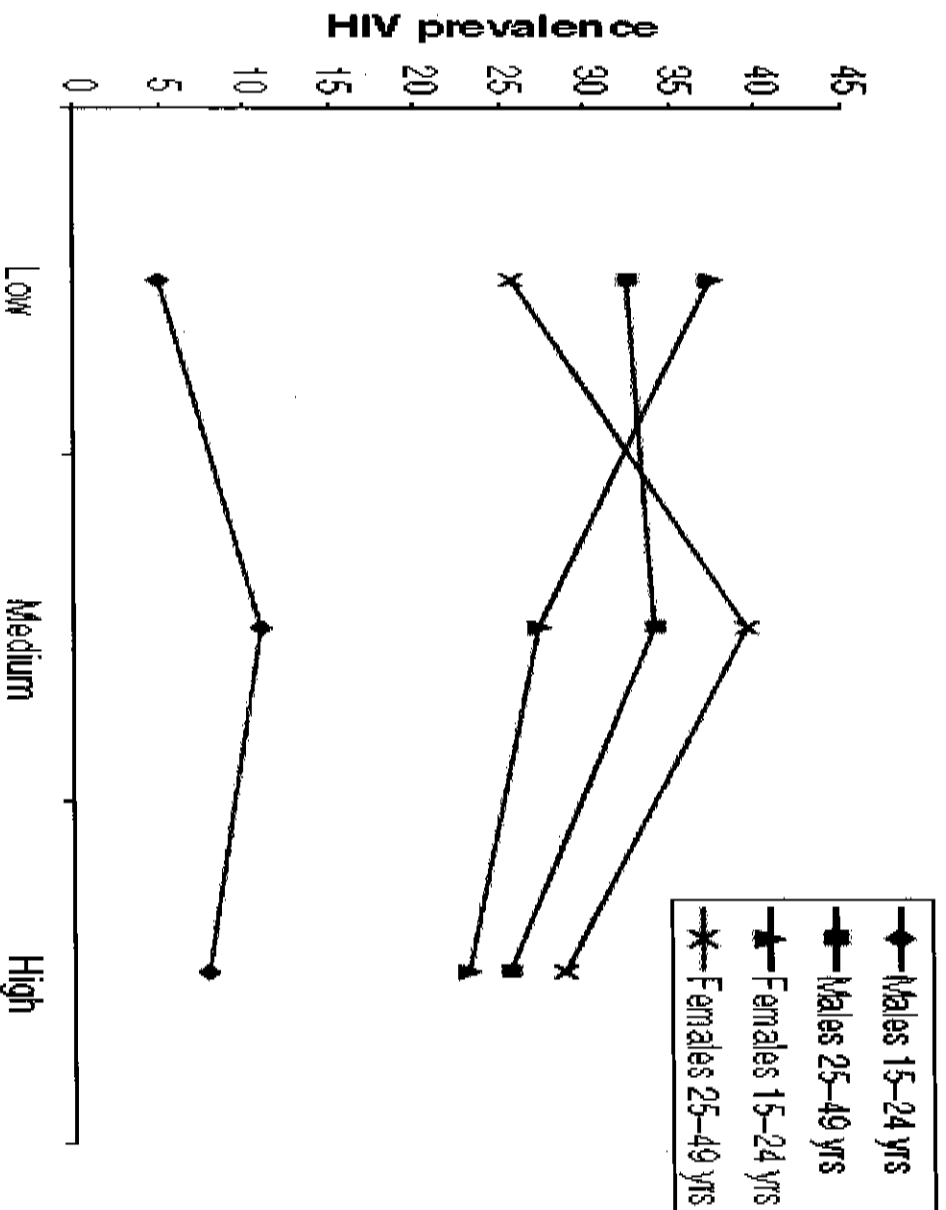
