

# A Comparative Study on HIV-Related Attitude and HIV High Risk Behavior Among Kenyan and American University Students

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## Abstract

*The purpose of conducting this research was to investigate the relationship between attitude toward HIV/AIDS and the degree of sexual behavior among university students in Kenya and the United States of America. The sample consisted of 240 university students out of which 121 were from Kenya while 119 were from the United States. Pearson Correlation and Multiple Regression were used to analyze the data. Three hypotheses were tested to find out the relationship between attitudes toward HIV/AIDS as measured by a modified version of the Texas Southern University AIDS Risk Survey Schedule and sexual behavior of targeted college students at the .05 alpha level or better. The findings showed that attitude toward HIV/AIDS contributed significantly to the degree of sexual behavior among university students in the United States independently, and both universities combined but not among Kenya students*

## Introduction

College students worldwide are at risk for contracting Sexually Transmitted Diseases (STD) AND HIV/AIDS. (Morris, L.A, Ulmer, C., Chimnani J. (2003). Young people, especially university students, are vulnerable due to a general lack of HIV information and prevention services due to their attitude towards HIV/AIDS, condoms and condom use (Emoteso, (2003). In an effort to better understand this vulnerability, this study was designed and executed to assist in developing more specific information from students at two universities with large populations of students with African descent. One university was located in Southern United States, the other in Kenya. Specifically, three research questions were posited :

1. Is there a statistically significant relationship between attitude toward HIV/AIDS and high risk sexual behavior among Kenyan African college students?
2. Is there a statistically significant relationship between attitude toward HIV/AIDS and high risk sexual behavior among United States college students of African descent?
3. Is there a statistically significant relationship between attitude toward HIV/AIDS and high risk sexual behavior among African students in Kenya and college students of African descent in the United States combined?

The HIV-related risk among Kenyan and United States University students would best be understood if their backgrounds are taken into consideration. While in Kenya there are different ethnic groups, in the United States there are different races. There are specific differences between Kenyan and United States university students in areas such as entry into the University, financing of Education and the different ethnicity / races in the different countries (United Nations Education Social and Cultural Organization, 2006 , Sedentricker, (2005)

### Kenya

University education in Kenya began in 1963 with just 571 students enrolled in Nairobi University College. Since then, the system has undergone some considerable expansion and as of 2006, there are a total of six public universities and one University college and over 18 private universities with varying levels of accreditation. In total, the country currently has 91,541 students (almost 90 percent of whom are in public universities) (United Nations Educational, Scientific and Cultural Organization, (UNESCO), (2006) With the establishment of education system which takes 8 years in elementary, 4 years in high school and 4 years in the university(8-4- 4there are schools such as medicine and law that take an additional year or two. In addition to the 24 universities and their constituent campuses, higher education in Kenya also includes polytechnics, institutions of science and technology and diploma level teacher training colleges (UNESCO, 2006)

### United States

The United States system of higher education on the other hand is unlike most others in that there is no national system. The United States constitution reserves for the states all government functions not specifically described as federal. The states are therefore, principally responsible for the establishment, governance, and regulation of universities and other institutions of higher learning (Sedentricker, (2005). The states license institutions, but they neither accredit nor guarantee the quality of these schools. Instead, the system of accreditation is operated by private, nonprofit organizations (Sedentricker, 2005). In the United States, there are also Minority Serving Institutions. These universities have a historical tradition or mandate to serve a specific demographic of students, but often serve non-minority students as well (<http://usinfo.state.gov/scv/Archive/2005/Sep/26-256508> html). Three groups whose members fit into this category are Historically Black Colleges and Universities (HBCUs); the Hispanic Association of Colleges and Universities (HACU); and the American Indian Higher Education Consortium (AIHEC) (Sedentricker, 2005). In some of the United States Universities, there is open enrollment <http://www.pbs.org/mediashift/2007/07/open-universities-try-to-bring-college-to-masses2> which is unlike the Kenyan Universities where one has to attain a grade of B and above to get into a university.

