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## HIV/AIDS STIGMA IN A SOUTH AFRICAN COMMUNITY

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### Abstract

HIV/AIDS-related stigma threatens to undermine interventions to prevent and treat HIV/AIDS. To address stigma in a South African community, a thorough understanding of the nature of stigma in the specific cultural context is needed. The goals of this research were to assess the level of stigmatising attitudes among members of a community, compare this to the level of stigma that is perceived to exist within the community and determine to what extent stigmatising attitudes are affected by socio-demographic characteristics, HIV-related experience and cultural beliefs. A questionnaire was completed by 1077 respondents in key areas in two communities in Tshwane, South Africa. The questionnaire included an assessment of HIV-related experience, HIV-knowledge, personal stigma and perceptions of stigma within the community. The findings indicate that the level of personal stigma was significantly lower than that perceived to be present in the community. Respondents who were more stigmatising were older, male, less educated, and less knowledgeable about HIV. They were less likely to know someone with HIV and had more traditional cultural viewpoints. While socio-demographic and cultural factors are difficult to change, efforts aimed at increasing people's knowledge and experience of the epidemic occurring in their community could change the level of stigmatising attitudes within their community. Such efforts could have potential benefits in addressing the epidemic and providing greater support for those with HIV.

### Keywords

HIV-related stigma; HIV knowledge; community research; cultural factors

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Implementing intervention strategies to counter the detrimental effects of stigma has become a vital component in the global fight against HIV/AIDS (Aggleton et al., 2005; Holzemer & Uys; 2004). This is because the harmful effects of stigmatising attitudes and beliefs

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continually threaten to undermine the efforts to prevent and treat HIV/AIDS (Aggleton, 2000; Bond et al., 2002; Brown et al., 2001). Stigma can be described as a social construction of deviation from an ideal or expectation, contributing to a powerful discrediting social label that reduces the way individuals see themselves and are viewed as persons (Parker & Aggleton, 2003). Attributes which produce stigma are not inherently deviant, but deviations derive from the culturally embedded meanings of a particular historical period or cultural milieu. In the case of HIV/AIDS, infected persons are generally perceived in negative social terms and marginalised as the carriers or hosts of a deadly transmissible disease (Deacon et al., 2005; Herek, 1999). Stigmatising ideas about HIV have a powerful hold on society because they are often based on pre-existing stereotypes and prejudices (Alonzo & Reynolds, 1995; Link & Phelan, 2001), resulting in AIDS often being framed within a moral concept of blame, responsibility and deservedness. In this respect, people living with HIV/AIDS are often judged to have brought the disease upon themselves by engaging in already culturally prohibited behaviours (Bond et al., 2002).

There are a number of factors which affect stigmatising attitudes and beliefs about HIV/AIDS. In South Africa, research has shown that people who are poor, uneducated and lack basic literacy skills tend to stigmatise more than the rich and educated (Shisana & Simbayi, 2002; Stadler, 2003; Volks, 2004). Furthermore, the less knowledge individuals or communities have of HIV/AIDS and the more beliefs they have that are incongruent with the accepted, scientific framework of health and illness, the more likely they are to stigmatise (Herek et al., 2002; Ogden & Nyblade, 2005). People who know of someone with HIV/AIDS (Herek & Capitanio, 1997) and those who have tested for HIV tend to reveal less stigmatising attitudes (Herek et al., 2003; Kalichman & Simbayi, 2003). Cultural or traditional beliefs about HIV/AIDS can also contribute to stigma and in some cases, HIV/AIDS is blamed on witchcraft, spirits and supernatural forces (Aggleton & Chase, 2001; Kalichman & Simbayi, 2004; Shisana & Simbayi, 2002). Although the proportion of people with such beliefs may be small, these individuals were found to be more likely to sanction stigmatising beliefs and practices against people with HIV/AIDS (Kalichman & Simbayi, 2004). The disease is also still seen by some as a form of religious punishment for a culpable person, a curse from God or a sinner's disease (Kopelman, 2002; Aggleton & Chase, 2001).