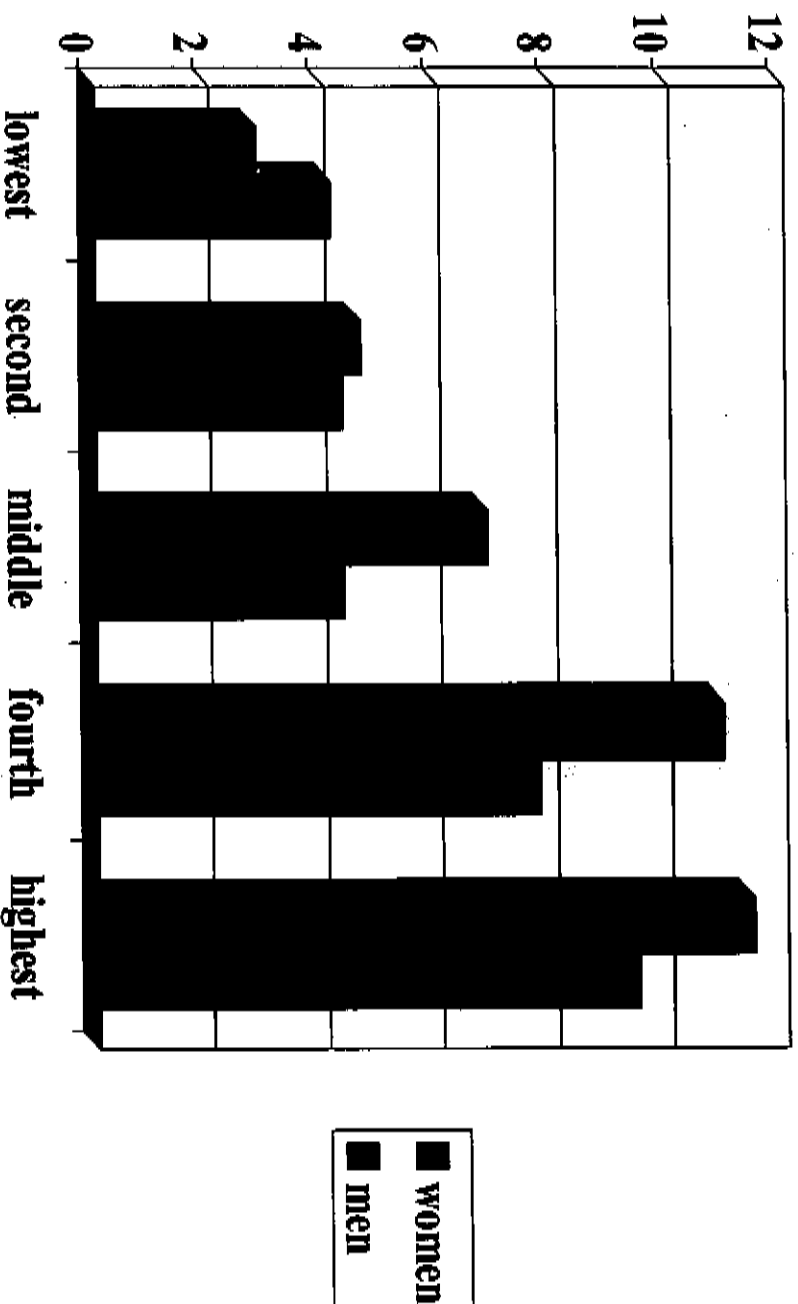