## **Literature Review**

### Attitude Toward HIV/AIDS Among Students in Kenyan and American Universities

In a study done by Omotoso (2003) to find out about the attitude of university students towards HIV infected students in Nigeria, it was revealed that the attitude of the university students was that of aversion, discrimination and rejection towards Students Living with HIV/AIDS(SLWHA) For example, out of 2106 subjects, 64.50% indicated that it is not safe to have close relationship with a SLWHA, 96% indicated that it is not safe for a student to live in the hostel and that any HIV- infected student should be isolated. 98% indicated that toilet facilities should never be shared with an HIV-infected individual and one must not eat from the same plate with the infected person.

In another study done by Dias, Matos and Goncalves (2005) to 6137 Portugese adolescents to find out the occurrence of accurate and inaccurate knowledge about HIV transmission among adolescents, analyses were conducted to examine the way in which variables related to demographic factors, personal characteristics, parent and peer relationships, and school involvement are associated with attitude towards HIV/AIDS-infected people. Results showed that adolescents presented high levels of knowledge about HIV transmission. However, the proportion of young people who hold

misperceptions is also high. A multiple regression analysis identified several associations with attitudes towards HIV-infected persons. The focus groups showed that adolescents believe that people with AIDS experienced discrimination and social exclusion. Adolescents' opinions for HIV-infected persons were mostly positive and tolerant, although some adolescents showed an ambivalent attitude and undefined fears.

Koksal, Namal, Vehid and Yurtsever (2004) did a study of university students in Istanbul, Turkey to investigate the knowledge, attitudes and beliefs amongst students of high school, medical and non-medical school university towards human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS). The results showed that 95% of students were aware of AIDS by its definition and its causation. More than 88% had knowledge that HIV could be detected through blood test. The respondents had the knowledge that HIV infection could be prevented by using condom during sexual intercourse and having sex only with an HIV-negative faithful partner (86%), and with AIDS education (92%). 6-42% of students had misconceptions about transmission and prevention of HIV/AIDS. More than 18% of the students had the attitude that HIV-infected persons should not be allowed to work. In conclusion, the findings of the study suggest that the students have a satisfactory level of essential knowledge on HIV/AIDS. Most of them have good attitudes toward person with HIV/AIDS. However, there are some misconceptions about the routes of transmission.

In a study by Wang Qian (2006) in China, 24 colleges in 19 cities were studied to find out about the attitude toward the disease. The survey results indicated that a more in-depth understanding of AIDS does not necessarily mean having a more positive attitude towards regular medical check-ups, and safe sex. 76.3 percent of students surveyed know how the disease spreads, and 75.6 percent are aware of the various measures that can be taken against infection. However, most of the students surveyed are not aware of the window period, which relates to the time in between infection and effective detection using current testing methods. 57.8% know the general consequences of contracting AIDS in terms of physical well-being, and 47.7% have a basic knowledge of virus detection.

In a study done by Sun, Chang, Niu, Guo & Lu (2004) to find out if prejudice and discrimination against people infected with HIV is a great obstacle to AIDS prevention and control. The study which had 419 first year students from a University in Beijing were class-based randomly divided into the experimental group (Group E) and the control group (group C). Peer education on AIDS prevention was implemented among students in Group E in forms of lectures, playing games, telling stories, role-playing and so on. The results showed that there was no significant differences between two groups before education. The rate of those unsympathetic towards HIV/AIDS was about 25%, while that of avoiding them was 70%. One week after peer education, the attitudes in Group E changed a lot. The rate of unsympathetic students towards HIV/AIDS decreased to 5% and that of avoiding them decreased to 40%. The study therefore indicated that peer education can change students' attitudes related AIDS/condom positively.

In another study by Liying Z. Xiaoming L. Rong, M, Bonita S. Qun Z., Bo W. and Ambika M.(2008) in China, a cross-sectional data was collected from 1,839 students from 19 colleges in Jiansu province of China. The purpose was to show that HIV/AIDS-related stigma has persisted world-wide for decades. This study revealed that there is a high proportion of college students having both stigmatizing attitudes toward people living with HIV/AIDS (PLWHA) and misconceptions about HIV/AIDS transmission routes. Multilevel logistic regression analysis results show that having stigmatizing attitudes towards People Living With HIV/AIDS (PLWHA) is positively associated with having misconceptions about HIV transmission routes. Participants with high misconception scores were more likely to possess stigmatizing attitudes towards (PLWHA)

Condom use has been reported as being highly effective at reducing the risk for HIV infection and other sexually transmitted diseases. How many sexually active partners encourage each other to use condoms during sexual intercourse? There is no specific answer to this question. Research done in the

area of condom use provides some insight into this matter. A few of these studies and their findings are presented below.