Although there are anecdotal reports, there is currently insufficient empirical data on the nature and the degree of AIDS-related stigma in African communities. The majority of the research undertaken in the South African context has focused mainly on narrative and other qualitative analyses (Campbell et al., 2005; Skinner & Mfecane, 2004), with only a few exceptions (Kalichman et al., 2005; Shisana & Simbayi, 2002). In the present research HIV-related stigma in communities is examined using two different but parallel measures: the first is a measure of the personal beliefs and attitudes of individuals towards persons with HIV/AIDS, referred to in this research as the 'personal stigma' of community members; the second assesses the extent to which the same individuals attribute stigmatising attitudes to others in their community, referred to here as 'perceived or attributed stigma'. This is a generalised perception of how most people in a community feel and respond in relation to HIV/AIDS (Green, 1995). In using these conceptualisations, comparisons can be drawn between the attitudes that community members report of themselves and the generalised perceptions of stigma in their community. This can be used to determine whether

communities are as stigmatising as they are perceived to be. There is, in addition, little understanding of the relative contribution of different factors to both the individual's personal level of stigmatising attitudes and his or her perception of stigma within a community. It is not known to what extent these are governed by inherent characteristics and cultural beliefs as opposed to factors that are modifiable or may change with time.

Thus, the purpose of this research was first, to assess the level of stigmatising attitudes among members of a community and to compare their attitudes to the level of stigma that they perceive to exist within the community; and second, to determine to what extent stigmatising attitudes are affected by socio-demographic characteristics, cultural beliefs, and HIV-related experiences. Because we were particularly interested in the role of culture in attitudes towards people with HIV, respondents were asked to provide information on cultural perspectives of HIV as well as acts of discrimination towards persons with HIV witnessed in their community.

## Methods

### Study population

Surveys were conducted in July 2004 in two demographically similar townships in the Tshwane Metropolitan area, Atteridgeville and Mamelodi. These two townships are home to respectively 100 000 and 180 000 mainly black residents, of very low to middle socio-economic class. These communities form part of a historically disadvantaged area and are representative of a large portion of the urban population in South Africa. Rates of poverty, unemployment and HIV infection are high; in area clinics the HIV seroprevalence rate of women testing in pregnancy is approximately 25%.

A proportional sample of 1100 subjects (550 per community) was obtained using a stratification technique to parallel local demographics (age and gender) based on the 2001-census data. Respondents were recruited from community sites at which people tend to gather during the day, for example, shopping centres, taxi ranks, clinics and the local community centre. A systematic sampling method (Struwig & Stead, 2001) was used in which interviewers approached every third passer-by and requested an interview. Consenting adults aged older than 18 years were eligible to participate in the survey. Interviews were conducted in Sepedi and Setswana, the most common languages spoken in the area. Interviews took on average half an hour and respondents were remunerated with food packages.

### Data collection

The interviews included socio-demographic information, questions regarding the respondents' experiences, knowledge and cultural beliefs relating to HIV as well as measures to assess stigmatising attitudes. Open-ended questions were asked to explore cultural views and acts of discrimination observed against persons with HIV.

### **HIV-related experiences**

Questions were asked as to whether they knew someone with HIV, whether this person had disclosed to them personally and whether they supported or took care of someone with HIV. They were also asked how often they discussed HIV, how often their community leaders discussed HIV, whether they talked to their partners about protection, and whether they had been tested.

### **Knowledge scale**

A knowledge scale with fourteen items relating to the transmission and presentation of HIV, adapted from the WHO Research Package (WHO, 1990), was used. Respondents answered these questions as “true” or “false” and all correct answers formed a scale score ranging from 0 to 14. The Cronbach alpha reliability coefficient of the scale was 0.66, which is satisfactory for a scale assessing various aspects of HIV knowledge.

### **Cultural beliefs**

Respondents were asked whether they believed traditional healers could cure HIV and whether they believed people with HIV are bewitched. In an open-ended question, respondents were asked how members of their community viewed HIV/AIDS from a cultural or spiritual viewpoint.

### **Enacted stigma**

In another open-ended question, respondents were asked to report on experienced or witnessed acts of discrimination towards persons living with HIV/AIDS in their community, here referred to as enacted stigma.