Figure 2 Prevalence of HIV infection among groups of different age, sex and socioeconomic status.

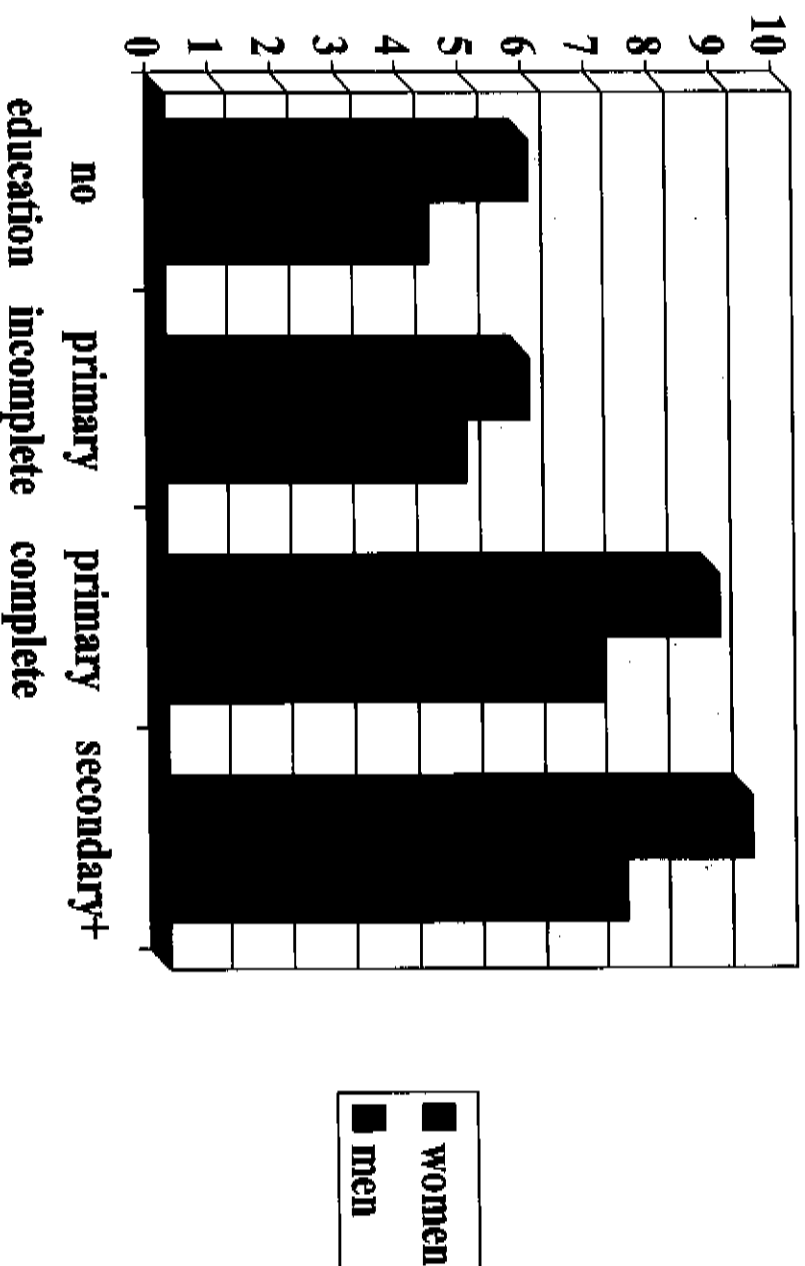
Hargreaves J.R. (2002) Socio-economic status and risk of HIV infection in an urban population in Kenya. *Tropical Medicine and International Health*, 7, 793-802

Economic Status and HIV prevalence (Tanzania)



Source: 2003-2004 AIS

Education Status and HIV prevalence in Tanzania



Source: 2003-2004 AISS

The aim of the main study

- **It was to examine the structure of perceived neighbourhood stressors across the three diverse Cape Town communities and tested the associations of community stress perceptions, substance use, and HIV transmission risk behavior.**

Hypotheses

- Perceptions of poverty-related community stressors would differ between the socio-economically distinguished communities.
- The perceptions would in turn be associated with substance use and HIV transmission risks.

Methods

- Three (mostly) self-administered questionnaire-based surveys (street intercept or social networking venues in the case of the first two and household-based survey in the last one) were conducted over the past few years in three diverse communities in Cape Town that varied by race and socio-economic conditions.

Table 1
Demographic characteristics and economic conditions of three Cape Town Communities.

Characteristic	African Township	Racially Integrating Coloured Township	Urban Muslim Residential Neighbourhoods
Population	80,282	60,672	12,909
Gender			
Male	47	47	47
Female	53	53	53
Race			
African	98	25	7
Coloured	1	73	85
Other	2	2	8
Median family income ^a	R19,200	R19,200	R153,600
Persons with no income	65	71	51
Informal (non-fixed) dwellings	41	8	5
Homes with Electricity	72	98	98
Refrigerator	53	77	94
Indoor plumbing	45	85	85
Flush toilets	65	96	98

Source: South African Census, 2001

Methods (contd)

- The three surveys consisted of the following participants:
 - Predominantly African people living in an impoverished African township (N = 499);
 - Equal numbers of Africans and Coloureds living in impoverished and/or with low income but in a stable infrastructure and racially integrating previously Coloured township (N = 995); and
 - Predominantly Muslim urban working class/middle class (and therefore non-impoverished) neighborhoods (N = 678).

