

## ABSTRACT

The HIV/AIDS pandemic is taking a heavy toll on the youth of South Africa. Reducing the risk of infection requires an understanding of the factors involved in risk-taking sexual behaviours in order to achieve intervention-induced change. This study aims to assess the applicability of the Theory of Planned Behaviour (TPB) in predicting condom use intentions among the University of Cape Town (UCT) students. The TPB model includes three variables: *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control*. An additional variable, *Past Behaviour*, was included in the model. The participants included 199 students currently attending UCT (mean age = 20.6 years) who completed an online survey. A hierarchical multiple regression analysis revealed that *Subjective Norms* and *Attitudes* were significant predictors of *Intentions* to use condoms, whereas *Perceived Behavioural Control* was not. The additional variable, *Past Behaviour*, also proved to be a statistically significant predictor of condom use intentions. A comparison was done between males and females to establish whether or not any statistically significant differences existed. Both groups were similar except that *Perceived Behavioural Control* was a significant predictor for the female sample. TBP may therefore be a useful model for explaining condom use intentions among university students in Cape Town.

Key Words: Theory of Planned Behaviour, condom use, Intentions, HIV/AIDS

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## BACKGROUND

HIV/AIDS has become the greatest health concern in South Africa. With the highest HIV/AIDS caseload in the world, South Africa has seen more than 300,000 deaths and a further 5.4 million infections. People between the ages of 15 and 24 are especially at risk as they are the dominant age group infected with HIV/AIDS (Wasserman, 2006). Furthermore, due to the mass media, specifically movies and television, representation of sexual behaviour, risky sexual activity among adolescents is becoming increasingly frequent (Fourie, 2008). In 2007 there was an estimate of 10.8% of the population living with HIV/AIDS. The statistics for HIV infections were: 5.9% among adolescents 15-19 years of age, 15.2% among adults 20-24 years of age and 23.2% among those 25-29 years of age (Jemmott, Heeren, Ngwane, Hewitt, L.S. Jemmott, Shell, & O'Leary, 2007). Studies have revealed that over 42% of adolescents between the ages of 15-17 years are sexually active (Wasserman, 2006). However, it has been reported that fewer than 53% of adolescents may actually have used condoms in their last sexual encounter (Boer & Mashamba, 2005).

HIV/AIDS can be described as a gender issue. Most heterosexual encounters are male dominated. This domination provides an environment where the ability to negotiate safe sex practices is more difficult for the female partner. Many women do not feel adequately empowered to assert their rights, needs or desires. Consequently, the use of condoms is often at the discretion of the male partner. Women are therefore frequently not being permitted the control over their sexual safety by their partners (Doyle, 1995).

Furthermore, women are shown to be at greater risk of contracting HIV during sexual intercourse due to the anatomical structure of their genitalia. A much larger surface area of the female vagina, compared to the male penis, is at risk of physical damage (such as small cuts or sores), which increases the likelihood of HIV transmission (Van Dyk, 2005).

The majority of preventative campaigns have focused primarily on encouraging the use of condoms and on partner reduction. However, power dynamics that exist within relationships are not recognized as critical to the social dynamics surrounding HIV/AIDS prevention campaigns.

Apart from abstinence from sexual contact, consistent condom use needs to be promoted through the use of intervention campaigns in order to curb the dramatic HIV/AIDS infection rate. A focus on changing the behaviours associated with risky

sexual practices, such as condom use neglect, is essential. Added focus must also be given to helping women negotiate consistent condom use with their sexual partners due to the discrepancy in sexual power relations between men and women. Theories regarding sexual risk behaviour are therefore crucial for the development of effective behaviour-focused interventions.

### **Theory of Planned Behaviour**

The Theory of Planned Behaviour (TPB) is one of the most utilized social cognition theories regarding behavioural decision-making processes (Bennett & Bozionelos, 2000). The TPB is an extension of the Theory of Reasoned Action (TRA) (Molla, Åström, & Berhane, 2008), and proposes that the decision to perform certain behaviours rests on the strength of the intention to perform that behaviour. *Intention* to perform behaviour is determined by three variables: *Attitudes* toward the behaviour, *Subjective Norms* and *Perceived Behavioural Control* (Ajzen, 1988).

*Attitudes toward behaviour* are derived from beliefs surrounding the behaviour and the valences surrounding those beliefs. An example of personal attitudes toward condom use is illustrated by whether or not a person feels that condoms reduce sensation during sexual intercourse. This would be a negative attitude. However, a person may also acknowledge that condoms reduce the risk of HIV infection. This is therefore a positive attitude.

*Subjective Norms* are the evaluation of the likelihood that salient others would approve or disapprove of the behaviour in question. Therefore, if individuals were to use condoms because they knew that their parents, friends and sexual partners would disapprove if they did not, the individuals' *Subjective Norms* would be influencing their behaviour (Ajzen & Fishbein, 1980).

A third construct, *Perceived Behavioural Control*, was added to the original two constructs that comprised the TRA. *Perceived Behavioural Control*, similar to self-efficacy (Heeren, Jemmott, Mandeya, & Tyler, 2007) was included because it was suggested that only behaviours under direct volitional control of the individual could be accurately predicted by intention. The variable *Perceived Behavioural Control* therefore accounts for instances when this is not the case by measuring the circumstances and perceived level of individual skills required to perform the behaviour (Ajzen & Fishbein, 1980). For instance, if a woman felt that she did not have the right, as a result of possible sexual power imbalances, to insist on her partner

using a condom during sexual intercourse, she would have a low level of *Perceived Behavioural Control*, which consequently, influences her behaviour. It is as a result of this third variable, *Perceived Behavioural Control*, that the TPB, not TRA, is the most appropriate model that can be used to assess condom use intention.

It is, however, important to note that the TPB does acknowledge that the predictive power of the model regarding *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control* can (and will) vary depending on the behaviour being examined (Bennett & Bozionelos, 2000).

### **Factors that may affect predictive power of the Theory of Planned Behaviour**

Age is a variable that should be considered in relation to intentions. In terms of risky sexual behaviour and risk-conducive situations, the decision-making process is different for adults than for adolescents (Pomery, Gibbons, Bergan & Gerrard, 2009). Sheeran and Orbell (1998) conducted a meta-analysis on the intention-condom use dynamic and found that the effect size for adolescents was significantly smaller than for older samples ( $R^2 = .25$  vs.  $.50$ ). According to Pomery et al. (2009), the differences in decisions regarding condom use are due to sexual experience rather than age. However, it can be argued that experience and age are positively correlated with each other and that with age comes experience (Papalia, Olds & Feldman, 2006). Considering the student population, which is representative of the dominant age group that are infected with HIV/AIDS in South Africa, could yield significant results that can be used in intervention programmes on campus.