### **Stigma scales**

Two stigma scales (Visser et al., in press) adapted for the South African context were used to assess 1) personal perceptions and reactions towards people living with HIV/AIDS (personal stigma) and 2) perceived community stigma, that is, the stigma that respondents attribute to *most people* in their community. The scales contained almost identical statements, though the wording was slightly different to reflect the specific perspective. In a factor analysis of the personal stigma scale, using the data of 1077 respondents, 2 factors were identified: a moral component (blame and judgement) and interpersonal component (social distancing). The factor structure was confirmed in an analysis of a split sample (using a similar sample from the same population) and the perceived community stigma scale (confirming that the two stigma scales have the same factor structure). The Cronbach alpha coefficient was 0.76 for the personal stigma scale and 0.88 for the perceived community stigma scale. The development of the scales and evidence of validity are described in Visser et al. (in press).

### **Data analysis**

Descriptive statistics were used to describe the characteristics of the sample. Personal and perceived community stigma were compared using a paired t-test. Exploratory analyses were performed to assess the relationship between categorical independent variables and

personal and perceived community stigma using t-tests or ANOVA where appropriate, while Pearson correlation coefficients were used to assess the relationship between continuous independent variables and stigma scores. Factors associated with personal or perceived community stigma ( $p < 0.1$ ) were entered into backward stepwise linear regression models to determine factors that were independently associated with personal and perceived community stigma. A  $p$  value of less than 0.05 was considered to be statistically significant.

Content analyses (Stemler, 2002) were performed to categorize and code responses to the two open-ended questions: the first relating to perceptions of cultural beliefs; and the second, regarding observed acts of discrimination. Two independent researchers interpreted the data and whenever there were discrepancies, developed consensus after discussion.

Institutional review board approval for the study was obtained from the Faculty of Health Sciences Research Ethics Committee of the University of Pretoria, South Africa and the Human Investigation Committee of Yale University School of Medicine, USA.

## Results

### Socio-demographic characteristics of the respondents

As intended with the described sampling method, the sample was representative of the proportions of people in the age and gender categories, with the majority between the ages of 26 and 50 years (Table 1). Two-thirds of the sample were unemployed, yet the majority had secondary school education or some education beyond school. The majority of the respondents had stayed in these communities for more than 10 years.

### HIV-related experiences

The majority of the respondents knew someone with HIV (72.9%), whether a family member, close friend (50.1%), or an acquaintance (60.0%). Thirty-nine percent of the respondents indicated that the infected person(s) they knew had disclosed their HIV status to them personally. More than two-thirds of the respondents talked about HIV/AIDS at least weekly and reported that they had discussed protection with their partners; and almost one-third declared that they had been tested for HIV. More than half of the respondents reported that their leaders were talking about HIV weekly (Table 1)

### Cultural beliefs

A small percentage of the respondents believed that people with HIV are bewitched (5.7%) and that traditional healers could cure HIV/AIDS (15.7%) (Table 1). There was a low but significant correlation ( $r=0.14$ ,  $p<0.00$ ) between the belief that traditional healers could cure HIV/AIDS and that people with HIV are bewitched.

In an open-ended question respondents indicated how members of their community perceived HIV. Themes identified through content analysis indicate that members of these communities often associated HIV with death (31.4%), immoral behaviour (that they did something wrong) (27.6%) or punishment from God or something evil happening (19.1%). A small percentage of respondents (13.5%) indicated a traditional cultural perspective on

HIV by relating HIV to bewitchment or the lack of adherence to cultural traditions, while 8.1% indicated that people in their community denied the existence of HIV.

### **Knowledge about HIV/AIDS**

The level of HIV-knowledge was relatively high in this sample ( $X=11.8$ ,  $SD=2.6$ , range 0-14). More than 90% of the respondents knew the major transmission routes and that the virus could not be transmitted through casual contact. Areas in which respondents lacked knowledge included transmission through insect bites (55% correct) and the window period where HIV infection cannot be detected (57% correct). Knowledge about mother-to-child transmission and the risk associated with breastfeeding was also low (33% and 61% correct, respectively).