Methods (contd)

- The three questionnaires used in the three surveys included, inter alia, the following common measures:
 - Demographic characteristics and HIV status
 - Perceived community stressors
 - AIDS-related knowledge
 - Substance use
 - HIV risk history

Methods (contd)

- Three sets of data analyses were performed to:
 - describe the demographic and HIV risk characteristics of three communities - contingency table chi-square (X^2) tests for categorical variables and one-way analyses of variance (ANOVA) for continuous variables.
 - describe the perceptions of 10 poverty-related community stressors among persons in the three communities - a mixed model multivariate analysis of variance (MANOVA) between communities and a principle components factor analysis ; and
 - examine the association of perceived community stressors and HIV risk factors- path analyses.

Methods (contd)

- **Five path analysis models were tested:**
 - **Model 1 tested the associations of alcohol and drug use in relation to HIV risk index scores.**
 - **Models 2 and 3 examined the associations of perceived community stressor factors in relation to alcohol and drug use, respectively.**
 - **Model 4 tested the perceived community stressor factors in relation to the HIV risk index, and**
 - **Model 5 was conducted to test whether substance use moderated the association between community stressors and HIV risks.**

RESULTS

Table 2
Demographic characteristics of survey participants in three Cape Town communities.

Characteristic	African Township (N = 499)		Racially Integrating Coloured Township (N = 995)		Urban Muslim Residential Neighbourhoods (N = 678)		X ²
	N	%	N	%	N	%	
Gender							
Male	224	45 ^c	464	47 ^c	260	38 ^d	11.6 ^a
Female	275	55	531	53	418	62	
Race							
African	490	99 ^c	482	50 ^d	14	2 ^e	
Coloured	17	1	468	49	609	93	
Other	0		8	1	32	5	1076 ^a
Employed	194	39	408	42	254	37	2.8
Married	166	33 ^c	375	38 ^c	359	53 ^d	56.3 ^a
Knows someone with HIV/AIDS	402	81 ^c	516	54 ^d	390	15 ^e	587.9 ^a
Tested for HIV	221	45 ^c	413	43 ^c	201	30 ^d	35.8 ^a
HIV positive ^b	19	6 ^c	23	4 ^d	3	1 ^e	146.3 ^a
	M	SD	M	SD	M	SD	F
Years of education	9.4 ^c	1.4	10.1 ^c	2.6	10.9 ^d	3.0	44.3 ^a
AIDS Knowledge Test Score (% correct)	84.9 ^c	17.6	84.7 ^d	18.1	88.4 ^e	14.7	10.7 ^a

Note ^a p < .01, ^b among persons who were tested for HIV, ^{c,d,e} values with different superscripts are significantly different from each other.

Table 3
Substance use among survey participants in three Cape Town communities.

Characteristic	African Township (N = 499)		Racially Integrating Coloured Township (N = 995)		Urban Muslim Residential Neighbourhoods (N = 678)		X ²
	N	%	N	%	N	%	
Substance use							
Alcohol	223	45 ^c	514	53 ^d	149	22 ^e	162.1 ^a
Dagga	92	19 ^c	128	13 ^d	74	11 ^d	13.8 ^a
Cocaine	9	2	27	3	15	2	
Injection drugs	5	1	13	1	1	0	
Other drugs	19	4	32	3	28	4	
HIV risk factor							
No condoms use ^b	99	20	204	20	136	20	0.09
Multiple partners ^b	208	42	306	32 ^d	13	2 ^e	260.4 ^a
Exchanged sex	97	20 ^c	54	6 ^d	14	2 ^e	130.7 ^a
STI history	175	35 ^c	156	16 ^d	23	4 ^e	207.6 ^a
Genital ulcers	70	14 ^c	86	9 ^d	21	3 ^e	45.5 ^a
Risk index	0	30 ^c	438	45 ^d	483	72 ^e	
	1	32	366	37	164	25	
	2	23	123	13	18	3	
	3	8	39	4	1	0	
	4	5	18	2	1	0	
	5	1	1	0	0	0	333.59 ^a

Note ^a p < .01, ^b behaviours in the past 3-months, ^{c,d,e} values with different superscripts are significantly different from each other.

Figure 1. Mean ratings of 10 community stressors for three Cape Town communities.

