

## PERSUASIVE COMMUNICATION FACTORS THAT INFLUENCE UNIVERSITY STUDENTS IN THEIR RESPONSE TO HIV AND AIDS PREVENTION CAMPAIGN MESSAGE

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### ABSTRACT

*Despite the massive resources and intensified interventions in Kenya desired declines in HIV and AIDS infections have not been achieved. Unfortunately, many studies indicate there is a gap between level of knowledge and practice/behaviour among the youth despite the intensive information campaigns. Successful behaviour change strategies require an in-depth understanding of the factors influencing young people to adopt safe sexual behaviour. The general objective of this study therefore was to explore the persuasive factors that influence the youth in their response to HIV and AIDS preventive messages in Kenya. The preferred theoretical frame work for this study was extended parallel process model (EPPM) which addresses how individuals respond to health risk messages. The sample was drawn from seven public universities in Kenya, where a total of 244 second year students participated. Triangulation was the preferred method for data collection with the three preferred techniques being focus group discussions, in-depth interviews and a survey questionnaire. 244 students filled in the questionnaires, 48 focus group discussions conducted each with an average of five participants and 192 students participated in the in-depth interviews. The results revealed data consistent with the theory in that perceived susceptibility, self-efficacy, response efficacy, were the only significant predictors of condom use among university students utilizing logistic regression techniques. However, for both the abstinence and condom use messages to be adopted by the youth, there is need to eliminate the perceived barriers that hinder behaviour change. Therefore, according to the data analysed, HIV and AIDS prevention campaign messages focused upon the university students should focus on making them feel realistically susceptible to getting infected with HIV and AIDS and also making them believe they are able to easily and feasibly use the preventive measures advocated for by the campaign messages.*

**KEY WORDS:** Persuasive communication, Self-efficacy, Perceived susceptibility, Response efficacy

### INTRODUCTION

Young people between 15 and 24 years of age account for over five million new HIV infections worldwide each year; an estimated 6,000 youth become infected each day across the globe (UNAIDS, 2006). In Kenya, HIV and AIDS prevalence in this age bracket particularly among females is extremely high. Kenyan women are at the greater risk of infection between the ages of 20 and 24. Within two years of sexual initiation, 18% of women in this age group have become infected. Infection rates for men peak somewhat later (Joesoef, Cheluget and Marum 2003). Most University students fall into this high risk age group. By the time Kenyan youth enter the University, many of them have already had sexual intercourse (UNAIDS 2007). The Kenya National AIDS Strategic plan 2005/2006 – 2009/10 (KNASP) has identified University students as a group at high risk for HIV infection. The majority of previous studies of HIV and AIDS at Higher institutions of learning focus on knowledge awareness and practices of students. All of these studies indicate that students' are generally knowledgeable about the causes and mode of transmission of HIV. They are able to specify the activities that constitute high-risk behaviour as well as the best ways to protect themselves from HIV infection (Barner 2000, Kelly 2001, Mwangi 2007, Kamaara 2005, Bangara 2003) (I choose life Africa 2007). They also tend to recognize HIV and AIDS to be a problem on campus.

However, their awareness and knowledge of HIV and AIDS does not always correspond with their sexual behaviour – many health communication practitioners have noted the “KAP-GAP” representing the gap between knowledge (K) and attitude (A) with actual practices (P). That is while knowledge can be high and attitude can be positive regarding a health threat and what to do about it there is still no protective behaviour. This KAP-GAP appears to be a problem in the Kenyan Public Universities for the health issue of HIV and AIDS. Studies done in Kenya (Kamaara 2005, Mwangi 2007, Dago 2000, Bangara 2003) have found that a large number of students are sexually active and consider university studies to be concurrent with becoming sexually active. They show a tendency towards indulging in casual sex without necessarily practicing safe sex by using a condom, (see figure).

Students also tend to be more worried about falling pregnant than becoming infected with HIV (ICL 2007, Marcus, 2001, Mwangi, 2007). Corresponding to the sharp increase in HIV infection rates and the knowledge/behaviour gap among the youth, is the large number of HIV and AIDS prevention public health campaigns throughout Kenya sponsored by various national and international agencies. The majority of these campaigns promote the ABC (Abstain, Be careful or use a Condom) formula to prevent HIV infection. Specifically, diverse initiatives have been taken to combat the epidemic in the Kenyan public Universities: promoting awareness through posters, pamphlets and educational materials, student orientation programmes that include HIV/AIDS control unit whose objective is to stop or reduce prevalence of the epidemic, offering of a wide variety of HIV and AIDS related courses at the Certificate, Diploma and Postgraduate levels as well as a compulsory HIV and AIDS core unit to all students.