### **Enacted stigma**

In an open-ended question, respondents were asked to describe incidents of discrimination that they had either witnessed or experienced; 78% of the respondents reported such incidents. Subtle discrimination, such as gossip (38.1%), not treating them with respect (20.7%) and keeping a distance (18.2%) from people living with HIV/AIDS (PLWA) were the most common forms of stigmatization, whereas overt discrimination, such as attempts to humiliate (11.0%) or physically harm (2.3%) and not taking care of infected people (1.2%) were less commonly reported.

### **Personal and perceived community stigma**

The proportion of subjects indicating agreement with each of the items in the two stigma scales are shown in Table 2.

The most frequently endorsed items in the personal stigma scale were those that had to do with blame and judgment, while respondents endorsed the interpersonal distancing statements, indicating fear or discomfort, less frequently. For each of the items respondents more often felt that “most people” in their community would hold this belief than they themselves did. Approximately one-half to two-thirds of respondents concurred with each of the statements attributing stigmatising attitudes to others in their community

Scores were calculated for each scale by summing the stigmatising beliefs, a higher score indicating a higher level of stigma. The personal stigma scores ( $X=2.8$ ;  $SD=2.5$ ; range 0 -12) were significantly lower than the perceived community stigma scores ( $X=7.4$ ;  $SD= 3.7$ ; range 0 -12), ( $t=34.26$ ;  $p<0,001$ ). There was a weak but statistically significant correlation between the personal stigma and perceived community stigma scores ( $R = 0.09$ ,  $p<.005$ ).

### **Exploratory analysis**

Significant relationships from the exploratory analyses examining the associations between stigma scores, socio-demographic characteristics, HIV-related experiences and cultural beliefs are presented in Table 3.

Levels of personal stigma were significantly higher among males, those who were married, were older and whose education had not gone beyond primary school. Stigma levels were

significantly lower among those who had more experience of HIV; that is, individuals who knew someone with HIV, had discussed HIV with others, had talked with their partners about protection and had tested for HIV. Respondents with higher HIV knowledge scores were significantly less stigmatising. Stigma was also higher among those respondents who believed that traditional healers can cure HIV and those who associated HIV with bewitchment.

A reversed pattern was found for perceived community stigma. While younger, better educated respondents, knowledgeable about and in contact with people with HIV had lower levels of personal stigma, they perceived stigma in the community to be higher. Similarly, respondents who believed that traditional healers could cure HIV perceived the community to be less stigmatising.

### Linear regression

To control for possible confounding effects, all variables that were associated with personal stigma at the  $p < 0.1$  level were entered into a backward stepwise linear regression model. (Table 4).

As in the exploratory analyses the same patterns were observed related to personal stigma: male respondents, and those who were older, less educated and held traditional cultural beliefs had higher levels of personal stigma, while those with more knowledge and experience of HIV had lower levels of personal stigma. The final model accounted for a fair proportion of the variance in personal stigma ( $R^2 = 0.23$ ,  $p = 0.000$ ).

The linear regression model examining perceptions of stigma in the community identified some of the same factors but in the reverse direction than for personal stigma. Respondents who were more knowledgeable about HIV or knew someone with HIV considered the community to be more stigmatising while older respondents considered the community to be less stigmatising. The variables in the model, however, do not contribute substantially to the variance in perceived community stigma ( $R^2 = 0.07$ ,  $p = 0.00$ ).

### Discussion

The results of this community-based study suggest that stigmatising attitudes were prevalent in these communities, despite relatively high levels of exposure to the HIV/AIDS epidemic. About a third of the respondents expressed some form of blame or negative emotion and one in five admitted to distancing themselves from people with HIV. Personal stigma in these communities was found to be higher than those reported in a similar study in Cape Town (South Africa) (Kalichman et al., 2005). Of interest here is the notable difference between the personal and perceived or attributed community stigma. In this study, the stigmatising attitudes people reported were less prevalent than the stigma they attributed to others in their community. About two thirds of the respondents perceived most people in their community to judge people with HIV negatively and to distance themselves socially from people with HIV. Various reasons can be given for this difference. A person typically compares him/herself to others with a tendency to consider the self in a more positive light as being more compassionate and considerate, while presuming others to be less so. Another explanation is