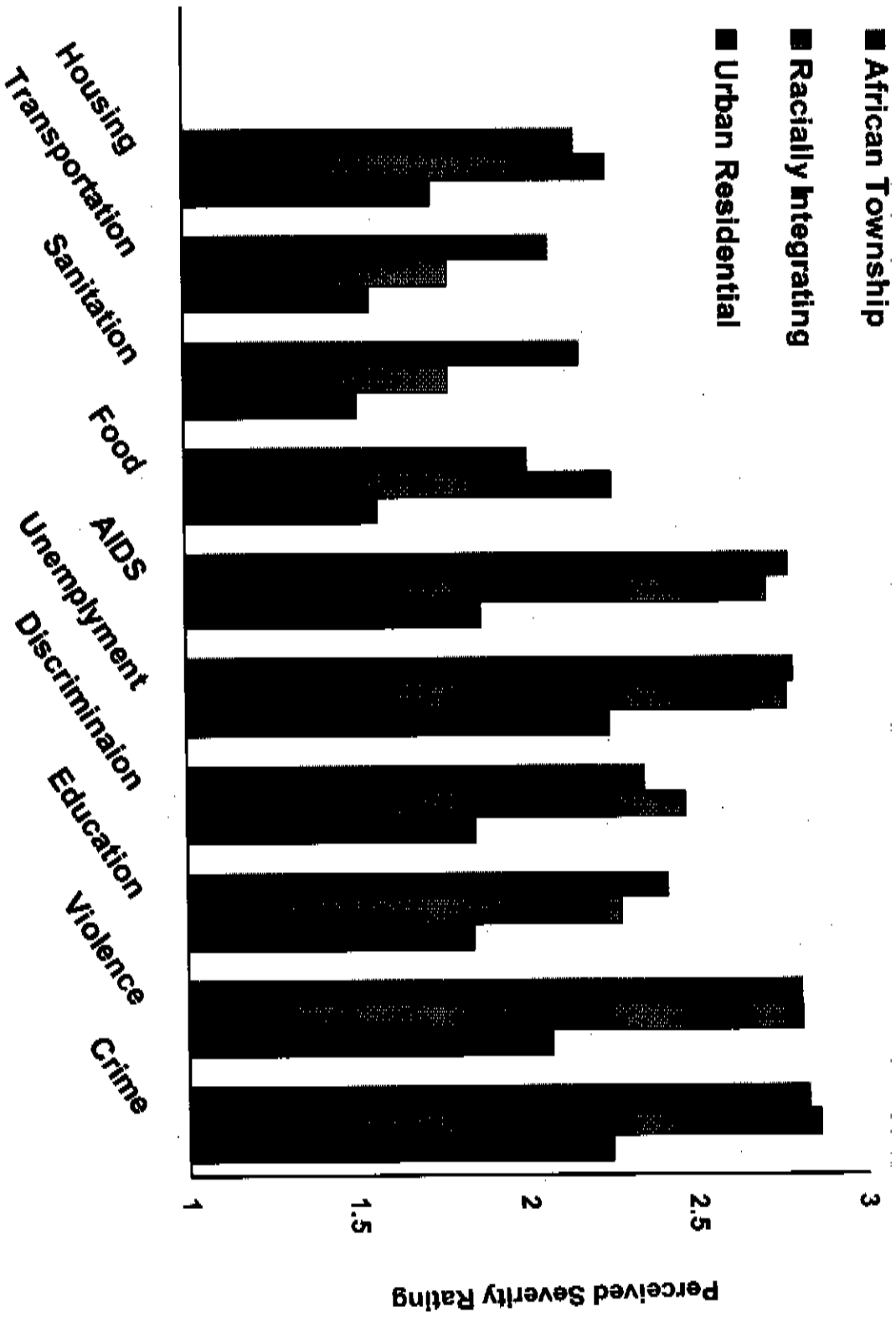


Figure 2. Perceived social problems plotted along dimensions of the first and second factors with orthogonally rotated factor loadings as coordinates.