These and many more prevention programmes have not yielded desired or acceptable results among this vulnerable group in reference to infection rate reduction and behaviour change. Therefore the need for more effective HIV and AIDS prevention programmes cannot be more urgent. Prevention campaign messages that systematically incorporate and respond to at risk populations' beliefs, knowledge, attitude and subjective norms in the message design process to effectively persuade and promote behaviour change. Overall little is known about the effectiveness of these HIV and AIDS prevention campaign messages. Given the continued spread of the HIV and AIDS infection and the widening KAP-GAP in spite of the enormous intervention efforts, there is need to discover the persuasive factors that influence the response of the youth to the HIV and AIDS campaigns. The purpose of this study therefore was to explore persuasive communication factors that influence young university students in their response to HIV and AIDS prevention messages. To successfully design persuasive health messages, the health communicator needs to identify factors or variables that influence a given health related behaviour, and then decide how the variables should be influenced in order to produce the desired results. The design of persuasive health behaviour change prevention programs can be a daunting challenge, but one made easier by the use of health communication model (Witte, 2006). This study therefore, attempted to do so by applying the theoretical framework of the extended parallel process model (EPPM).

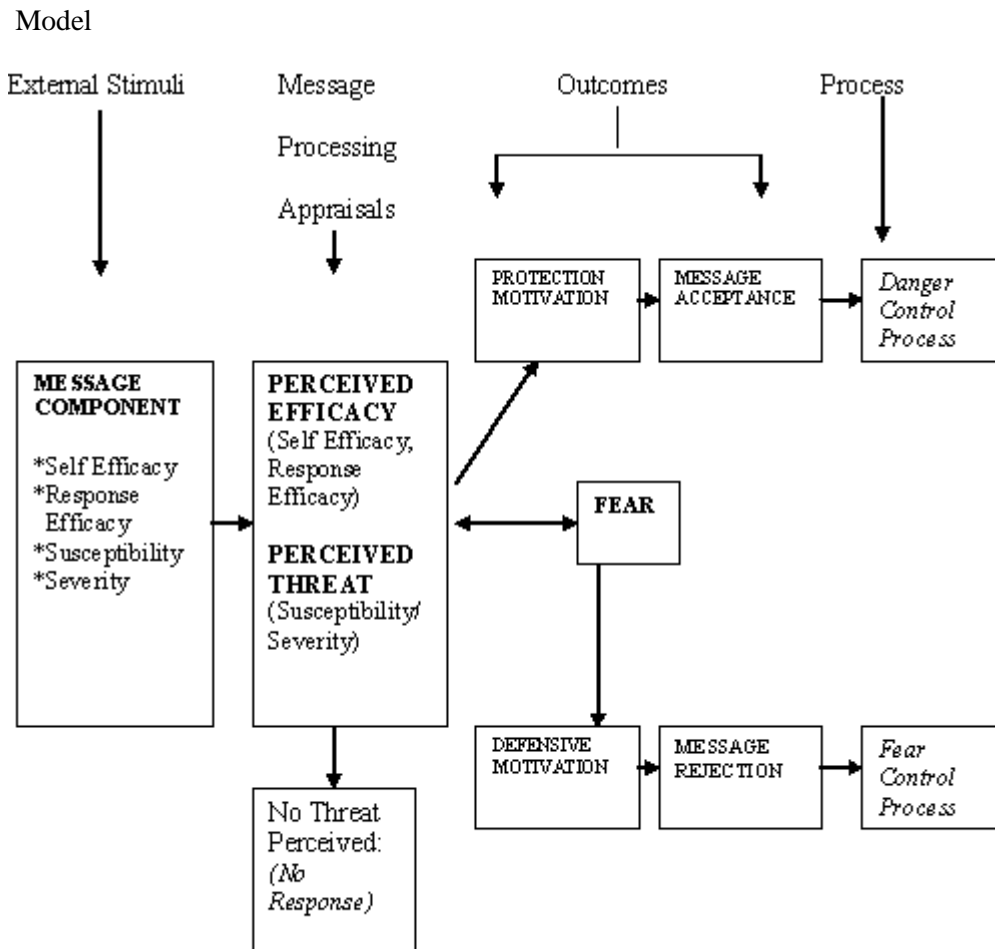
### **Theoretical Framework**

The Extended Parallel Process Model (Witte, 1992) attempts to explain when and why these persuasive messages work or fail (Witte, 1992, 1994, 1998; Witte and Allen, 2000). The model offers a dual/parallel approach to explain how individual's process and respond to threatening messages. Since the EPPM restores the concept of fear as a central variable in investigating fear appeal, and it is also appropriate for motivational (as opposed to awareness or knowledge) campaigns, where the focal audience already has a high knowledge about health threat. Given the high levels of knowledge reported in various studies among the youth, EPPM was deemed appropriate construct for conducting this research.

According to the main tenets of the EPPM, when an individual is exposed to a fear appeal, two cognitive appraisals of the message will occur: first, the "appraisal of the threat" and second, the "appraisal of the efficacy of the message's recommended response" (Witte, Meyer and Martell, 2001, p. 24), or as Perloff (2003) suggested, as a problem (threat) and solution (efficacy information).

If the threat appraised is perceived to be high (for instance, "AIDS kills"), then fear is elicited (Easterling and Leventhal, 1989; Lang, 1984), and there is motivation to begin the second appraisal, the evaluation of the efficacy of the recommended response and self efficacy. If the threat is perceived as irrelevant/low, or insignificant/trivial, (e.g. "AIDS is a black man's disease and being a white, I cannot contract the disease") then there is no motivation to process the message, efficacy is not evaluated, and there is no response to the appeal (Witte, 1992).