Gender is another variable that may affect the statistical significance of the TPB variables: *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control*. A distinction between the factors that influence male and female intention to use condoms has been made in previous studies. For example, volitional control as a factor illustrates the power imbalances regarding condom use between the sexes (Boer & Mashamba, 2007; Fazekas, Senn, & Ledgerwood, 2001).

*Past Behaviour* is an additional predictive factor in determining condom use intentions that could be potentially important. Studies have revealed that *Past Behaviour* is a good indicator of behaviour intentions because it was found that when people deliberately form conscious intentions, past behaviours are likely to be a contributing factor (Ouellette & Wood, 1998; Albarracin & Wyer, 2000; Danner, Aarts & Vries, 2008). TPB has been criticised because it asserts that only its three

variables are sufficient to predict intentions. Throughout various studies, researchers have found that there are many elements that potentially influence the predictive power of the TPB model, especially when it involves risky health behaviours (Danner et al., 2008).

Understanding how these factors influence the use of condoms would be a vital consideration in the development of intervention programmes aimed at increasing condom use. Determining whether differences exist in gender and how these differences contribute to predicting *Intentions* will allow for more effective interventions. Moreover, including *Past Behaviour* as a variable could also potentially increase the predictive power of the TPB model. The factors: age, gender and past behaviour will now be discussed in further detail.

### *Age*

The factor of age may be a significant influence in determining which of the variables in the model will provide the greatest predictive power of intentions. Furthermore, according to HIV/AIDS infection statistics, adults 20-24 years of age are the principal age group infected by HIV/AIDS (Jemmott et al., 2007). It therefore appears, based on these statistics, that there is a substantial difference in the infection rate in the population of young adults. Even a relatively small mean-age range of five years seems to impact condom use behavioural tendencies. Whether or not these differing infection rates are due purely to increased or decreased sexual activity in the respective groups is unknown. Jemmott et al's. (2007) results, illustrate that age (mean = 12.1 years) was an important determinant as to which of the TPB variables would be significant predictors. The TPB acknowledges that the predictive power of the model will vary across populations. The relative ages of the respondents in a study could therefore account for the differences in results (Pomery et al., 2009). Assuming there are differences in sexual behaviour between population groups based on mean age differences, it seems suitable to consider the student population at the University of Cape Town as a specific population grouping.

### *Gender*

Gender is another factor identified in the literature that could potentially impact the predictive power of the TPB model in predicting intention to use condoms. Research has shown that different TPB variables are significant in predicting condom use

intentions between the genders. Fazekas et al. (2001) investigated the unique predictors of condom use in a female population among university women. The most prominent consideration hypothesized was that condoms serve a dual purpose for females: Firstly, as a method of disease prevention and, secondly, as a form of contraception. Results show that the use of oral contraceptives has become one of the largest barriers to condom use in a female population. Distinctions between men and women who were involved in a long-term relationship versus those who were not, found that this factor was a significant predictor of condom use. Results of the studies by Boer & Mashamba (2007) and Fazekas et al. (2001) indicated that for women who were engaging in sexual relations with a new partner, both *Attitudes* and *Subjective Norms* were statistically significant in predicting intention of condom use. *Perceived Behavioural Control* or self-efficacy was found not to be a significant predictor by both studies. Boer & Mashamba (2007) confirmed that gender power imbalances are significant in determining condom use. Results of their study of male and female adolescents from Venda in relation to condom use illustrate that females would not have the same level of behavioural control as males in terms of negotiating safe-sex practices. The differences in power would therefore influence the importance the different genders placed on the various constructs within the model. Results showed that in both males and females, *Attitudes* towards condom use were a significant predictor of *Intention*. In the male population, it was shown that *Subjective Norms* were a more significant predictor than in the female population, whereas in the female population, *Perceived Behavioural Control* was found to be more significant. These results indicated that it was the female's level of self-efficacy in successfully negotiating safe-sex practices that provided the best prediction of condom use intention. It is important to note, that gender power imbalances vary across population groups (Baron, Branscombe & Byrne, 2009). However, results obtained from a population that operates in a traditional African culture, where patriarchal norms may be more prevalent, may not be as easily replicated in an individualist culture, or in multi-cultural populations.

#### *Past Behaviour*

*Past Behaviour* is an aspect that needs to be considered when looking at condom use intentions. Ouellette and Wood (1998) assert that it is useful to consider the role of *Past Behaviour* when trying to determine what influences the intention to use

condoms because people are likely to form favourable intentions about behaviours that they have frequently performed in the past. In contrast, Ajzen (1988) stipulates that the Past Behaviour- Future Behaviour relationship is not especially meaningful. However, there are many studies that have found that *Past Behaviour* is a significant predictor of future behaviour and therefore may have an influence on *Intentions* (Norman & Connor, 1996; Ouellette & Wood, 1998; Albarracin & Wyer 2000). In fact, TPB has been criticised for claim that *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control* are the exclusive antecedents of intention.

Aarts, Verplanken and van Knippenberg (1998) suggest that behaviours related to health, safety and the environment are often repetitive in nature. Moreover, once individuals perform a given behaviour they are likely to use the experiences of that behaviour in making a decision when placed in a similar circumstance.

Norman and Connor (1996) maintain that in predictive models of health behaviour, *Past Behaviour* is thought to have direct effects on future responses not mediated through conscious intentions and decision-making. Ouellette and Wood (1998) confirm this by stating that when behaviour has been practiced regularly it can be performed relatively automatically. Future behaviour should therefore be a direct function of *Past Behaviour* occurrence. In Ouellette and Wood's (1998) study *Past Behaviour* emerged as an important predictor of future behaviour, with the extent of the effect of Past Behaviour on future behaviour ( $r = .39, p < .001$ ). Due to the fact that responses are likely to be guided by consciously formed intentions and from the *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control* that constitute intentions, *Past Behaviour* has a mediated effect on future behaviour through its impact on conscious intentions. Therefore, *Past Behaviour* along with *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control* could improve the understanding and prediction of condom use *Intentions*.

## **RATIONALE FOR RESEARCH**

The TPB model has been widely used to predict condom use (e.g., Boer & Mashamba, 2005; Jemmott et al., 2007; Sutton, et al., 1999). This theory focuses on predicting the intention to use condoms. This is important because according to the TPB, *Intention* predicts behaviour. This study aims to investigate student's intentions to use condoms with the purpose of developing intervention strategies that impact on and change the eventual behaviour/action of the target population.