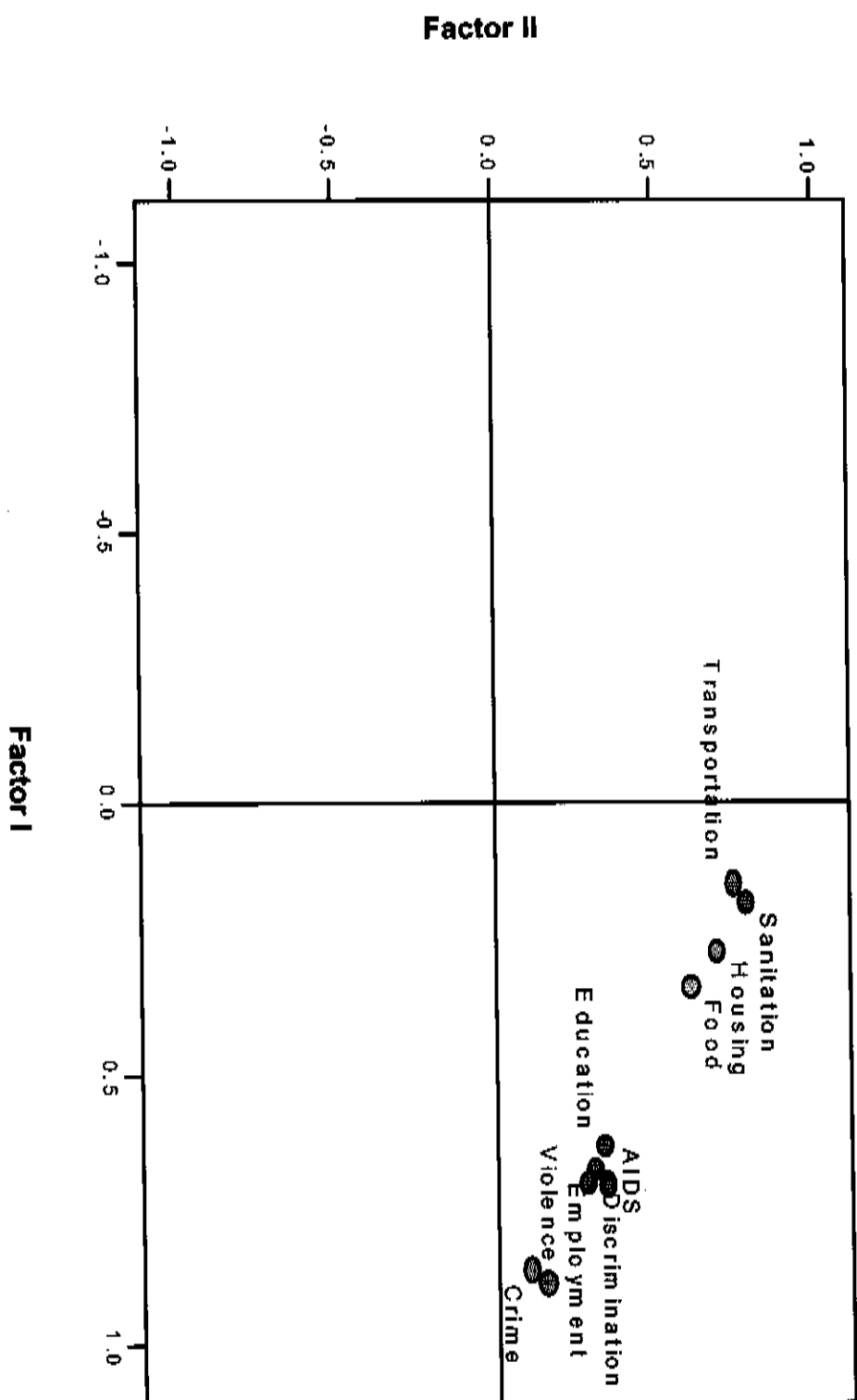


Table 4
Correlations among community site, perceived social problem factor scores, substance use, and HIV risks.

	Perceived Poverty Factors				
	Community	Personal threats	Lack of basic needs	Alcohol	Drugs
Personal threats	-.38 ^b				
Lack of basic needs	-.20 ^b	.00			
Alcohol use	-.19 ^b	.13 ^b	.03		
Drug use	-.05 ^a	-.04	.03	.22 ^b	
HIV risk index	-.37 ^b	.13 ^b	.14 ^b	.20 ^b	.16 ^b

Note ^a p < .05, ^b p < .01

Table 5

Multiple regression path analyses of HIV risks, substance use, and community stressors.