Response efficacy pertains to beliefs about the effectiveness of the response recommended in deterring the threat (e.g., "using condoms makes it less likely that I will contract HIV"). Self-efficacy (Bandura, 1977) is a person's perception of his or her ability to perform the recommended response to avert the threat (e.g., "I can afford to buy condoms?") (Rogers, 1975, 1983; Witte, 1998; Witte et al., 2001). These two appraisals will result in one of three outcomes: (1) no response, (2) acceptance, or (3) rejection of the message (Witte et al., 2001). Rosenstock (1974) noted that susceptibility and severity are two critical dimensions of perceived threat. Susceptibility refers to one's subjective perception of the risk of contracting a health condition (e.g., "being young and in university, I am at risk of contracting the HIV virus"), whereas severity indicates one's feelings concerning the seriousness of contracting an illness (e.g. "AIDS is a potentially fatal disease") and its subsequent social consequences (i.e. adverse effects on work- and family-life).

**Figure 1: Conceptual Model of the Extended Parallel Process**

**Source:** Adapted from Gore and Bracken (2005), Testing the Theoretical Design of a Health Risk Message: Re-examining the Major Tenets of the Extended Parallel Process Model, *Health Education Behaviour* [online], 32(27), available at: <http://heb.sagepub.com/cgi/content/abstract/32/1/27> [cited 24th April 2010]

The EPPM predicts that if a perceived threat is high (eliciting some level of fear) and depending on the level of efficacy appraised, individuals will follow one of two separate pathways: *danger control processes* or *fear control processes* (Witte et al., 2001). When perceived threat and efficacy are high, individuals will pursue danger control, meaning they will focus cognitively on dealing with the threat and possible solutions to avert the threat (e.g. abstain, be faithful or use condoms). When perceived threat is high, but efficacy (self and/or response) is low, individuals will follow the course of fear control. In fear control, they let their emotions take over and use maladaptive coping mechanisms to allay their fears, such as denial, reactance, or avoidance e.g. "HIV is not transmitted through sexual contact" (Witte, 1992, 1994, 1998; Witte et al., 2001).

According to Witte, a successful fear appeal should lead individuals down the path of danger control where they evaluate the threat and strive to control the danger and not be guided solely by their emotions. One important concept of the EPPM is the critical point that occurs when perceptions of the threat portion of a message begin to outweigh perceptions of the efficacy of the recommended response (Witte, 1992).

Such perceptions will often cause individuals to shift from danger control responses (cognitively controlling the danger, e.g., doing something positive about the threat such as following the recommended response) to fear control responses (letting emotions dominate the thought process, e.g., denying their own perceived susceptibility). In other words, the critical point occurs when individuals start to believe that they cannot avoid a significant threat from happening. Then and only then will they give up controlling the danger and begin to control their fear (Witte, 1992, 1994; Witte et al., 2001). Because danger control actions are self protective-people adopt the recommended response and protect themselves from the threat –these are the types of actions we want to promote in any health interventions. Recall that strong perceptions of threat and strong perceptions of efficacy promote danger control actions.

