An experimental study on the influence of the presentation structure of arguments for or against anti-retroviral treatment, on relevant beliefs, attitudes and intentions towards Voluntary Counselling and Testing (VCT) among South African students.

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Preface

I knew little about South Africa, but after living five months in Pretoria I came back impressed. Impressed by everything I had seen, heard and experienced. South Africa is a beautiful and diverse country with crowded cities and quietly situated vineyards, vast plains and rough mountains. I am thankful for having been able to see all that and more.

I have seen and learned about the culture, norms and values of the South Africans and that has been very important for getting more insight into the HIV/AIDS problem in South Africa and to put South African HIV/AIDS communication into perspective. However, I do not understand South Africa. I do not understand how rich South Africans can drive around in their SUV’s passing by poor, begging South Africans. I do not understand why black and white South Africans fight at night because of their different skin colour. I do not understand that one out of ten South Africans can be HIV positive. Understanding another culture is harder than I thought.

In Pretoria I spent four months working on this study. It took an additional seven months to complete this master thesis. It is sometimes frustrating to know that what I was working on could hardly be helpful in ending or even controlling the cruelties of HIV/AIDS. However, after reading the recently published National Strategic HIV/AIDS plan 2007-2011 and getting informed about the medical breakthroughs on AIDS drugs, I got more positive in believing that AIDS can be put to stop! One could consider this thesis to be only a little tiny pebble stone into the big HIV river. Hopefully bigger stones are found in the future to change the bed of this river for good.

I conclude this preface by thanking the most important persons responsible for the realization of this thesis. Carel Jansen for his critical though much appreciated comments on every chapter of this thesis. In spite of your busy schedule, I thought you always had time for helping me out. Piet Swanepoel for enthusiastically generating ideas for this thesis with me and sharing your interesting views and immense knowledge on HIV/AIDS and VCT communication. Elsabé Viljoen for graphically designing the experimental brochures for this study. Anne Loohuis, with whom I experienced every bit of this South African adventure. I was very glad to be able to fall back on you whenever the ‘thesis stress’ came in. And last but not least, thanks mam and pap for being the great mum and dad you are!
Summary

To increase Voluntary Counselling and Testing (VCT) uptake among South Africans, communication interventions are designed in many forms in South Africa. When looking specifically at the design of VCT brochures, they are most often not supported by any theoretical research (Swanepoel, 2006, Bartholomew, 2001). In addition, hardly any experimental research exists on the effectiveness of the HIV/AIDS brochures in South Africa; in other words, the actual impact of most brochures remains unknown. This master thesis is part of the EPIDASA program which tries to improve this situation by studying the Effectiveness of Public Information Documents on HIV/AIDS in South Africa. This experimental study was designed to get more insight into the influence of the presentation structure of arguments for or against anti-retroviral treatment (ART) in an HIV/AIDS document, on relevant beliefs, attitudes, and intentions towards VCT of South African students. It was expected that when presenting South African students with a measure to cope with a possible positive outcome of an HIV test, the fear for the negative consequences of HIV would decrease and students would be more willing to get tested for HIV.

Before the experiment was carried out, a content analysis of a number of South African VCT brochures was conducted, to get more insight into the design of existing South African VCT brochures. Based on the results of the content analysis and the existing VCT brochure ‘Get tested or HIV – Higher Education HIV/AIDS Programme’, two experimental brochures were designed. In experimental brochure A the disadvantages of ART were presented separate from the advantages. In experimental brochure B, the disadvantages of ART were presented as a rebuttal (based on the ideas of Toulmin) in the argumentation scheme on ART. A total of 100 South African students participated in the experiment (50 students received experimental brochure A and 50 students received experimental brochure B). The experimental brochures were distributed over an equal number of males and females and an equal number of black and white students.

Results showed no significant differences between the mean scores of students who read experimental brochure A and those who read experimental brochure B when it came to their beliefs, attitudes, and intentions towards VCT. Possible explanations for this outcome might be the limited scope of the differences between the two experimental brochures. The content of the two experimental brochures had to be as similar as possible and limited differences were a necessity to ensure that effects from the experiment could only be attributed to the
presentation structure of the argument. However, by creating minimal differences in the experimental conditions, minimal effects were to be expected. Moreover, since the experimental text was only about a fifth part of the total VCT brochure, the difference between the experimental brochures did not clearly emerge. For future experimental studies on the presentation structure of arguments, it is recommended to create more obvious differences between the two experimental texts.