that people might overestimate or generalise the negative stigma of others in the community. Ruggiero and Taylor (1994) suggest that a shared and well-defined stereotype is typically considered when evaluating a community's response. Respondents indicated that HIV/AIDS in these communities was associated with issues of death, moral judgement, religious punishment and a failure to follow cultural traditions as has been identified in other African communities (Aggleton & Chase, 2001; Bond et al., 2002; Kopelman, 2002; Niehaus, 2006). On the other hand, perceptions of stigma within the community may be higher due to respondents' exposure to discriminatory behaviours, as a large proportion (78%) of the respondents reported having witnessed or experienced some kind of stigmatising behaviour. Other sources also contributing to a high level of perceived community stigma could be media reports emphasising discriminatory practices (Atlenroxel, 2000; Streek, 2001) and the general denial of the importance of the epidemic and the lack of an effective response from governmental authorities (Forman, 2003; Hassan, 2003). Obviously, such perceptions of stigmatising attitudes in the community may have serious consequences particularly for those living with HIV.

Various factors were found to be related to the extent of stigmatising attitudes in these communities. Socio-demographic factors that were associated with more stigmatising attitudes were being older, less educated, and being male. In contrast, more experience with or exposure to HIV was associated consistently with lower levels of stigma. These results confirm previous research that higher levels of HIV knowledge contribute to less fear for people with HIV (Herek et al., 2002; Ogden & Nyblade, 2005). Personal involvement with people with HIV (Herek & Capitanio, 1997) and being HIV-tested (Kalichman & Simbayi, 2003) are also associated with lower levels of stigma. It was evident that respondents were familiar with the impact of HIV/AIDS upon their community as they had high levels of basic knowledge about HIV; 73% indicated that they knew someone with HIV and that HIV/AIDS is a much talked about subject within their communities. The third component investigated was the impact of traditional cultural viewpoints on stigma. As in the study of Kalichman and Simbayi (2004), a small proportion of respondents associated HIV with witchcraft and traditional healing, and reported higher levels of stigma.

Although there was a correlation between personal and perceived community stigma, the factors associated with perceived community stigma showed a reversed pattern. For example, people who were more knowledgeable about HIV or knew someone with HIV were less stigmatising but believed others to be more stigmatising. It can be interpreted that those who have high levels of exposure to HIV develop a better understanding of the fears and stigmatising attitudes HIV-infected people anticipate or experience.

Although a large proportion of respondents indicate having experienced or observed acts of discrimination towards people with HIV in their communities, they described mostly subtle forms of negative attention and avoidance, although, some emotionally and physically harmful behaviours had been observed. These observations are evidence of the enacted stigma in these communities.

A community survey of this type is limited in its ability to elucidate all of the complexities that contribute to stigma and may not reflect the behaviour of respondents in social



situations where various social dynamics can influence behaviour. The sensitivity around talking openly about HIV and traditional beliefs could have influenced responses in an interview situation, resulting in more socially desirable responses, thus reflecting a lower level of stigmatising responses. Although it is known that 31% of the respondents reported that they had tested for HIV, the HIV-status of the respondents was not asked in this research because of ethical reasons. This could have had an influence on the level of stigmatising attitudes of the respondents. Although a relatively large sample stratified to parallel local demographics was used, the use of a convenience sample, recruited from public places where people tend to gather, may have resulted in a sample that was not representative of these communities and therefore may limit the generalisation of the results.

Despite various limitations, the results have some important implications for helping persons living with HIV and addressing AIDS-related stigma. A greater understanding of what contributes to AIDS-related stigma might have an important role in developing strategies to counter its adverse consequences and therefore could be critical in the fight against the disease. While socio-demographic factors and cultural beliefs are difficult to change, efforts aimed at increasing people's knowledge about HIV and exposure to the epidemic could change the level of stigmatising attitudes within their community. This change could in turn have potential benefits in managing the AIDS epidemic and providing greater support for those with HIV infection. People diagnosed with HIV may also feel more empowered to disclose their status if they know that stigma is not as prevalent as it is perceived to be and that others may therefore be more accepting and supportive than they may anticipate. In fact, disclosure to others and making people more aware of the HIV epidemic could be a powerful strategy in decreasing the level of stigma within their community and may also be necessary to activate support services for the growing number of people living with HIV.