Thus we want HIV and AIDS prevention campaign messages that make university students feel susceptible to a serious threat but at the same time, we want them to sincerely believe there is something they can easily, feasibly and effectively do to avert that threat (AIDS). EPPM theory has been used in a variety of health contexts to isolate factors that persuade and eventually lead to behaviour change. Overall, risk messages using the fear appeal approach have been shown to be effective in a variety of domains including skin cancer prevention (Stephenson, 1993), pregnancy prevention (Witte 2007), radon awareness (Witte, Berkowitz, Mckeon, Cameron, Lapinski, 1996) and so on.

## **METHODOLOGY**

### **Research Design**

This study adopted an exploratory research design. Since this study had the prime goal of identifying the persuasiveness of HIV and AIDS prevention campaign messages targeted at university students, it was felt that the exploratory design would best help the researcher in achieving this.

### **Sample and Sample Size**

The expected sample for this study was 385 2<sup>nd</sup> year regular students in public universities who reside at the universities halls of residence in Kenya. According to (Saunders et al; 2003, Nachmias, 1996) for a population of more than 10,000 a sample size of 385 is representative. This group was preferred as they stay at the universities and are bound to demonstrate youth cultures that are relevant considerations in communication of risk messages e.g. shared resources and social life at the campus. First year students were left out because it was felt that they may not have had enough exposure to campus-based anti-AIDS campaigns.

### **Sampling Procedures**

The sampling frame for the 2<sup>nd</sup> year students in the seven public universities was provided by the dean of students in each university from where participants in the study were selected. The participants were then stratified according to gender. Studies have shown that factors that influence persuasive strategies may be different for differing sexes (Pfau and Baraton 2004). Simple random sampling was used to get the number of respondents in each stratum. Gender sampling was determined through proportionate sampling where the numbers in the groups selected for the sample reflect the relative numbers in the groups selected for the sample population as a whole (Robson, 2002)

### **Data Collection methods**

Three data collection methods were used for this study: Focus Group Discussions (FGDs), In-depth Interviews and a questionnaire. Triangulation increases the validity of data collected.

Questionnaires were self administered to cross section of 244 undergraduate students randomly selected from the seven public universities of whom 140 (%) were males and 104 (%) were females. (Though a sample size of 385 was targeted in the study (241 males 62.48%, 144 females 37.52%).

### **Data Analysis**

The analysis of the findings was based on the principle components of the EPPM using questions drawn from various sub scales of the "stereotypes about AIDS" scale (Smell, Finning and Godwin, 1997) and "The assessment of knowledge and beliefs about HIV and AIDS among the youth" (Koopman and Reid, 1997). The extent of knowledge on HIV and AIDS was assessed using a 3-point scale (5 questions; Cronbach's APHA = .8099), attitude and belief a 3-point scale (11 questions; Cronbach's APHA = .7809); perceived severity of the disease (3 questions; Cronbach's ALPHA = .640). Perceived susceptibility (3 questions; Cronbach's alpha = .6030); perceived benefits of preventive measures (4 questions, Cronbach's alpha = .5470); perceived barriers to prevention (6 questions; Cronbach's alpha = .8408); and perceived self-efficacy (6 questions, Cronbach's alpha = .6199).

A stepwise logistic regression procedure to predict use versus non-use of condoms was used where nine classes of variables were entered separately and in the following order. Only those variables that significantly predicted group membership were retained at each step.

- a) Demographic variables (e.g., age, sex, education, marital status, occupation)
- b) Life experiences (e.g. age at first sex, prior illnesses, prior experiences, alcohol/chat use)
- c) awareness of HIV/AIDS and protective measures
- d) knowledge of HIV/AIDS and protective measures
- e) cultural/religious beliefs
- f) Attitude
- g) barriers (transportation, cost, access, beliefs)
- h) Health communication variables (i.e. susceptibility, severity, response efficacy and self-efficacy).

The variables were entered in this order because we wanted to control for demographics and life experiences first, and assess the direct impact of all of the other variables before assessing the ultimate impact of the health communication variables on group membership. In essence, we were interested in seeing if the health communication variables could group membership above and beyond all of these other more traditionally measured variables. The table below gives a summary of the sample items, theoretical measures and other variables' and reliability (Cronbach's alpha).