An experiment done by Finkelstein and Brannick (2000) showed that an individual's attitude towards condoms and his or her date's attitude both affect how likely they would use a condom in a sexual encounter. Their study measured an individual's attitudes towards condoms by looking at how uncomfortable they were in discussing condoms whether or not they believed condoms would interfere with the spontaneity of the moment, and whether or not condoms reduce physical sensation. The most relevant findings in this study are that if an individual has a positive attitude towards condom use, that person will probably use a condom regardless of the date's feelings about condoms

In a study done by McCabe (2004) at the University of Texas at Austin on Knowledge of HIV, attitudes towards condoms, and condom use among college students, he used forty-four college students, 22 males and 22 females. The age was 18 to 29 years. The researcher had hypothesized that college students who had a positive attitude towards condoms did not use condoms significantly more than college students who had a low knowledge of HIV and a negative condom attitude. This hypothesis was not supported. However, McCabe found that there was no significant difference in how frequently each of these groups used condoms. However, the findings of McCabe that a positive attitude towards condoms does not lead to frequent condom use is not consistent with past research studies that used different measures of attitude toward condoms found that people with a positive attitude towards condoms use them more frequently than those people with a negative attitude towards condoms (McCabe, 2004). One possible reason for this discrepancy is that college students may not be influenced by their attitude towards condoms as much as the participants used in other studies. Another possibility is that this study by McCabe (2004) did not accurately measure frequency of condom use and thus the researcher found no relationship between attitude towards condoms and frequency of condom use.

In another study done by Essien, E. J., Chemeeh, P.E. , Monjoko, E., Ogungbade, G.O. , Balgun, J., Meshaeke, A. F., Ward, D., and Holmes, L. (2006) to examine the association between condom use self-efficacy, HIV/AIDS knowledge, as well as attitude towards condom use, a cross sectional observation design was used to obtain information on socio-demographics, HIV knowledge, condom use attitude, and condom use self-efficacy in a sample of one hundred inner city Hispanic youths residing in Houston, Texas. A Chi square distribution was used to test the group differences, while logistic regression model was used to assess the association between condom use self-efficacy and the independent covariates. In the unadjusted univariable logistic regression model, there was a statistically significant association between condom use attitude and condom use self-efficacy prevalence odds ratio (POR), 6.2, 95% confidence interval (CI) = 2.4- 16.5. Likewise, there was a statistically significant association between HIV knowledge and condom use efficacy, POR, 3.4; 95% CI= 1.5-8.2. In the adjusted model, there was a statistically significant association between condom use attitude and condom use efficacy, adjusted prevalence odds ratio (APOR), 3.2, 95% ; CI= 1.2 – 8.5. However, there was no statistically significant association between HIV knowledge and condom use self-efficacy,  $p > 0.05$ . It was concluded that in this sample of Hispanic youths, attitude toward condom use enhances condom use self-efficacy, whereas HIV knowledge does not predict condom use self-efficacy.

In another study done by Kimondo S.M (2004) to explore the sexual behavior of the male university students, their knowledge, attitudes and use of contraceptives in general and of the condom in particular, probing questions on whether condoms prevented HIV/AIDS resulted in 72.35% answering in the affirmative while 19.8% answered in the negative and 7.85% did not respond. In conclusion, the students had general knowledge of the common STDs including HIV/AIDS but their knowledge of actual symptoms was deficient. Although the attitudes towards condoms are still negative in this population the condom use is higher in this population than any other population.

From these studies, one can conclude that those people who have a positive attitude about condoms are more likely to use condoms and thus are less likely to contract HIV. In the current study, the students also had a positive attitude towards using condoms which is in line with other studies mentioned above.