A significant overall difference was found between the mean scores of black and white students on their intention to get tested and on their perceived self-efficacy towards VCT. Black students showed a higher intention to get tested for HIV than white students, but they perceived their self-efficacy towards ART as lower compared to white students. These outcomes may be explained by the social and economical position of black and white students in South Africa. White students might still consider HIV to be an illness only black people are susceptible to and therefore they revealed a low intention to get tested for HIV in this study. In addition, due to their higher economical status, white students might think it is easy for them to get anti-retroviral treatment when being diagnosed HIV positive, compared to black students.

Another significant overall difference was found between the mean scores of male and female students on the perceived severity of HIV/AIDS. Male students considered the severity of HIV to be higher than female students. Furthermore, female students considered the argument ‘The response-efficacy of ART is high, although it causes side effects’ to be more convincing than male students. The assumption can be made here that since female students found the argument on the response-efficacy of ART more convincing than male students, females were more confident in averting HIV when being diagnosed HIV positive and therefore the perceived severity towards HIV of female students was lower compared to male students. Further research on this topic seems worthwhile.

An interaction effect on the persuasiveness of the experimental brochures was found for past experiences of students and the experimental brochure that students read. In the group of students who read experimental text version A (in which the disadvantages of ART were presented separate from the advantages) a large difference was found regarding the evaluation of the persuasiveness of the experimental brochure between students who have had an HIV test and those who had not had one. In the group of students who read experimental text version B (in which the disadvantages of ART were presented as a rebuttal) the evaluation scores of the persuasiveness of the experimental brochure were hardly different for students who had and those who had not had an HIV test in the past. This
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outcome can be explained by the idea that students who have had an HIV test before, have already gathered information on HIV, VCT, and ART and may therefore hardly be mislead by argumentation that masks the disadvantages of ART (as is the case with using a rebuttal to present the disadvantages of ART). Students who have had an HIV test before may appreciate an honest and direct presentation of advantages and disadvantages of ART more when compared to students who have not had an HIV test before (and who might not have searched for information on VCT, HIV, and ART). Therefore, students who have had an HIV test before, may consider experimental brochure A (in which the disadvantages of ART are presented separate from the advantages) to be more persuasive than experimental brochure B (in which the disadvantages of ART are presented as a rebuttal). Further studies should investigate if this is indeed the case.

Finally, results showed that the perceived susceptibility to HIV, the perceived response-efficacy of ART, and the attitude towards VCT correlated positively with the intention to go for VCT. Thus, when developing VCT educational material that aims to change the intention of South African students towards VCT, it seems wise to include information that appeals to the perceived susceptibility to HIV (focussing both on black and especially white students), the perceived response-efficacy of ART (especially to increase the perceived response-efficacy of ART among male students, which, consequently, might lower their perceived severity of HIV) and the attitude towards VCT. In addition, it should become clear from the information in VCT educational material, that ART is available to every economical and social class in the South African society.
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1. Introduction

AIDS poses a severe threat to the world health. In 2006 there were, according to UNAIDS, 39.5 million people living with HIV all over the world. Each year 2.9 million people are dying from this disease. Next to that, more and more people get infected with the HIV virus. In 2006 there were 4.3 million persons newly infected with HIV (UNAIDS, 2006). The country that is hit most hard by the HIV virus is South Africa, with a total number of about 5.5 million HIV infected persons. There is no proof that this number of infected persons is decreasing in South Africa.

The most important strategy that has been chosen to try to put an end to the spread of the HIV virus, is promoting Voluntary Counselling and Testing among the inhabitants of high risk countries (WHO, 2003). The choice for this strategy is based on the fact that people who are unaware of their HIV status, are the main cause of the increasingly growing number of HIV infections in South Africa. Furthermore, in order to increase the effectiveness of a treatment, it is of great importance that people are aware of their HIV status in an early stage of the disease. In addition, pregnant females who are aware of their HIV status can minimize the chances of passing the virus onto their unborn child, by taking action before and after birth.