**Table1: HIV/AIDS Prevention Measures and Reliabilities**

HIV/AIDS Constructs	Example Item					No. of items creating scale	Cronbach's alpha
	1	2	3	4	5		
	Strongly Agree				Strongly disagree		
Susceptibility	It is possible that I will get HIV/AIDS					3	.73
Severity	Getting AIDS is the worst thing that could happen to me					3	.86
Self-efficacy condoms	I/my partner are able to use condoms to prevent HIV/AIDS infection					2	.86
Response efficacy condoms	Condoms work in preventing HIV/AIDS infection					2	.87
Attitudes condoms	Using condoms to prevent HIV/AIDS is good					2	.92

The cronbachs' aphas shown above indicated that the perceived scales had enough variance to be included as variables in the multiple regression model that could be tested in this study in relation to establishing the factors influencing abstinence, being faithful and condom use. Cronbach's alphas were computed using SPS S in order to assess the internal consistency of the resulting scales. As Hair et al (1995) suggests 0.7 is the accepted cut off but a value more than 0.5 is regarded as a satisfactory level (Van de Von and Ferry, 1980). Participants responded to all items with "true or agree", false or disagree" or "I don't know or neither agree or disagree. Endorsing as "true or agree" an item that supported a component of "EPPM" was scored as a 1, reporting "false or disagree" was scored as a 0, and "I don't know" was scored as a 0.5. These values were used to generate indices that were used in the regression model.

The dependent variables of the proposed models were abstinence and condom use. The independent variables included were: knowledge, attitude, and severity of the disease, susceptibility to the disease, self efficacy, response efficacy, benefits and barriers. The model equation for abstinence and condom use was:

$$ABSTAIN = \beta_0 + \beta_1(KNOW) + \beta_2(SERVER) + \beta_3(SUSCEPT) + \beta_4(EFFICACY) + \beta_5(BENEFITS) + \beta_6(BARRIERS) \dots 1$$

$$CONDOM = \beta_7(KNOW) + \beta_8(SERVER) + \beta_9(SUSCEPT) + \beta_{10}(EFFICACY) + \beta_{11}(BENEFITS) + \beta_{12}(BARRIERS) \dots 2$$

Where;  $\beta_0$  is the regression constant and  $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$

- Condom = use of condoms as a preventive measure
- Abstain = practice of abstinence as a preventive measure
- Being faithful = sticking to one sexual partner
- Know = the level of knowledge on HIV and AIDS
- Sever = severity of HIV and AIDS
- Suscept = susceptibility of HIV and AIDS
- Efficacy = level of self efficacy
- Benefits = perceived benefits of preventive measure
- Barriers = perceived barriers to preventive measure
- E: Random error term

The models were tested to find out if they were valid in predicting the factors that influence the decision of the youth to practice sexual abstinence and condom use. The null hypothesis for the test asserted that independent variables have no influence on the decision of the youth to use the preventive measures against HIV and AIDS (HO; the model is not significant).

The alternative hypothesis for the test asserted that the independent variables have an influence on the decision of the youth to use the preventive measures against HIV and AIDS (Ha; the model is significant). Results of the abstinence model shown in equation I were; the p-value.450 was greater than the critical value <0.05. Therefore the null hypothesis was not rejected. This implies that the model based on knowledge perceived severity to HIV and AIDS perceived susceptibility, perceived self-efficacy, perceived benefits and barriers to preventive measure, was not significant in predicting the factors that influenced the decision of the youth to practice sexual abstinence. The model was therefore dropped. The factors that influence the decision of the youth to abstain from pre-marital sex were therefore sought from the qualitative data and the descriptive statistics where respondents who practiced abstinence were asked to explain why they decide to abstain.

In equation 2 the null hypothesis was accepted because the p-value .000 was less than the overall regression model was statistically significant in predicting the relationship between condom use and the independent variables. The proportion of variation and variance in the dependent variable that can be explained by the independent variables were R<sup>2</sup>=17.1% and adjusted R<sup>2</sup>-13.5% respectfully. The low values indicated that there were other factors outside the model that might also be influencing condom use. The significant variables that influence condom use were then extracted by applying the t-test then extracted by applying the t-test to the six variables at 5% level of significance. The test relied on a decision rule of rejecting the null hypothesis if the computed t-statistics were less than the critical values of a known student – t distribution (or if the p-values obtained are less than 0.05). The regression analysis was performed using SPSS and the findings are presented in table 2