### **Methodology**

The purpose of this study was to investigate the relationship between attitude toward HIV/AIDS and the degree of high risk sexual behavior among university students in Kenya and the United States of America.

An Historically Black University (HBU) located in a large southeastern city in Texas was used for this study. This University is an open admission university. Students who attend this university range from honor students to below average students. The student body is made up of 9235 Black-non Hispanic, 404 international, 489 Hispanics, 266 whites-non Hispanic, and 422 Asian or Pacific Islanders and other students making a total of 10, 875 as of Spring 2006 (Enrollment Management data, 2006) A large university with almost all ethnic groups in Kenya was used. The population of the students was about 14,000 (University data, 2006). The University is in Nairobi, the capital of Kenya. Students came from all over the

#### Sample

The sample for this study consisted of 240 university students of which 121 were from the Kenyan university (60 men and 61 women) while 119 were from the HBCU in south Eastern Texas (59 men and 60 women). No attempt was made to generate a representative sample from either University. The sampling goal was to create a sample of each of the four groups that was large enough to test in a statistically robust fashion (parametrically). To control for confounding variables such as major, and class standing, a convenience sampling method of administering the survey in specific courses was used. All students surveyed had completed at least one year at University. This sampling decision was made to ensure that all those surveyed had completed the comprehensive sex education program required of all incoming students.

#### Sampling Procedure

General courses were identified that are required of all students, regardless of the different disciplines or majors of the students. The sample was representative of the students bodies of each school who take a required general course for all students. In both universities 4 classes were contacted. After contacting the instructors of the courses and receiving permission to visit the class the researcher explained the purpose of the study to the students, who were then invited to participate. All the students participated in completing the questionnaire

The students were then provided a consent form which indicated that they were willing to participate. The students completed the questionnaires in their classes under the supervision of the lead researcher.

The instrument selected was the Texas Southern University AIDS Risk Survey Schedule (TSUAIDSRSS). This instrument was initially developed by Dr. James Essien at the College of Pharmacy and Health Sciences of Texas Southern University in 1996. Several modifications were made to the original instrument for this study. Of the original 77 questions, only 41 were retained.

#### *Rationale for Instrument modifications*

The original TSUAIDSRSS contains 77 questions for a total of 208 points. Higher scores on the instrument represent lower risk for HIV. Our revisions were an attempt to make the instrument more international, more population specific (college students) and less time consuming (41 questions, 95 points).

*Summary of instrument modifications*

The largest revision to the instrument was a reworking of the demographic information. Information on educational level was deleted, in that the target population for this study was college students. Similarly, questions on size and source of income was deleted due to the homogeneity of the population. Age was recorded in years, rather than in the age groups in the original. Had this not been changed, all of our participants would have scored the same age value, negating the usefulness of the variable. Racial / Ethnic information was separated into 2 questions; one US specific, and one Kenyan specific.

The instrument measures total HIV risk, with subscales for Sexual Behavior (BehS), Drug Behavior (BehD), Attitude toward HIV(Att.), Beliefs about HIV (Bel), Knowledge about HIV (Kn), Barriers (Bar), and Information (Info). In our modification we dropped the Barrier subscale (8 questions specific to problems receiving HIV related information and services in Southeast Texas). It was felt that these questions would be too difficult to generalize to international locations. We also dropped the Information subscale (8 questions on the believability of HIV information providers). Again, it was felt that these questions would be too difficult to generalize to international locations.

Contact with the author of the original instrument (Essien, 1996) revealed that no reliability or validity studies have been done. After our modifications, an attempt to measure the fidelity of the modified instrument to the original was made. The weight of each subscale to the total instrument score was analyzed for both the original form (without the deleted subscales) and the modified form. The distribution of subscales (weight of each question to total score) was not significantly different ( $p < 0.05$ ) between the two test forms (Chi Sq. [5, .05] = 10.85, CV 11.1). The authors acknowledge that the subscale reliability is likely lower than the full scale reliability, yet the extent of this deficit is unknown at present.

Statistical Analysis

For this study only the BehS and Attitude subscales were used.