To increase the test rates among South Africans it is important to provide information and education on Voluntary Counselling and Testing (VCT). There are several media tools which can be used to provide information on VCT and other health topics to different target groups. According to Nieuwboer (2006), students valued a brochure most positively as a medium to provide information concerning Sexual Transmitted Diseases. However, little is known about the actual effectiveness of brochures and the different text strategies that can be used in VCT information brochures (Swanepoel, 2006). What is known, is that the existing VCT information campaigns did not result in the aimed effects on the testing behaviour of South Africans (Grunseit & Aggleton 1998, Sherr et al. 1999, Ivens & Sabin, 2006). The National Household Survey of 2005 (Shisana et al., 2005) indicated that only 30.5% of the South Africans have had an HIV test. For the majority of the population this means that their HIV status is still unknown.

The most important reason for not having had an HIV test, is the low risk perception of most South Africans (UNAIDS, 2006; Shisana et al., 2005). They are convinced of their insusceptibility of contracting HIV/AIDS, eventhough it is estimated that 10.8% of the South African population is HIV positive. With regard to gender and ethnicity, the HIV/AIDS
prevalence is highest among females and Africans in the age group 20-34 (Shisana et al., 2005)

Another barrier to go for Voluntary Counselling and Testing is the fear of negative and life-changing consequences of a positive result (Boswell & Baggaley, 2002, Barth et al., 2002, Peltzer et al., 2002, Day et al., 2003). These negative consequences can be divided into physical, mental, social, and economical consequences (Swanepoel, 2006). Fear of social consequences like stigma and discrimination is enormous (Kalichman& Simbayi, 2003; Van Dyk & Van Dyk, 2003; Ogden & Nyblade, 2006; Day et al 2003), especially in a culture where ‘Ubuntu’ (‘I am, because we are’) plays a very important role in social daily life. Feelings of shame and guilt are common among HIV positive South Africans (Kalichman & Simbayi, 2003), because a positive result does not only affect you; it also damages the reputation of the family. According to Van Dyk & Van Dyk (2003) the fear of the reaction of relatives and friends is a major barrier for one to learn about or disclose one’s HIV status. Being neglected and disowned by family, the loss of security, shelter, food, and relationships and even violence and murder are feared when disclosing one’s HIV positive status.

Furthermore, many people are under the impression that being HIV positive means the end of their lives. This fatalistic assumption is not only caused by the consequences of stigma, but is also kept alive by the lack of medicines that can really cure an HIV infection. An HIV positive result may only bring about depression and may even result in the opposite effect of not taking care of oneself at all (Van Dyk & Van Dyk, 2003) However, there are medicines (anti-retroviral medicines) that can slow down the replication of HIV in the blood, which can lead to a healthy life for years. Research of Sherr et al. (1999) indicates that people who received information on these anti-retroviral medicines, had a higher intention to get tested for HIV. After all, a positive result does not immediately mean the end of a life.

A well-considered AIDS policy and the availability of anti-retroviral medicines will have a positive influence on the testing behaviour of the population, specially in a country like South Africa. However, the South African AIDS policy is under fire, not only abroad but also in South Africa itself. This became apparent once more during the 16th Aidsconference held in Toronto in 2006. There, the minister of health, Dr. Manto Tshabalala – Msimang displayed garlic, beetroot, South African potato, and lemon as medicines to combat the HIV virus. The composition of the stand caused great commotion, since it indicated once more the ignorant attitude of the South African government towards anti-retroviral medicines.
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Obviously, with the international pressure and the problems rising through the growing number of AIDS infections, the South African government takes action against the AIDS epidemic. On 12 March 2007 the South African government published a remarkably outspoken report (National Strategic AIDS Plan 2007-2011), in which they admitted that in the past years they did not effectively combat the spread of HIV in South Africa. Problems occurred on the organisational side of the National Strategic AIDS Plan of 2000-2005. There was a lack of clear targets and a monitoring framework, poor coordination at the level of the South African AIDS Council (SANAC), and the implementation of programmes tended to be vertical, with some serious capacity deficits especially in rural areas (SANAC, 2007).