Model and variables	Beta	t
<u>Model 1 dependant variable: HIV risk index</u>		
Gender	-0.07	-5.22 ^b
Community site	-0.34	-18.33 ^b
Alcohol use	0.08	3.98 ^b
Drug use	0.11	5.21 ^b
<u>Model 2 dependant variable: Alcohol use</u>		
Gender	-0.25	-12.16 ^b
Community site	-0.16	-7.16 ^b
Community stressors Factor I:	0.06	2.62 ^b
Personal threats		
Community stressors Factor II:		
Lack basic needs	0.01	0.35
<u>Model 3 dependant variable: Drug use</u>		
Gender	-0.19	-9.16 ^b
Community site	-0.06	-2.68 ^b
Community stressors Factor I:		
Personal threats	0.07	2.97 ^b
Community stressors Factor II:		
Lack basic needs	0.02	0.73

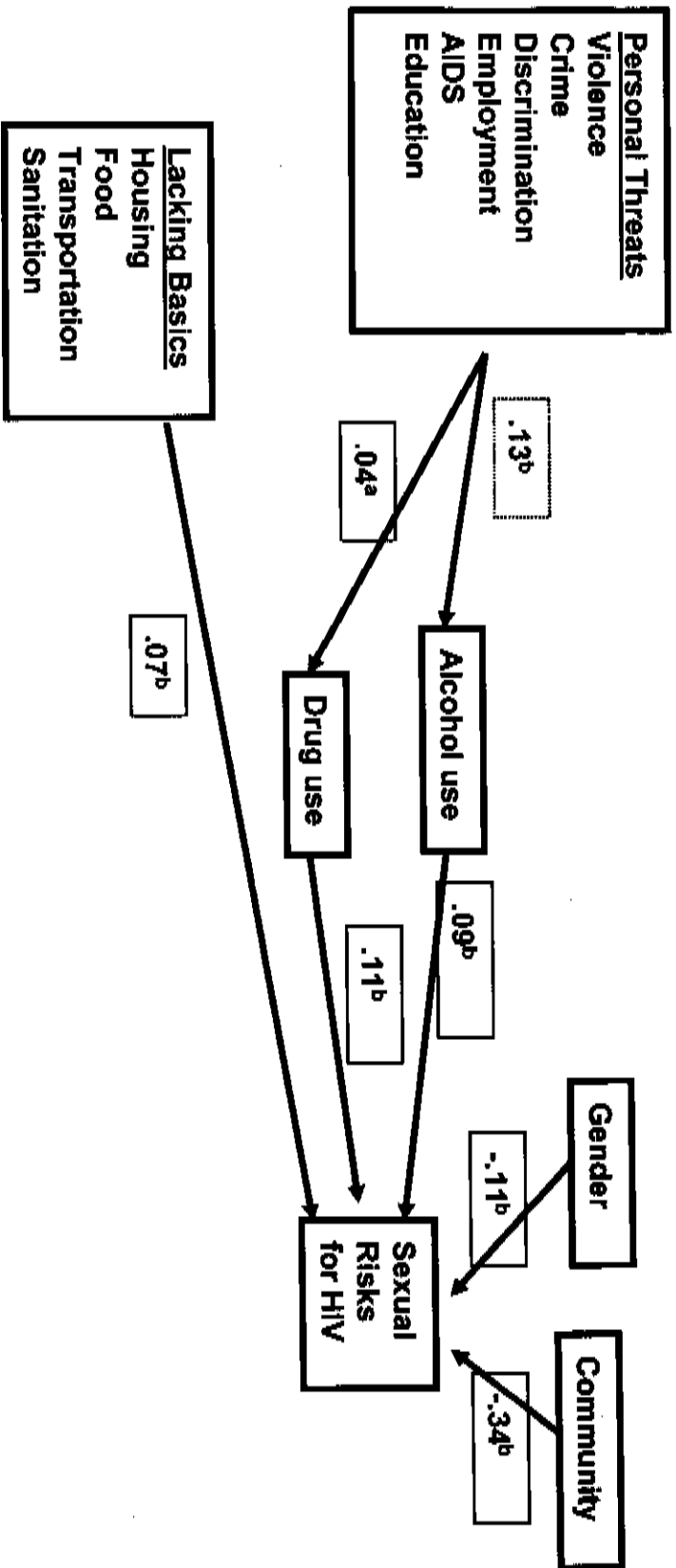
Note ^a p < .05, ^b p < .01

Table 5 (Cont.)