To analyze data for this study, the multiple correlation and multiple regression procedures were used. According to Kerlinger (1986), multiple correlation analysis is a statistical procedure appropriate for investigating complex inter-relationships between the predictors and criterion variables.

Hypothesis Testing

1. There is no significant relationship found among attitudes toward HIV/AIDS and the degree of high risk sexual behavior among university students in Kenya and the United States. The null was rejected.

Utilizing the Pearson Correlation technique (see Table 1), behavior sex as the dependent variable and attitude as the independent variable were calculated for the students in Kenya alone and a correlation coefficient of 0.194\*\* was realized. The null hypothesis was therefore accepted.

Table 1  
Summary Results of the Correlation between Attitude and Behavior among  
University students in Kenya and the United States

BehS	Procedure	Attitude
	Pearson	0.194**
	Sig. (2-tailed)	0.003
	N	240

\*\*Correlation is significant at the 0.01 level

2. There is no significant relationship between attitude and Behavior Sex among university students in Kenya.

Utilizing the Pearson Correlation technique (see Table 2), behavior sex as the dependent variable and attitude as the independent variable were calculated for the students in Kenya alone and a correlation coefficient of 0.094 was realized. There was no significant relationship found among attitudes toward HIV/AIDS and the degree of sexual behavior among university students in Kenya. The null hypothesis was therefore accepted.

Table 2

Summary Result of the Correlations between Attitude toward HIV, and Behavior sex Among University Students in Kenya

BehS	Procedure	Attitude
	Pearson	0.094
	Sig. (2-tailed)	0.304 (NS)
	N	121

3. There is no significant relationship found among attitudes toward HIV/AIDS and the degree of high risk sexual behavior among university students in the United States.

Pearson Correlation procedure was applied to behavior sex as the dependent variable and attitudes toward HIV/AIDS as the independent variable (see Table 2) for the US university students and a correlation coefficient of .188\* at the .05 level was realized. This indicated that there was a significant relationship found between attitudes toward HIV/AIDS and the degree of sexual behavior among university students in the US. The null was rejected.

Table 3

Summary Results of the Correlation between Attitude toward HIV, and Behavior Sex among University Students in the United States of America.

BehS	Procedure	Attitude
	Pearson	.188*
	Sig. (2-tailed)	.040
	N	119

\*Correlation significant at the 0.05 level

## Discussion

An interesting finding of the current study was the significant influence of the variables “attitude towards HIV/AIDS” toward the degree of sexual behavior among the university students in Kenya and the US. This was consistent with a study done by Maswanya, Moji, Aoyagi, Yahata, Kusano, Nagata,

Izumi and Takemoto (2000) in which college students in Nagasaki, Japan indicated that they would not have any problem living with, and studying with students who are HIV positive. However, this was unlike a study done by Wodi. B.E. (2005) where the adolescent students appeared insensitive to the plight of their classmates and teachers whose HIV positive classmate or teacher that was not sick should be allowed to attend classes, 41% harbored a negative attitude towards an HIV positive classmate while 19% had no opinion.

#### Recommendations

The counselors in both countries and universities need to acquire a knowledge base that includes an exhaustive understanding of sexually transmitted diseases as well as HIV/AIDS that has reached epidemic proportions on university campuses. This knowledge should be extended to the students through incorporation of HIV/AIDS education in the university curriculum especially in the foundation study courses.

For Kenyan students, attitudes toward HIV/AIDS does not correlate with high risk sexual behavior. Clearly, counselors need to look elsewhere for areas of intervention. Many of the afflictions suffered in Africa are viewed differently (especially by those outside the educated classes) from how they are viewed in Europe and America. As a whole traditional beliefs and practices are followed more closely than those presented by modern medical and prevention literature. Many of these traditional beliefs have punctuated most of the genuine efforts to tackle the AIDS menace. It may be that education targeting erroneous traditional beliefs would be more useful among this group.

In the US, the counselors need to put more emphasis on behavior change through changing attitudes toward HIV/AIDS. Since many university students do not perceive themselves to be at risk for HIV infection, counselors should provide real life experiences. For example, eliciting the help of college students who are HIV positive may help change the sexual behavioral pattern of US college students.

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