However, by recognizing the fallacies of the NSP of 2000-2005, the SANAC created two ambitious goals for the future. The National Strategic AIDS Plan 2007-2011 aims to reduce the number of new HIV infections by 50% by 2011. Next to that the NSP 2007-2011 aims to provide at least 80% of the HIV positive persons with anti-retroviral treatment.

Four priority areas have been formulated with several sub issues to successfully execute the NSP 2007-2011. Those four priority areas are: ‘Prevention’, ‘Treatment, care and support’, ‘Human and legal rights’ and ‘Monitoring, research and surveillance’. The priority area ‘Treatment, care and support’ is closely related to the goals of this study. Important sub issues that have been included under this area are: ‘increasing the coverage to voluntary counselling and testing and promote regular HIV testing’, ‘increasing the retention of children and adults on ART’ and ‘providing an appropriate package of services that includes wellness, opportunistic infections management, ART and nutrition to children and adolescents who are HIV positive’ (SANAC, 2007). These areas and sub goals are founded on an extensive executing plan. General guiding principles are formulated to support this executing plan, of which an important principle is effective communication (SANAC, 2007). Publishing VCT brochures is one way to communicate the goals of this plan and to inform South Africans about the AIDS problem. The problem with these brochures however, is that they are mostly based on the common sense of the author and are not supported by any theoretical research (Swanepoel, 2006, Bartholomew, 2001). In addition, there is hardly any research on the effectiveness of the HIV/AIDS brochures in South Africa; in other words, the actual impact of most brochures is unknown.

This present study aims to get more insight into the design of effective health messages. There are a number of theories available which can support the design of effective health communication campaigns on HIV/AIDS and VCT. The Integrated Model of Behavioral Prediction depicts the most important of these theories (Fishbein & Yzer, 2003). The Integrated Model of Behavioral Prediction is comprehensive due to the integration of several
leading health behaviour models. The Integrated Model of Behavioral Prediction will be discussed in the following paragraph.

1.1 Integrated Model of Behavioral Prediction

The Integrated Model of Behavioral Prediction indicates the specific beliefs that need to be addressed when trying to change a given behaviour. These beliefs are derived from other theories which try to model and predict health behaviour. These theories are the Health belief Model (Janz & Becker, 1984, Rosenstock, 1974), Social Cognitive Model (Bandura, 1977, 1986, 1997) and the Theory of Reasoned Action (Fishbein & Ajzen 1975, Ajzen & Fishbein, 1980). Three important determinants that stem from these theories are proven to be of influence on the intention to perform a given health behaviour. These determinants are incorporated in the Integrated Model of Health Prediction as ‘proximal’ determinants. The first proximal determinant is a person’s attitude towards a given health behaviour, which is based upon beliefs concerning positive and negative outcomes of performing this behaviour. The perceived norm is the second important determinant in the Integrated Model to predict behavioural change. The perceived norm is based upon opinions concerning a given health behaviour of others in the close social environment of a person; these others support (or do not support) the decision to perform a given behaviour or already perform (or do not perform) the given behaviour themselves. Whether or not this perceived norm predicts the execution of a health behaviour, depends on the motivation to comply with these opinions of others. The third proximal determinant in the Integrated Model is the self-efficacy, which is based on the beliefs of a person to be able to perform a given health behaviour under a variety of circumstances.

In the three models mentioned above (Health Belief Model, Social Cognitive Theory and Theory of Reasoned Action), there is another important determinant of influence on the prediction of health behaviour, namely risk perception. In the Integrated Model of Behavioural Prediction this determinant is incorporated as a ‘distal’ variable, because influence of the perceived risk on the intention and behaviour to perform a given behaviour is found to be inconsistent in previous research (Fishbein & Yzer, 2003).
As can be seen in figure 1, intention is an important predictive determinant of performing a particular behaviour. When the intention to act has been formed, however, this does not automatically imply that the behaviour will be actually performed. There are two types of barriers which can hinder performing a specific behaviour when the intention is present, namely a lack of skills and abilities and environmental constraints.