The aim of this study is to achieve greater understanding of the intention to use condoms and to generate results that will best explain the behavioural tendencies of students in the Western Cape regarding condom use. Curbing the progressive spreading of HIV/AIDS has become one of South Africa's major health concerns (Wasserman, 2006). Apart from abstinence from sexual contact, it has been shown that the use of condoms during sexual intercourse is the most effective method of reducing the risk of infection (Van Dyk, 2005). In order to contain this dramatic HIV/AIDS infection rate, consistent condom use needs to be promoted through the use of intervention campaigns that focus on changing the behaviours associated with risky sexual practices, most especially, neglecting to use condoms. This study aims to determine the variables that influence the intention to use condoms among the students at the University of Cape Town, in order to be able to generalize the findings to the student population of the Western Cape.



### **SPECIFIC AIMS/HYPOTHESES**

It is unclear as to which variables of the Theory of Planned Behaviour; *Attitudes*, *Subject norms and Perceived Behavioural Control*, have the highest predictive power in determining condom use intention among the student population at the University of Cape Town. In addition *Past Behaviour* is added to the model to determine whether it increases the predictive power of the TPB model. Furthermore in comparison to other TPB studies, this study aims to determine if gender will have an influence as to which of the TPB variables will be statistically significant in predicting intentions to use condoms within a specific age group. The following questions will be asked:

- 1) Which of the variables of the Theory of Planned Behaviour will be most significant in determining condom use by the study's chosen sample?
- 2) Will *Past Behaviour* have an impact on the predictive power of the TPB?
- 3) Does gender influence the predictive significances of the proposed model's variables?

## DESIGN AND METHODOLOGY

### Design

The proposed study will be a quantitative, cross-sectional survey design. This will allow the researchers to assess which of the proposed constructs in the TPB as well as the variable *Past Behaviour*, will be the most statistically significant within the model regarding condom use intention. Survey research designs allow researchers to obtain information on social and behavioural variables. An analysis between these variables is then possible in order to establish potential relationships (Collins et al., 2000).

A quantitative research design enables researchers to gather large quantities of numerical data pertaining to the behavioural intentions in question. Having been collected from a representative sample of the population, this data has the potential to be generalised to the population as a whole (Rosenthal & Rosnow, 2009). This approach was the most appropriate design for the proposed study because it allowed the researchers to obtain information regarding condom use intentions from a large sample of students, which, if statistical significance was found between any of the factors in the TPB model, could be generalised to the student population of the University of Cape Town as a whole. This type of comprehensive data will thus provide HIV/AIDS intervention programmes with information that can be effectively utilised in terms of discerning how to target condom use campaigns to the student population of the University of Cape Town.

### Participants

A total of 199 undergraduate and postgraduate students between the ages of 18 and 28 took part in the study. The age criterion was included because most students in the Western Cape fall within this age range. Furthermore, previous studies have shown that age may be a determining factor as to which of the variables in the TPB are statistically significant regarding the prediction of condom use intention (Armitage & Talibudeen, 2010; Gredig et al., 2006). A sample size of 199 was recruited in order to ensure best representation of the university student body. A sample size of approximately 200 was decided upon because it represents roughly 1% of the student population at the University of Cape Town, thus providing a relatively representative sample. Both male and females were included in the present study to determine whether intentions to use condoms differ between gender groups.

The respondents were recruited from the University of Cape Town in the Western Cape. The students were recruited via online announcements on the Vula SRPP site. Each respondent that completed the survey was awarded one SRPP point as an incentive to participate.

#### *Inclusion and exclusion criteria*

Respondents were eligible to participate if they are between the ages of 18 and 28 and are currently enrolled in an undergraduate or postgraduate degree. Respondents were excluded from the data set if they have not previously engaged in sexual intercourse and/or were homosexual or bisexual.

#### **Measures**

A self-administered, online questionnaire (adapted from Boer & Mashamba, 2005; Jemmott et al., 2007; Gredig et al., 2006; Heeren et al., 2007) (Appendix A) was the measuring instrument used in the present study. The purpose of the questionnaire was to assess respondents' demographics, *Past Sexual Behaviours* as well as the TPB variables: *Attitudes, Subjective Norms and Perceived Behavioural Control*, in relation to condom use intention.

#### **Demographics**

Respondents were required to indicate their age, gender and name. The respondents were required to provide their name purely for the researcher to be able to allocate their respective SRPP points.

#### **Sexual Behaviours**

Sexual intercourse was explicitly defined in the questionnaire as “male penis inserted into the female vagina”. Respondents were asked whether or not they have ever engaged in sexual intercourse, if they are heterosexual, if they used a condom in their first sexual encounter, if they used a condom in their last sexual encounter, if they are involved in a monogamous relationship as well as if they have had sexual intercourse within the past three months (Heeren et al., 2007). This data will provide descriptive details regarding the respondents and their past sexual behaviour. These items were measured on a categorical scale by indicating either ‘yes’ or ‘no’.

### **Theory of Planned Behaviour**

All questions pertaining to TPB variables were measured using a 5-point Likert scale with the appropriate end points (1 = Strongly Disagree, 5 = Strongly Agree).

*Intentions* to use condoms within the next three months will be assessed using three items: “I am likely to use a condom if I have sex within the next three months”, “I plan to use a condom if I have sex within the next three months” and “I will try my best to use a condom if I have sexual intercourse within the next three months”(Giles et al., 2005; Gredig et al., 2006)

*Attitudes* toward condom use were assessed using fourteen items. Examples of these items include: “Condoms make sex less enjoyable”, “Condoms help prevent the spread of HIV/AIDS”, “I enjoy using condoms during sex” and “Condoms make sexual intercourse uncomfortable”.

*Subjective Norms* regarding the use of condoms was measured using four items assessing whether the respondents’ sexual partners’, friends’, mothers’ and fathers’ would approve of them using condoms if they were to engage in sexual intercourse within the next three months (Gredig et al., 2006).

*Perceived Behavioural Control* was assessed using seven items in the questionnaire. Examples of these questions include: “If I don’t have a condom, I won’t have sexual intercourse”, “I find it difficult to use condoms”, “I can get my partner to agree to use condoms, even if they don’t want to” and “I can stop before penetration to put a condom on” (Jemmott et al., 2007).

*Past Behaviour* was measured using three items in the questionnaire also using a 5-point Likert scale with the appropriate end points (1 = Never, 5 = Often). These questions included: “In situations such as a ‘one night stand’ or ‘sexual fling’ with a non-committal partner, how frequently do you use a condom”, “Whenever I engage in sexual intercourse I use a condom” and “I always use a condom during the first sexual intercourse I have with a partner”.

### **Procedure**

Data was collected through the use of a self-administered, online questionnaire that was completed by each respondent. An initial pilot ( $n = 10$ ) on the items contained within the survey was conducted on respondents within the appropriate age range and any questions that the pilot group considered ambiguous or difficult to contextualise were adjusted accordingly (Rosenthal & Rosnow, 2009).