**Table2: Regression analysis on persuasive factors influencing condom use as a preventive measure against HIV and AIDS**

Models	Condom use		
	B	t	p-values
Constant	1.847	4.865	.000
Knowledge	-.008	-.030	.976
Severity	.012	.039	.969
Susceptibility	-.285	-1.326	.187
Self-efficacy	.247	2.176	.031
Benefits	-.044	-.379	.709
Barriers	-.361	-2.895	.011*

Dependent variable: condom use (yes/no)

- p-value <0.05

The regression table 2 above indicates that perceived self-efficacy and perceived barriers have a significant relationship to condom use. The model shows that self-efficacy positively influences the use of condoms because the p-value (.031) is less than the critical value <.05. At the same time barriers negatively influence the use of condoms because the p-value (.011) is less than the critical value <0.05. The other components in the model lacked a significant relationship to the dependents variable (P-values were greater than the critical level of the test, 0.05). The analysis revealed that the best fitting model and the only significant variables to discriminate between those who used versus those who did not use condoms were the health communication variables of perceived susceptibility, perceived response efficacy and perceived self efficacy.

Table 2 shows that perceived self-efficacy, perceived response efficacy and perceived susceptibility provide the best explanation for why university youth do or do not use condoms to prevent HIV/AIDS infection. These three variables provide a good model fit explaining the two groups ( $X^2= 11.41$  (df= 8),  $p= 0.18$ ,  $R^2= .413$ ) and successfully predict those youth who use condoms 91 percent of the time. This table suggests that the key variables explaining why yough use or do not use condoms to prevent HIV/AIDS infection are these three health communication variables. The strongest predictor of group membership into the use versus do not use condoms groups is perceived self-efficacy (as indicated by the wald significance test and associate probability value. With every one unit increase in perceived self-efficacy university students are 2.29 times more likely to use condoms (odds ratio).

Higher levels of perceived response efficacy and perceived susceptibility also were related to greater condom use such that with every one unit increase in perceived response Efficacy University students were 1.35 times more likely to use condoms, and with every one unit increase in perceived susceptibility, university students were 1.26 times more likely to use condoms.

**Table 3: Logistic Regression Analysis Results**

	Regression coefficient	Standard error	Odds ratio	Wald test	Probability value
Health communication variable					
Perceived self-efficacy	.83	.13	2.29	40.42	p<.0001
Perceived response efficacy	.30	.13	1.35	5.42	p=.02
Perceived susceptibility	.23	.10	1.26	5.29	p=.02

These results suggest that the critical variables predicting those use condoms versus those who do not use condoms are perceived self-efficacy, perceived response efficacy and perceived susceptibility. The final model derived from the study on persuasive factors that influence the youth in response to condom use is:  $\text{CONDOM USE (YES/NO)} = 1.715 + 0.251(\text{EFFICACY}) - 0.386(\text{BARRIERS})$

### **Conclusions and Recommendations**

Results of the regression analysis revealed that the four communication variables outlined by the EPPM are the underlying mechanisms to behaviour change bridging knowledge/attitudes to behaviours. Specifically, the EPPM suggests that the direct causes of behaviour are perceived susceptibility and severity (i.e.; perceived threat), and perceived self-efficacy and response efficacy (i.e. perceived efficacy). The theory claims that in order for individuals to engage in protective health behaviours, they must feel susceptible to a serious threat (i.e have high threats perceptions) and believe they are able to do a response that effectively averts the threat (i.e. have a high efficacy perceptions. Indeed, the results of this study are generally consistent with these hypotheses. The only variables significantly predicting whether or not university students in Kenya use condoms to prevent HIV and AIDS infection are perceived self-efficacy, perceived response efficacy and perceived susceptibility (as stated previously, there was a measurement problem with perceived severity in that almost everyone perceived HIV and AIDS to be very serious resulting in lack of variance in the measure). These findings are consistent with those of wittee (2003) who carried out a study among the Ethiopian urban youth to address the underlying mechanisms to HIV and AIDS preventive behaviour. . Therefore, according to the data reported here, Kenyan HIV and AIDS prevention campaigns focused upon university students should making these youth feel realistically susceptible to getting infected with HIV (increase perceived susceptibility to HIV and AIDS infection), and at the same time make them believe they are able to easily and feasibly use condoms to prevent infection (increase perceived self-efficacy towards condoms).Also, models/theory needs to be used to assess, design, develop and promote health intervention campaign messages.

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