Though stigma is a complex phenomenon imbedded in community processes (Parker & Aggleton, 2003), significant progress has been made in addressing discrimination against HIV/AIDS in many countries around the world (Herek et al., 2002). In South Africa a more committed political response to HIV, the active development of systems of care and treatment and media coverage of the numerous community actions of caring for people living with HIV can possibly change the generalised perception that communities are stigmatising towards HIV. It is also possible that the urgency of the growing epidemic and the efforts in building capacity to deal with the implications of the epidemic contribute to a culture of caring in communities.

This research contributes to the understanding of HIV-related stigma in a South African community. It shows that in the third decade of the HIV epidemic, stigma and especially moral judgement, is still a factor that can undermine the efforts to prevent and treat HIV/AIDS. It is especially the high level of perceived community stigma that can inhibit the behaviour of HIV-infected individuals. To address stigma in these communities, personal exposure to people with HIV may be a key strategy to counter personal stigma, while commitment to the development of systems of care and media coverage of compassionate behaviour may change the perception of the community reaction towards HIV.

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**Table 1**  
**Descriptive statistics for the sociodemographics, HIV-related experience and cultural beliefs**

<b>Total Sample</b>	<b>1077 (100%)</b>
<b>Socio-demographics</b>	
Gender:	
Male	576 (53.5%)
Female	501 (46.5%)
Age:	
18-25 years	334 (31.0%)
26-50 years	590 (54.8%)
51+ years	153 (14.2%)
Marital status:	
Married	292 (27.1%)
Unmarried with partner	531 (49.3%)
No partner	250 (23.2%)
Education:	
Primary or less	139 (12.9%)
Secondary	663 (61.6%)
Tertiary	259 (24.0%)
Employment:	
Employed	358 (33.2%)
Unemployed	719 (66.8%)
Length of stay in community:	
Less than 5 years	243 (22.6%)
6-10 years	97 (9.0%)
More than 10 years	737 (68.4%)
<b>HIV-related experience</b>	
Know someone with HIV	
Yes	786 (72.9%)
No	291 (27.1%)
Disclosure to them personally	
Yes	307 (39.1%)
No	480 (60.9%)
Discuss HIV in community:	
Weekly	743 (69.0%)
Monthly	168 (15.6%)
Less than monthly	90 (8.4%)
Never	73 (6.8%)
Leaders talked about HIV:	
Weekly	614 (57.0%)
Monthly	205 (19.0%)

<b>Total Sample</b>	<b>1077 (100%)</b>
Less than monthly	119 (11.0%)
Never	140 (13.0%)
Discussed protection with partner:	
Yes	738 (68.5%)
No	339 (31.5%)
Tested for HIV:	
Yes	334(31.0%)
No	743(69.0%)
<b>Cultural beliefs</b>	
Traditional healer can cure AIDS:	
Yes	169 (15.7%)
No	908 (84.3%)
People with HIV are bewitched:	
Yes	61 (5.7%)
No	1016 (94.3%)

**Table 2**  
**Personal and perceived community stigma responses (N=1077)**

	Personal stigma	Perceived community stigma
<b>Blame and judgement</b>		
Getting HIV is a punishment for bad behaviour	456 (42.3%)	647 (60.1%)
People with HIV have themselves to blame	363 (33.7%)	704 (65.4%)
Person with HIV must have done something wrong to deserve it	333 (30.9%)	703 (65.3%)
People with HIV should be ashamed of themselves	246 (22.8%)	662 (61.5%)
Think less of someone because they have HIV	116 (10.8%)	661 (61.4%)
<b>Interpersonal distance</b>		
Would not employ someone with HIV	318 (29.5%)	709 (65.8%)
Feel uncomfortable around people with HIV	255 (23.7%)	716 (66.5%)
Would not drink from a tap if person with HIV had just drunk from it	215 (20.0%)	591 (54.9%)
Would not like to sit next to someone with HIV in public transport	189 (17.5%)	547 (50.8%)
Afraid to be around people with HIV	182 (16.9%)	709 (65.8%)
Would not like to be friends with someone with HIV	174 (16.2%)	651 (60.4%)
Would not like someone with HIV to be living next door	156 (14.5%)	507 (47.1%)