Respondents who were interested in taking part in the study were able to access the survey via an online link that was made available in an announcement on the SRPP forum in the Vula site. The link took the respondents to the online survey, which was created through Zoomerang. The researchers chose to administer the survey through the Internet in order to try and maximise the respondent's honesty to the various questions, most of which were fairly sexual in nature. Research has shown that people taking part in surveys are more likely to respond truthfully when doing them online as opposed to in person. This is linked to the idea that respondents feel more at ease when answering questions that are of a sensitive nature when they are in a familiar environment. Furthermore, online surveys create a greater feeling of anonymity for respondents because the researchers cannot actually see them and will therefore feel less awkward divulging sensitive information (Collins et al., 2000).

The first page of the survey was an information sheet that explained to the respondents the nature of the study and made them aware that the questionnaire does contain items that are of a sexual nature. Furthermore, respondents were reminded in the information sheet that they were under no obligation to complete the survey and were permitted to withdraw at anytime should they feel uncomfortable. Consent forms constituted the second page of the survey and participants had to indicate that they had read and understood the contents prior to beginning questionnaire. The survey was comprised of a series of questions to which respondents were required to answer using five-point Likert scales. Completing the questionnaire took approximately twenty minutes, after which, the respondents were navigated to the final page of the site where they were thanked for participating. Respondents were informed that the researchers would address any questions or concerns pertaining to the study and the relevant contact details were provided in the information sheet.

### **Analysis**

The collected data was imported into Microsoft Excel and data transformation, such as reverse scoring some of the items in the questionnaire, was completed in this programme. Furthermore, individual scores for each of the TPB variables as well as *Past Behaviour* were done in Excel. The transformed data was then exported to SPSS Version 18.0 in order to complete the statistical analysis.

The initial stage of the analytic process involved conducting an internal consistency measure on the variables *Intentions*, *Attitudes*, *Subjective Norms*,

*Perceived Behavioural Control* and *Past Sexual Behaviour*. This was done to ensure that all the items on the questionnaire correspond with the appropriate variables in the TPB model (Field, 2009).

For the first phase of the main analysis, a hierarchical multiple regression analysis was used to analyse the data. This was done in order to generate an overall behavioural model with the highest predictive power using the four previously mentioned predictor variables (Field, 2009). The dependent or outcome variable was '*Intention to use condoms*' and was continuous. The three primary TPB predictor variables were '*Attitudes to condom use*', '*Subjective Norms*' and '*Perceived Behavioural Control*'. The three TPB variables were entered in the first block using the forward stepwise method. The rationale behind doing this was that the researchers were not sure which of the TPB variables would have the highest statistical significance in predicting *Intentions*. All three variables therefore had to be analysed simultaneously. *Past sexual behaviour* was entered in the second block of the hierarchy. This variable was not included in the first stage of the model because it did not form part of the original variables of the TPB model designed by Ajzen and Fishbien (1980). The researchers therefore wanted to test the original three TPB variables independently from the statistical impact of the fourth variable, *Past Sexual Behaviour*.

The second phase of the main analysis involved creating two separate data sets using gender as a grouping variable. These data sets were then analysed independently, using the same methods mentioned above, in order to draw comparisons between males and females as to which of the four variables would be statistically significant predictors of *Intentions*.

## **ETHICAL CONSIDERATIONS**

Ethical standards as stipulated by the Research Ethics Committee of the Department of Psychology in the University of Cape Town in the ethics application form were adhered to for the present research study. Ethical approval for data collection from undergraduate university students attending the University of Cape Town was applied for and data collection did not commence prior to ethical approval being granted.

### **Informed Consent**

Prior to each respondent's commencement in the participation of the survey, informed consent was obtained from every individual. The consent form was accompanied by the information sheet, which stipulated the nature of the study, detailing that some of the items in the questionnaire will be sexual in nature, that participation is voluntary and that confidentiality is guaranteed.

### **Confidentiality**

All respondents were guaranteed that data collected from the surveys will remain completely confidential and that only the researchers and their supervisor, Dr Despina Learmonth, will have access to the personal information supplied by the respondents. Furthermore, should a respondent wish to withdraw their questionnaire from the study at a later point in time, the researchers were obligated to delete that specific case from the data set.

### **Voluntary Participation**

Participation notices were posted on the Vula and SRPP websites. Students were therefore able to voluntarily sign-up for participation in the survey. The information sheet reminded the respondents that their participation is voluntary and that they may therefore withdraw at any point during the study.

**Risks of Participation**

The individuals who participated in this study were not subject to any significant risks. Apart from possible discomfort or embarrassment when answering questions that are sexual in nature, there were no other foreseeable psychological risks. In an effort to minimize any discomfort that participants may have experienced while completing the questionnaire, the researchers provided detailed information regarding the nature of the study in the information sheet so as to reduce any unexpected 'shock' at some of the questions. However, there was a small possibility that the sexual nature of some of the items in the questionnaire may have invoked recollections of sexual trauma, had it previously occurred. Details regarding student counseling centers and rape crisis support groups were therefore detailed on the information sheet so that they could be utilized at the respondents' discretion (Baron et al., 2009).



## RESULTS

### Internal Consistency

The TPB variables: *Subjective Norms*, *Attitudes* and *Intentions* all had good reliabilities (Cronbach's  $\alpha = .72$ ,  $.79$  and  $.97$  respectively). These values are above the recommended Cronbach's  $\alpha$  level of  $.70$ . However, *Perceived Behavioural Control* and *Past Behaviour* had relatively low reliabilities (Cronbach's  $\alpha = .61$  and  $.66$  respectively). Although this is not ideal, the Cronbach's  $\alpha$  scores are only slightly below the recommended level of  $.70$  and therefore should not affect the validity of the results obtained from these measures (Field, 2009).

### Descriptives

A sample size of 199 was collected for the purpose of this study. Table I presents the descriptive statistics of the study. The mean age of the respondents was 20.6 years (SD = 2.76). 1.5% of the respondents indicated that they were married. The remaining 98.5% were single. Regarding sexual orientation, 3.5% indicated they were bisexual and 2% were homosexual. The remaining 94.5% were heterosexual. Females constituted 77.4% (N = 154) of the sample, whereas males accounted for 22.6% (N = 45) of the sample.

Of the 199 participants, 78.4% (N = 156) reported ever having engaged in sexual intercourse and 59.8% reported having had sexual intercourse within the past three months. 77.8% (N = 35) of the males, as opposed to 78.6% (N = 121) of the females in the sample, had previously engaged in sexual intercourse. Of these, 77.7% (N = 115) reported having used a condom in their first sexual encounter. However, only 52.7% (N = 78) used a condom in their last sexual encounter. 68.3% (N = 101) of respondents who have previously engaged in sexual intercourse are currently involved in a monogamous relationship.