When creating a health message it is important to have an insight into the intention of the target group. If the intention is formed, but the behaviour is not performed, the author of a health message should focus on lowering the environmental barriers and strengthen the skills and abilities of the reader. Then, the probability that the reader will perform a given behaviour will increase. When no strong intention to execute a specific behaviour is formed, the author of a health message should focus on proximal variables like the attitude, social norm or self-efficacy towards a given behaviour.

It is important to recognise that the relative influence of these three determinants on the intention to perform a specific behaviour will depend upon both the behaviour in question and the population or culture being considered (Fishbein & Yzer, 2003). For example, getting tested on HIV will be primary determined by other psychosocial factors from the Integrated Model of Behavioral Prediction than in a situation where one decides to get its blood pressure measured. The same counts for populations, which can differ in the degree to which they consider the three determinants (attitude, subjective norm and self-efficacy) of
major influence on the intention to perform a specific health behaviour. When creating a health campaign it is important to acquire insight into the degree to which attitude, social norms or self-efficacy determine the intention to perform a given behaviour for a specific population. (Fishbein & Yzer, 2003).

Following this, the model incorporates ‘distal variables’ which have their influence on performing a given behaviour. When creating a health message one should consider the demographic variables, culture, attitudes towards targets, personality, moods and emotions, other individual differences and exposure to media and other interventions (Fishbein & Yzer, 2003). How these determinants influence the behaviour is not clear, since support for the role of distal variables on a given health behaviour is inconsistent. ‘According to the model, these types of variables play primarily an indirect role in influencing behavior’ (Fishbein & Yzer, 2003).

1.2 Determinants of the Integrated Model of Behavioral Prediction as predictors for VCT behaviour

The Integrated Model of Behavioral Prediction can be very well used to predict Voluntary Counselling and Testing (VCT) behaviour among South Africans. Many studies have used the determinants of the Integrated Model of Behavioral Prediction (IMBP) to get more insight into VCT behaviour of South Africans and in addition, changing VCT behaviour of South Africans. In this study, specific attention is paid to the VCT behaviour of South African students. The National Household Survey 2005 indicates that HIV/AIDS prevalence is highest among the age group 20-34 (It is estimated that 21.1% of the South Africans in the age group 20-34 is HIV positive). Since South African students are a major part of this age group, it seems justified to especially focus on students in this study.

In this paragraph every single determinant of the IMBP will be discussed and the predictive power of the determinants will be demonstrated, by linking the outcomes of the studies on the VCT behaviour of South African students to the intention to go for VCT, skills, environmental barriers, attitude, perceived norm, self-efficacy and the distal variables. In addition, studies on VCT behaviour are discussed which do not specifically aim at South African students, but focus on either South Africans or students.
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**Behaviour**

To start with the VCT *behaviour* itself, the National Household Survey (2005) shows that only 30.5% of the South Africans have had an HIV test. In the age group 15-24, only 20.8% South Africans have had an HIV test, in the age group 25-49, 43.4% have had an HIV test and 17.7% of the South Africans older than 50 years have had an HIV test. This means that for the majority of the South Africans, and especially young students, their HIV status is still unknown. It is important to see whether the determinants from the Integrated Model of Behavioral Prediction have any influence on the VCT behaviour among South African students.

**Intention**

The importance of *intention* to go for VCT in predicting behavioural change is shown by Peltzer et al. (2002). They studied the attitudes towards hiv-antibody testing among university students in four African countries (Nigeria, South Africa, Uganda and Zimbabwe). Peltzer et al. (2002) found that a positive attitude towards hiv testing heavily depends on the intention to go for an hiv test. However, the direct influence of intention on behaviour has not been subject of study in VCT research among South Africans. Presumably this is due to the fact that it is not easy to create a research setting where both the intention and behaviour concerning VCT can be examined. Nevertheless, there are studies which give reasons why people do not act on their intention to go for VCT. In the Integrated Model of Behavioral Prediction these reasons are indicated as a lack of *skills* and *environmental constraints*. A report from Family Health International by Boswell and Baggaley (2002) on VCT and young people showed that students experience the availability and the acceptability of VCT services, including legal issues and waiting time at the VCT testing site as reasons not to get tested on HIV. A study by Simbayi and Shisana (2003) indicates that the accessibility of the testing site had a significant influence on the testing behaviour of South Africans.