Model and variables	Beta	t
Model 4 dependant variable: HIV risk index		
Gender	-0.15	-7.45 ^b
Community site	-0.35	-16.08 ^b
Community stressors Factor I:	0.01	0.39
Personal threats		
Community stressors Factor II:		
Lack basic needs	0.07	3.46 ^b
Model 5 dependant variable: HIV risk index		
Gender	-0.11	-5.21 ^b
Community site	-0.33	-15.15 ^b
Alcohol use	0.09	4.06 ^b
Drug use	0.10	5.11 ^b
Community stressors Factor I:		
Personal threats	0.01	0.29
Community stressors Factor II:		
Lack basic needs	0.07	3.45 ^b

Note ^a p < .05, ^b p < .01

Figure 3. Final path model with all significant paths included. Note: ^a $p < .05$, ^b $p < .01$.



Conclusions

- On a community level, HIV risk was related poverty across three communities in Cape Town South Africa; communities with the highest levels of poverty also demonstrated the greatest degree of HIV risk.
- Participants in the more impoverished communities were also more likely to have known someone with HIV/AIDS but were only slightly more likely to have been tested for HIV than persons in the non-impoverished urban neighbourhoods.

Conclusions (contd)

- The three communities that participated in this research therefore illustrate what is seen more broadly worldwide; greater poverty is associated with greater AIDS burden.
- On an individual level, results of the current study extended previous research that found perceptions of poverty-related stressors were related to HIV risks.

Conclusions (contd)

- **People who perceived greater severity of social stressors related to personally threatening conditions, including discrimination, unemployment, lack of education, violence, crime, and AIDS reported a greater number of behavioural risk factors for HIV infection.**
- **Perceptions of poverty-related stressors were also related to alcohol and drug use, and we found that substance use was related to HIV risk behaviours.**

Conclusions (contd)

- **We had therefore hypothesized that substance use would moderate the association between perceived severity of poverty and HIV risks.**
- **However, this hypothesis was not confirmed in the moderator analysis; substance use did not account for the association between perceptions of poverty and HIV risks.**
- **Perceptions of personal threats were related to aggregated risks for HIV infection independent of substance use history.**

Conclusions (contd)

- **The current findings also demonstrate that people living in some the highest HIV prevalence communities in the world do not view AIDS as unique among social stressors.**
- **AIDS was viewed as similar in severity to several other poverty-related stressors, but it did not stand alone as a serious social problem.**
- **Along with AIDS, unemployment, violence, and crime were consistently rated as extremely serious social stressors.**

Conclusions (contd)

- **AIDS cannot therefore be viewed as a single and isolated social issue facing South Africans, particularly persons who are at greatest risk for HIV and who are also living in the most impoverished communities.**
- **These findings are similar to those reported in studies in the U.S. and are consistent with the official position of the South African government.**

Conclusions (contd)

- **The South African government may be in a unique position to deliver credible HIV prevention messages to people living in poverty by couching prevention messages in the a broader context of solving poverty-related social problems.**
- **People living in poverty face multiple immediate threats to life, several of which are more pressing and immediate than HIV/AIDS.**
- **It is therefore understandable that AIDS does not command the attention of imminent threat among many people in poverty.**

Conclusions (contd)

- **It can be daunting to consider AIDS within the context of other social problems that themselves appear insurmountable.**
- **However, a unique feature of AIDS relative to most every other serious personal threat of poverty including discrimination, poor education, unemployment, crime and violence is that HIV infection can in many cases be controlled by an individual 's behaviours.**

Conclusions (contd)

- **Recognizing that individuals can take control of their risks for this one threat can be empowering and may motivate risk reduction practices.**
- **HIV/AIDS prevention messages will likely be more credible if placed in the context of a broader array of social problems, emphasizing that HIV infection is the one social problem that communities can resolve to reverse.**

Acknowledgements

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Reference:

- Kalichman, S.C., Simbayi, L.C., Kagee, A., Toefy, Y. & Jooste, S. (2006). Association of Poverty, Substance Use, and HIV Transmission Risk Behaviors in Three South African Communities. *Social Science & Medicine*, 62(7), 1641-1649. [Originally published online 5 Oct 2005].

Thank you very much