Looking at the mean of the outcome variable, *Intentions* had a mean score of 4.20 (SD = 1.13). This indicates that the respondents of the present study held strong intentions to use condoms during future sexual encounters. In terms of the predictor variables, *Perceived Behavioural Control* had a mean score of 4.23 (SD = 0.48), indicating that the respondents were confident in their ability to engage in the technical aspects of condom use as well as feeling secure in being able to negotiate condom use with their partners. Respondents appeared to hold mildly favourable

*Attitudes* toward condom use and the protection they offered from STI'S (M = 3.86, SD = 0, 54). Furthermore, respondents appeared to comply with normative beliefs surrounding condom use (M = 3.93, SD = 0.86). Lastly, *Past Behaviour* indicated that respondents had a high incident of previous condom use during sexual encounters (M = 4.27, SD = 0.76) (See Table I).

**Table I.**

Descriptive statistics and bivariate correlations between *Intentions, Attitudes, Subjective Norms, Perceived Behavioural Control* and *Past Behaviour*

<b>Variable</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>Mean</b>	<b>Std Dev</b>	<b>N</b>
Intentions					4.20	1.13	147
Attitude	.54*				3.86	.54	147
Subjective Norm	.63*	.41*			3.93	.86	147
Perceived Behavioural Control	.44*	.45*	.40*		4.23	.48	147
Behaviour	.59*	.51*	.41*	.59*	4.27	.77	147

Note: \* p < 0.01

### Testing the Theory of Planned Behaviour

The Correlations table (Table I) indicates that *Attitudes*, *Subjective Norms*, *Perceived Behavioural Control* and *Past Behaviour* are all statistically significant and had a medium strength, positive correlation with *Intentions*. None of the independent variables are highly correlated with each other, so there is no problem with multicollinearity. None of the assumptions for multiple regression were violated (Appendix B).

The next step was to conduct a hierarchical regression analysis in order to establish which of the predictor variables will significantly predict *Intentions*, and to observe the individual contributions of the predictor variables.

**Table II.**

Multiple regression analysis of *Attitudes*, *Subjective Norms*, *Perceived Behavioural Control* and *Past Behaviour* on *Intention* to use condoms

	$\beta$	$SE \beta$	$t$	$p$
<b>Step 1</b>				
(Constant)		.34	2.90	.004**
Subjective Norms	.63	.08	9.76	.000***
<b>Step 2</b>				
(Constant)		.50	-2.07	.040*
Subjective Norms	.49	.09	7.56	.000***
Attitudes	.34	.14	5.20	.000***
<b>Step 3</b>				
(Constant)		.48	-3.30	.001**
Subjective Norms	.42	.08	6.58	.000***
Attitudes	.22	.14	3.24	.002**
Behaviour	.30	.10	4.54	.000***

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

$R^2 = .392$  for Step 1  
 $\Delta R^2 = .095$  for Step 2  $R^2 = .485$  for Step 2  
 $\Delta R^2 = .064$  for Step 3  $R^2 = .547$  for Step 3

The first stage of the hierarchical multiple regression analysis was run as a forward stepwise, which included the predictor variables: *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control*. The second stage of the analysis was to include *Past Behaviour* into the model in order to determine if it had any statistically significant effect on the model.

Step 1 (Table II) indicated that of the three TPB variables, *Subjective Norms* was the most significant predictor of Intentions ( $F [1,146] = 95.24, p < .001$ ). The total

variance explained by *Subjective Norms* was approximately 39%. Following this, based on the strength of the correlation coefficients, *Attitudes* was the next variable that was added to the Model in Step 2. Therefore, in Step 2, both *Subjective Norms* and *Attitudes* were statistically significant predictors of Intentions ( $F [2,145] = 69.71$ ,  $p < .001$ ), explaining approximately 49% of the variance. *Subjective Norms* was a stronger predictor of Intentions than *Attitudes*. *Perceived Behavioural Control* was not statistically significant.

The second stage of the analysis (Table II, Step 3) included *Past Behaviour* as an additional predictor variable, over and above the TPB variables. The final model indicated that *Subjective Norms*, *Attitudes* and *Past Behaviour* were all significant predictors of Intentions ( $F [3,144] = 59.70$ ,  $p < .001$ ) and explained approximately 55% of the variance. *Perceived Behavioural Control*, however, did not contribute significantly to the model ( $t = .04$ ,  $p = .968$ ). The final model indicated that *Subjective Norms* was the strongest predictor of Intentions. Following this, *Past Behaviour* resulted in being a stronger predictor than *Attitudes*.

## Gender Comparison

**Table III.**

Multiple regression analysis of *Attitudes, Subjective Norms, Perceived Behavioural Control* and *Past Behaviour* on *Males Intention* to use condoms

	$\beta$	$SE \beta$	$t$	$p$
<b>Step 1</b>				
(Constant)		.71	2.04	.049
Subjective Norms	.55	.18	3.82	.001
<b>Step 2</b>				
(Constant)		1.30	-.70	.492
Subjective Norms	.44	.190	2.95	.006
Attitudes	.32	.40	2.20	.037
<b>Step 3</b>				
(Constant)		1.21	-1.15	.261
Subjective Norms	.34	.19	2.32	.027
Attitudes	.23	.35	1.56	.128
Behaviour	.32	.20	2.19	.037

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

$R^2 = .29$  for Step 1

$\Delta R^2 = .09$  for Step 2  $R^2 = .36$  for Step 2

$\Delta R^2 = .08$  for Step 3  $R^2 = .43$  for Step 3

Step 1 (Table III) indicated that of the three TPB variables, *Subjective Norms* was the most significant predictor of *Intentions* for the male sample ( $F [1,34] = 14.60$ ,  $p = .001$ ). The total variance explained by *Subjective Norms* was approximately 29%. Following this, based on the strength of the correlation coefficients, *Attitudes* was the next variable that was added to the Model in Step 2. Therefore, in Step 2, both *Subjective Norms* and *Attitudes* were statistically significant predictors of *Intentions* ( $F [2,34] = 10.49$ ,  $p < .001$ ), explaining approximately 36% of the variance. *Subjective Norms* was a stronger predictor of *Intentions* than *Attitudes*

The second stage of the analysis (Table III, Step 3) included *Past Behaviour* as an additional predictor variable, over and above the TPB variables. The final model indicated that *Subjective Norms*, *Attitudes* and *Past Behaviour* were all significant predictors of *Intentions* ( $F [3,34] = 9.41$ ,  $p < .001$ ) and explained approximately 42% of the variance. *Perceived Behavioural Control*, however, did not contribute significantly to the model ( $t = -.90$ ,  $p = .374$ ). The final model indicated that *Subjective Norms* was the strongest predictor of *Intentions* for the male sample. Following this, *Past Behaviour* resulted in being a stronger predictor than *Attitudes*.