Many studies can be found on the influence of the three ‘proximal’ determinants of the Integrated model of Behavioral Prediction on the intention to go for VCT. In this study the behavioural beliefs and outcome evaluations will be discussed together with the attitude, the normative beliefs and motivation to comply with these beliefs will be discussed together with perceived norm and efficacy beliefs will be discussed together with self-efficacy, since these factors are closely related to one another and no distinction is made between the beliefs concerning the proximal factors and the actual proximal factors in the studied articles.
**Attitude**

First of all the predictive power of the *attitude* on VCT behaviour will be discussed. Hou and Wisenbaker (2005) used the Health Belief Model to get more insight into the intention of (American) students to go for an HIV test. The perceived advantages and perceived disadvantages of HIV testing were found to be predictors of the intention of students to go for an HIV test. Especially the perceived advantages of an HIV test clearly influenced the intention to go for VCT. Translating this to the Integrated Model of Behavioral Prediction, the perceived advantages and disadvantages can be seen as the behavioural beliefs and outcome evaluations which are of influence on the attitude towards VCT. In addition, Zak-Place and Stern (2003) found that the response-efficacy was of influence on the testing behaviour of students. Zak-Place and Stern (2003) see response-efficacy as a consideration of the pros and cons of a given health behaviour, which can also be compared to the behavioural beliefs and outcome evaluations of the Integrated Model of Behavioral Prediction. To give an example: the authors indicate that when the negative consequences of HIV testing are perceived to be less important than the positive outcomes of an HIV test (like getting medical support in time when discovering a positive HIV status in the beginning of the disease), then the intention to go for VCT among students would increase. This is in line with the conclusions of Boswell and Baggaley (2002) who show that the perception of the consequences of living with HIV forms a barrier to go for VCT. Day et al. (2003) show in their study into HIV testing among South African mineworkers that the fear of testing positive and the potential consequences of a positive result, like disease and death, were the main barriers to get tested for HIV.

**Perceived norm**

Research on VCT among South Africans also indicates that the *perceived norm* is of influence on the intention to get tested on HIV. Simbayi and Shisana (2003) found that the possibility to discuss an HIV test with your partner had a positive influence on the testing behaviour of South Africans. In addition Peltzer et al. (2002) indicate that next to ‘general concerns’ and ‘fears’, ‘trust and support’ are closely associated with the intention to go for an HIV test and having had an HIV test. If African students responded positively on questions like ‘My friends would support my decision to get an HIV test’, ‘I could talk with friends about making the decision to get an HIV test’ or ‘My family would support me if I decided to get an HIV test’, the attitude towards HIV testing is higher. The influence of the perceived norm on going for VCT has not found to be a topic of study in other articles on testing-attitudes, intention or -behaviour among South Africans or students.
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Self-efficacy
The third proximal variable, **self-efficacy**, is found to be of influence on the testing behaviour among South Africans and other populations in many studies. For example Simbayi and Shisana (2003) found that self-efficacy concerning VCT had a significant influence on the testing behaviour of South Africans. The results of a study by Zak-Place and Stern (2003) show that especially self-efficacy among students is an important predictor of testing behaviour. In addition, Hou and Wisenbaker (2005) found that the self-efficacy to get tested on HIV had an influence on the testing behaviour of students. A positive correlation proved to exist between the intention to get tested and the self-efficacy towards an HIV test; the higher the perceived self-efficacy towards VCT, the higher the intention of students to get tested on HIV.

Distal variables
Several **distal variables** are proven to be of influence on the testing behaviour of South Africans can be found in VCT studies. Peltzer et al (2002) indicate that the attitude towards HIV testing is positively influenced by knowledge about HIV, having had a sexual partner in the last 12 months, personally knowing someone with HIV and having had an HIV test before. Attitude towards HIV testing becomes positive when a person is knowledgeable about HIV. Zak-Place and Stern (2003) found that gender also influences on the intention to test on HIV; female students had a higher intention to go for VCT than their male colleagues. Simbayi and Shisana (2003) found that having received a high education had a positive influence on the testing behaviour of South Africans.