**Table 3**  
**Exploratory analysis for the relation of socio-demographics, HIV-related experience and cultural beliefs to stigma scores (N=1077)**

	Personal stigma		Perceived community stigma	
	Mean (SD)	<i>p</i> -values	Mean (SD)	<i>p</i> -values
<b>Total Sample</b>	2.8 (2.5)		7.4 (3.7)	
<b>Socio-demographics <sup>a</sup></b>				
Education:				
Primary or less	4.1 (3.1) *	<0.000	6.3 (4.0)*	<0.01
Secondary	2.8 (2.4)		7.3 (3.6)	
Tertiary	2.0 (2.2)		8.7 (3.8)	
Gender:				
Male	3.1 (2.6)	<0.000		
Female	2.5 (2.5)			
Marital status:				
Married	3.1 (2.7) *	<0.05		
Unmarried with partner	2.6 (2.4)			
No partner	2.8 (2.6)			
Age <sup>b</sup>	R = 0.18	<0.000	R = -0.11	<0.000
<b>HIV-related experience</b>				
Know someone with HIV				
Yes	2.5 (2.4)	<0.000	7.7 (3.7)	<0.000
No	3.1 (2.6)		6.9 (3.7)	
Discuss HIV in community:				
Weekly	2.7 (2.5)	<0.000		
Monthly	3.0 (2.6)			
< Monthly	2.7 (2.6)			
Never	4.0 (3.0) *			
Discussed protection with partner:				
Yes	2.6 (2.4)	<0.01		
No	3.1 (2.7)			
Tested for HIV:				
Yes	2.3 (2.4)	<0.000		
No	3.1 (2.6)			
Knowledge score <sup>b</sup>	R = -0.4	0	R = 0.15	0
<b>Cultural beliefs</b>				
Traditional healer can cure AIDS:				
Yes	3.9 (2.9)	<0.000	6.9 (3.9)	<0.05
No	2.5 (2.4)		7.5 (3.7)	
People with HIV are bewitched:				

	Personal stigma		Perceived community stigma	
	Mean (SD)	<i>p</i> -values	Mean (SD)	<i>p</i> -values
Yes	4.6 (3.2)	<0.000		
No	2.6 (2.4)			

\* According to Scheffe-test these categories differ significantly from the others.

<sup>a</sup> Only variables with significant relationships are given.

<sup>b</sup> For continuous variables Pearson correlations were calculated.



**Table 4**  
**Linear regression betas (95% CI) for factors associated with personal and perceived community stigma**

Variables Retained in Models	Personal stigma		Perceived community stigma	
	$\beta$ (95% C.I.)	P	$\beta$ (95% C.I.)	P
<b>Socio-demographics</b>				
Age	0.02 (0.005, 0.27)	< 0.005	-0.02 (-0.04, -0.007)	< 0.005
Primary level education only	0.66 (0.12, 1.21)	< 0.05		
Male gender	0.40 (0.12, 0.68)	< 0.01		
<b>HIV-related experience</b>				
HIV knowledge	-0.39 (-0.45, -0.32)	< 0.000	0.29 (0.18, 0.40)	< 0.000
Know someone with HIV	-0.39 (-0.68, -0.11)	< 0.01	0.97 (0.47, 1.48)	< 0.000
Tested for HIV	-0.30 (-0.59, -0.01)	< 0.05		
Perceived community stigma	0.12 (0.08, 0.16)	< 0.000	NA	
Personal stigma	N/A		0.29 (0.19, 0.38)	< 0.000
<b>Cultural Beliefs</b>				
Traditional healer can cure AIDS	0.32 (0.08, 0.57)	< 0.01		
People with HIV are bewitched	0.71 (0.25, 1.17)	< 0.01		