**Table IV.**

Multiple regression analysis of *Attitudes, Subjective Norms, Perceived Behavioural Control* and *Past Behaviour* on Females *Intention* to use condoms

	$\beta$	$SE \beta$	$t$	$p$
<b>Step 1</b>				
(Constant)		.39	2.01	.047*
Subjective Norms	.65	.010	9.06	.000***
<b>Step 2</b>				
(Constant)		.54	-2.10	.038**
Subjective Norms	.51	.10	7.07	.000***
Attitudes	.34	.15	4.72	.000***
<b>Step 3</b>				
(Constant)		.69	-3.50	.003**
Subjective Norms	.46	.10	6.17	.000***
Attitudes	.28	.15	3.73	.000***
Perceived Behavioural Control	.17	.18	2.20	.030*
<b>Step 4</b>				
(Constant)		.66	-3.06	.003**
Subjective Norms	.43	.10	6.02	.000***
Attitudes	.20	.16	2.55	.012*
Perceived Behavioural Control	.06	.19	.71	.481
Behaviour	.28	.13	3.35	.001**

Note. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$

$R^2 = .392$  for Step 1  
 $\Delta R^2 = .095$  for Step 2  $R^2 = .485$  for Step 2  
 $\Delta R^2 = .064$  for Step 3  $R^2 = .547$  for Step 3  
 $\Delta R^2 = .064$  for Step 4  $R^2 = .547$  for Step 4

Step 1 (Table IV) indicated that of the three TPB variables, *Subjective Norms* was the most significant predictor of *Intentions* for the female sample ( $F [1,111] = 82.10, p < .001$ ). The total variance explained by *Subjective Norms* was approximately 42%. Following this, based on the strength of the correlation coefficients, *Attitudes* was the next variable that was added to the Model in Step 2. Therefore, in Step 2, both *Subjective Norms* and *Attitudes* were statistically significant predictors of *Intentions* ( $F [2,111] = 60.10, p < .001$ ), explaining approximately 52% of the variance. *Subjective Norms* appeared to be a more significant predictor of *Intentions* than *Attitudes*. Unique to the female sample, the model also determined that *Perceived Behavioural Control* was a significant predictor of *Intentions* in Step 3 and was therefore included ( $F [3,111] = 43.09, p < .001$ ).

The second stage (Table IV, Step 4) of the analysis included *Past Behaviour* as an additional predictor variable, over and above the TPB variables. The final model indicated that *Subjective Norms*, *Attitudes* and *Past Behaviour* were all significant predictors of *Intentions* ( $F [4,111] = 38.16, p < .001$ ) and explained approximately 57% of the variance for the female sample.

The final model indicated that *Subjective Norms* were the most significant predictor of *Intentions*. Following this, *Past Behaviour* resulted in being a more significant predictor than *Attitudes*. *Perceived Behavioural Control* appeared to become statistically insignificant once *Past Behaviour* was included in the model and therefore ceased to be a significant predictor of *Intentions*. It therefore appears that effects of *Perceived Behavioural Control* might be mediated by the presence of *Past Behaviour*.

## DISCUSSION

### Summary

The present study showed that the Theory of Planned Behaviour provides a suitable explanatory model for condom use intentions among University of Cape Town (UCT) students between the ages of 18-28. The regression analysis convincingly showed that *Subjective Norms* and *Attitudes* were statistically significant predictors of condom use intentions. *Perceived Behavioural Control* did not, however, contribute significantly to the model. The following discussion will focus on the theoretical and practical implications of these findings.

### Support for Theory of Planned Behaviour (TPB)

TPB is one of the most widely used theoretical frameworks for behaviour studies. It postulates that *Intentions* are the best predictors of behaviour and are determined by a person's *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control* surrounding the behaviour in question (Ajzen, 1988). However, the relative importance of each of these constructs can (and will) vary from population to population and from behaviour to behaviour (Bennett & Bozionelos, 2000). The present study uses TPB and shows that there are striking similarities with meta-analyses of the model regarding condom use. Armitage and Connor's (2001) meta-analysis of TPB study showed that *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control* together explained 39% of the variance in *Intention*. The comparable value was 55% in the present study, indicating that the TPB model is well suited to this domain. Results from studies that examined condom use behaviour under the theoretical framework of the TPB provided first-hand support for the theory across a range of contexts, populations and time frames. *Attitudes* and *Subjective Norms* were identified as significant psychological antecedents of intentions (Bennett & Bozionelos, 2000). This is in accordance with Ajzen and Fishbein, (1980) who suggest that for some behaviours, *Attitudes* will be more important than *Subjective Norms*, while for other behaviours the opposite will be true. However, a meta-analysis conducted by Armitage and Connor (2001) indicated that across 185 studies, *Subjective Norms* proved to be a weaker predictor of *Intentions* than *Attitudes* and *Perceived Behavioural Control*.



## Implications of Study

Prevalence and incidence of HIV/Aids is substantially high in South Africa. University students in South Africa are therefore at a considerably higher risk of contracting HIV/AIDS infections due to the marked increase of sexual proclivities among individuals aged between 18 and 25 years (van Dyk, 2005). Furthermore, this age demographic is shown to be the dominant group in terms of HIV infection rates (Wasserman, 2006). The results obtained from the present study could have valuable implications for HIV risk reduction interventions for South African university students. Each of the TPB variables as well as *Past Behaviour* shall now be discussed in further detail in relation to the present study as well as the practical implications of the study's findings.

### Subjective Norms

*Subjective Norms* are influenced by the beliefs of important reference groups or individuals in a person's life and the desire to please these reference groups and/or individuals (van Dyk, 2005). Due to the hedonistic tendencies that adolescents and young adults have been reported to display on a more frequent basis than adults (Giles et al, 2005), it was unexpected to discover that *Subjective Norms* were identified as the strongest predictor of *Intentions* in the present study. A possible explanation for the emergence of this finding is the dyadic nature of condom use in terms of negotiating sex practices with one's partner. The normative influence of one's sexual partner will therefore play a significant role in determining whether or not condoms will be used during sexual intercourse. However, of all the items relating to *Subjective Norms*, the normative impact of an individual's partner proved to exert the least amount of influence on their total *Subjective Norms* score (Mean = 3.26). Family influences, on the other hand, appeared to exert the greatest influence on an individual's normative beliefs (Mother = 4.48; Father = 4.33).

Previous studies have proposed that in collectivist cultures, the decision making process is highly responsive to group and family norms, as opposed to cultures where this process is more individualistic, such as the United States (Giles et al., 2005; Heeren et al, 2007). However, considering the demographics of the present study's sample (65% white), it is clear that this sample is not representative of the South African population and therefore cannot be assumed as holding collectivist

cultural norms. Despite this, family influences still appeared to have the greatest impact on individual's *Subjective Norms* scores. It is therefore possible that previous studies have potentially underestimated the influence familial norms on an individual's decision-making process. From a practical perspective, the finding that family plays an important role in safe sex practices might indicate that parents could be further encouraged to discuss sex related issues with their children and thus promote safer-sex practices. Furthermore, intervention campaigns that are targeting adolescents and young adults should perhaps shift their focus from the individual to a community-based approach to include sexual partners as well as broader social networks as a way of enhancing peer and familial inclusion in the decision-making processes surrounding condom use, as opposed to solely focusing control beliefs regarding technical skills in using condoms.

### **Attitudes**

An 'attitude' toward a behaviour is defined as the individual's positive or negative feelings about performing certain behaviours. In the present study *Attitudes* was found to be a statistically significant predictor of condom use intentions. This was not an unexpected finding as many previous studies have confirmed that *Attitudes* toward condom use was a significant determinant for *Intentions* (Jemmot et al., 2007; Boer & Mashamba, 2007). What was not expected, however, was how little the construct *Attitudes* actually contributed to the overall variance explained by the model (< 9%). Bennet and Bozionelos (2000) identified that across 18 different studies, *Attitudes* commonly explained the greatest amount of variance of condom use intentions. Similar findings were reported by Heeren et al. (2007) who conducted a comparative study of condom use predictors on students in the USA and South Africa.

One possible explanation for this finding relates to the general assumption that adolescents and young adults display a greater propensity toward risk-taking behaviours that are fuelled by overarching hedonistic tendencies. Loosely translated, this implies that if young people do not particularly like doing something because it does not 'feel' as good – they won't. For adolescents and young adults, the risks must greatly outweigh the benefits in order to compensate for their proclivity to engage in self-gratifying behaviours (Papalia, Olds & Feldman, 2006).

Another possible explanation as to why *Attitudes* was not the most significant predictor of condom use intentions is that the current HIV/AIDS awareness and

condom use campaigns have not adequately addressed the importance of condom use during sexual intercourse. It is possible that young adults and adolescents have not been exposed to a sufficient amount of information regarding the risks of having unprotected sex and do not fully appreciate the prevalence of HIV/AIDS in our country (van Dyk, 2005; Papalia et al., 2006). In addition to this, the media's depiction of condom use, specifically in films and pornography, is not considered a liable source for instilling safe-sex practices (van Dyk, 2005). Young adults and adolescents are by far the most dominant demographic in terms of mass media entertainment (Fourie, 2005). However, the majority of pornographic materials do not depict the actors using any source of protection from STI's. It is also extremely rare in Hollywood films to see the actors stop to put a condom on during scenes that are sexual in nature. In addition, people often tend to underestimate the level of risk they subject themselves to at times. This attitude is typified by the notion "It will never happen to me!" The youth are often more guilty of adopting this attitude and are therefore less likely to use condoms as a method of STI prevention (Albarracin & Wyer, 2000).

Despite these suggestions as to why *Attitudes* was not the most statistically significant predictor of condom use intentions, they were non-the-less, still significant. From a practical perspective, this finding indicates that HIV/AIDS intervention campaigns that are targeting young adults and adolescents should perhaps focus their messages on increasing positive associations with condom use. These attitudinal messages should range from the protective benefits of condom use, such as how they contribute to the prevention of spreading HIV/AIDS and other STI's, to promoting the idea that condoms can in fact, be seen as adding to the excitement of sexual encounters, such as in foreplay or through the use of novelty condoms (e.g. glow in the dark, ribbed, flavoured etc).

### **Perceived Behavioural Control**

The construct, *Perceived Behavioural Control* suggests that only behaviours under direct volitional control of the individual can be accurately predicted by *Intention*. This component of the model therefore accounts for instances when direct control is not apparent, by measuring the circumstances and perceived level of individual skills required to perform the behaviour (Ajzen & Fishbein, 1980). Contrary to previous research findings (Boer & Mashamba, 2005; Gredig et al., 2006; Jemmott et al.,

2007), the present study found that this construct had no significant influence in predicting condom use intentions.

Although the variable *Perceived Behavioural Control* did not directly predict condom use intentions in the present study, this does not necessarily mean that the participants of the study have inadequate levels of skill and control regarding the use of condoms. The results showed that, of the three primary variables of TPB, *Perceived Behavioural Control* actually had the highest Mean score ( $M = 4.23$ ). This finding indicates that the participants of the present study are actually very comfortable in terms of the technical skills required to utilize and obtain condoms (Giles et al., 2005). Furthermore, they do not feel uncomfortable requesting that their respective sexual partners use condoms and feel that they have the necessary control required during foreplay to stop and apply a condom.

Despite these positive descriptive findings, *Perceived Behavioural Control* was still not a statistically significant predictor of *Intentions*. A possible explanation for this is that due to the moderate inter-collinearity with the variables, *Attitudes* and *Subjective Norms*. One or both of these variables could have mediated *Perceived Behavioural Control*. Furthermore, the presence of *Past Behaviour* as a variable might influence the statistical significance of *Perceived Behavioural Control*.

From a practical perspective, the finding the *Perceived Behavioural Control* did not have a significant association with condom use intentions has important implications for HIV/AIDS intervention campaigns. Creators of such campaigns, that are specifically targeting young adults and adolescents in university, should be cautious in designing messages that centre on the technical and control aspects of condom use, as this might not have any effect on the audience's intention to use condoms. The present study did, however, reveal that there are slight differences between males and females in terms of element of volitional control surrounding condom use.

### **Past Behaviour**

The TPB has been criticised because of the issue pertaining to the role of past experiences with the intention to conduct future behaviour (Molla et al., 2007). The TPB model has been challenged for its claim that *Attitudes*, *Subjective Norms* and *Perceived Behavioural Control* are the solitary antecedents of *Intention* (Aarts et al., 1998). Ouellette and Wood (1996) postulate that it is useful to consider the role of

*Past Behaviour* on *Intentions* as the implementation of an individual's intention may involve minimal or considerable effort and ability depending on the difficulty of the behaviour and how easy it is to anticipate the changes in the environment.

Furthermore, people are likely to form favourable intentions for behaviours they have frequently performed in the past (Norman & Smith, 1995). Therefore, when people form conscious intentions, *Past Behaviour* is likely to be a predictive factor.

Combining *Past Behaviour* with the other factors of the TPB could therefore lead to a more significant model for predicting condom use intentions.

In the present study *Past Behaviour* emerged as an important predictor of *Intentions*. Adding *Past Behaviour* to the model increased the proportion of explained variance to 55%. Thus the present study indicates that *Past Behaviour* is statistically significant and consequently provides strong support that *Past Behaviour* can influence a person's intention to perform future behaviours (Ouellette & Wood, 1996; Pomery et al., 2009; Norman & Smith, 1995).

This indicates that people possibly fail to carry out newly formed intentions, as *Past Behaviour* becomes the default behaviour when having to perform the actual behaviour. A reason for this is that *Past Behaviour* can become habitual depending on how often the behaviour has been carried out in the past. Ouellette and Wood (1996) state, *Past Behaviour* is more strongly associated to intention in areas in which automatic habitual tendencies were likely to develop rather than in domains requiring conscious decision-making. Therefore, once behaviour has become habitual it is less likely to be consciously salient and as a result influences intentions to carry out a specific behaviour. Another factor that may influence *Past Behaviour* is the setting in which the behaviour takes place. Ouellette and Wood (1996) assert that the environment in which the behaviour takes place considerably affects one's intention to carry out a behaviour and consequently on the implementation of the behaviour. The environment in which one has to negotiate condom use is possibly one where *Past Behaviour* is more likely to be drawn from because of the physiological and emotional elements associated with the behaviour of sexual intercourse. In contrast, Danner et al. (2008) found that as long as the context in which the behaviour is carried out always differs, initiation of the behaviour is dependent on intentions.

*Past Behaviour* is a difficult construct to target in intervention campaigns because behaviour is complex in nature and is affected by numerous things. A possible intervention strategy that could be used in intervention campaigns is

targeting behaviour change, however, this is a long-term strategy and therefore very difficult to implement in campaigns which generally focus on strategies that have immediate affect on behaviour. Ouellette and Wood (1996) hypothesise that a theoretical understanding of habit will enable one to devise more effective strategies to help people initiate new behaviour and change existing behaviour through intervention.

### **Gender**

Previous studies have found that the TPB variables may impact on condom use intentions differently when examining males and females (Bennett & Bozionelos, 2000; Boer & Mashamba, 2007; Gredig et al., 2006). In the present study *Subjective Norms* and *Attitudes* were found to be significant predictors of intentions for both males and females. However, *Perceived Behavioural Control* was found to be a statistically significant predictor of intentions among females, but insignificant for males. *Subjective Norms* and *Attitudes* explained 49% of the variance for females and 36% of the variance for males, which was substantially lower. This could be an indication that among students, TPB is better able to explain condom use intentions among females than males.

Among the females, *Perceived Behavioural Control* added a further 6.4% of the explained variance in the TPB model. This suggests that, for women, the intent to use condoms strongly relies on whether they believe it is within their control. Boer and Mashamba (2007) suggest that among females, intended condom use is related to their ability to negotiate safe sex behaviour with their partner. Based on this, one could suggest that for females, *Perceived Behavioural Control* needs to be targeted by addressing the importance of negotiating safe sex practices and power relations within a relationship.

Given the importance of *Subjective Norms* on the shaping of male and female condom use intentions, intervention programmes should look at shaping social norms and place more importance on social influences that encourage individuals to allow their social networks to be a part of important decision making processes. When addressing *Attitudes* toward condom use, intervention programmes should address myths surrounding condom use as well as educate the intended population about condoms and the significance of their use in order to improve on the individual's attitudes towards condom use.

The findings from the present study thus suggest that tailoring HIV intervention programmes for males and females as separate target groups may be necessary and valuable.

### **Limitations and Directions for Future Research**

The primary limitation of the present study is the issue of the generalisability of the results across the entire South African student population. Firstly, the survey was limited primarily to undergraduate humanities students at the University of Cape Town. The resulting sample was therefore comprised primarily of white females, the most prominent demographic currently studying psychology at this institution. This, of course, is not representative of the entire student population in South Africa. The results may have varied if a truly representative sample was obtained. Future research should therefore aim to collect representative samples from a variety of universities across the country in order to obtain a data set that accurately portrays the country's university population demographic.

Related to the issue of representation as a limitation, is the procedural methods used to obtain participants for the present study. By utilizing the University of Cape Town's SRPP system as the only incentive to participate, the researcher restricted themselves to only being able to acquire the large majority of participants from a relatively isolated demographic pool. Future researchers should therefore explore alternate methods of participant recruitment in order to obtain a more diverse sample composition.

A further limitation of the present study was that it utilized a cross-sectional research design. Longitudinal studies have enabled researchers to confirm relationships observed between the TPB variables and condom use. The central problem with TPB is that it does not address the issue of the intention-behaviour gap (Bennett & Bozionelos, 2000). The inclusion of a longitudinal design would therefore allow researchers to measure the correlation between intentions and actual behaviour.

Lastly, the present study relied on self-reported behaviour, which can be inaccurate. Self-reported behaviour has the drawback of not accounting for the range of external factors that could be important modifiers of behaviour; such as the impact of drugs and alcohol on decision-making processes (Heeren et al, 2007) Future research should therefore include outcomes that do not rely exclusively on self-reports (e.g., independent reports from sexual partners).



### Summary and Conclusion

The present study investigated which of the TPB variables, as well as if *Past Behaviour*, would prove to be significant predictors of condom use intentions for students currently studying at the University of Cape Town. The researchers found that *Subjective Norms* and *Attitudes* proved to be significant predictors of *Intentions*, whereas *Perceived Behavioural Control* did not. The variable *Past Behaviour* also resulted in being a statistically significant predictor of *Intentions* when it was added to the model. The final model explained 55% of the variance for *Intentions*.

When the different gender groups were analysed independently, the results showed that for the male sample, *Subjective Norms*, *Attitudes* and *Past Behaviour* were all statistically significant predictors of *Intentions*, explaining 42% of the variance. *Perceived Behavioural Control* was not statistically significant. For the female sample, *Subjective Norms*, *Attitudes* and *Perceived Behavioural Control* all proved to be statistically significant predictors of *Intentions*. However, once *Past Behaviour* was entered into the model, *Perceived Behavioural Control* lost its statistical significance and was therefore excluded from the final model.

The results obtained in the present study suggest that future HIV/AIDS intervention campaigns focusing on condom use, that are specifically targeting the student population at the University of Cape Town, should focus their campaign primarily on the students *Subjective Norms* and *Attitudes* surrounding condom use. Furthermore, intervention programmes should be aware of the effects *Past Behaviour* has on predicting condom use *Intentions* and should therefore tailor their campaigns to address this variable. However, the results of the present study did indicate that perhaps intervention programmes should be designed to target males and females independently as it appears that *Perceived Behavioural Control* could be a statistically significant predictor of *Intentions* for females.

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