An important distal variable that is found to be of influence on the testing behaviour is risk perception. Peltzer et al. (2002) indicate that the perceived unlikelihood of being exposed to HIV is one of the main reasons of African students for not having had an HIV test. This is in line with findings of Hou and Wisenbaker (2005) and Boswell and Baggaley (2002) who show that a low risk perception has a negative influence on the testing behaviour of students.

Fear of the consequences of an HIV positive status is considered to be a distal variable of influence on the testing intentions South Africans. Peltzer et al. (2002) show that a reason for not having had an HIV test among African students was ‘being afraid of finding out about a positive status’ and ‘not wanting to think about HIV or being HIV positive’ (See also Day et al., 2003).

Stigma is also considered to be an important distal variable which influences the testing behaviour among South Africans and students. Boswell and Baggaley (2002) indicate that
Get the message - Get tested for HIV

fear of being labelled and stigmatised by family, friends and communities is considered as an important barrier for students to get tested on HIV. Students worried about confidentiality and fear that results would be shared with parent(s) or partner(s) without their consent. In addition, Day et al. (2003) show that potential consequences like stigma and discrimination form a main barrier to get tested for HIV. Peltzer et al. (2002) indicate that having friends or relatives with HIV (which might increase the acceptance of HIV/AIDS and lowers stigma and discrimination) has a positive influence on the testing behaviour of South Africans.

The last distal variable to be discussed here is the perceived severity of HIV. Zak-Place and Stern (2003) found a negative correlation between the perceived severity of HIV and the intention to get tested for HIV. This did not correspond with the expectations of the researchers, who expected that a high perceived severity would result in a high intention to get tested on HIV. However, there are situations in which a high perceived severity can result in a low intention to get tested on HIV. This can be explained by the Extended Parallel Process Model of Witte (1998), which models the processing of a fear appeal message (persuasive communication that tries to scare people into changing their attitudes). The EPPM indicates that if a perceived health threat becomes severe and the receiver feels susceptible, adequate coping mechanisms have to be offered. The receiver will then start to control the health threat (danger control), which is exactly what a health communicator tries to realize. However, when no or inadequate coping mechanisms are offered, the receiver will reject the health message and defend himself or herself from getting more communication concerning the health topic (fear control) (Witte, 1998). Possibly, the unexpected negative correlation between the severity of HIV and testing intentions in the study of Zak-Place and Stern (2003) can thus have been caused by a combination of fear and the lack of trust in measures to cope with a positive outcome of the HIV test.

From this EPPM of Witte (1998) it thus seems to be important to hand measures to cope with a positive outcome of an HIV test to potential testees and that the knowledge of coping measures will influence the attitude and intention towards VCT. According to Boswell and Baggaley (2002) a reason for not getting tested on HIV are the ‘inadequate responses of health care workers, including counsellors, to effectively meet the HIV prevention, care and support needs of youth’. Day et al. (2003) investigated the influence of informing respondents about anti-retroviral treatment (ART) as a coping measure. Only 14% of the respondents indicated that they were more likely to get tested for HIV when ART was available. The greater part, however, responded that ART does not cure HIV/AIDS, therefore it was not of influence on their testing behaviour. The authors indicate that it is important to provide
people with more information on HIV care issues and that a vigorous community education programme concerning ART and its effects would increase the uptake of VCT South Africa. This is in line with the statement of Anderson (2002) of NAPWA (National Association of People with AIDS) who argues that a perceived lack of care and treatment prevent people from getting an HIV test. Birdsell et al. (2004) come to the same conclusion when investigating the problems South African people are confronted with when getting tested on HIV. One of the problems is the lack of knowledge about treatment and support when being diagnosed HIV positive. In addition, research of Sherr et al. (1999) showed that among British homosexual men ‘one of their reasons for seeking an HIV test was because of new treatments for HIV or because they believed it was better to treat HIV early’. Vermund and Wilson (2002) indicate that differences in attitude towards HIV testing depend on the community and the medical resources available to an HIV infected person. In prosperous countries, where HIV related medical assistance is available and people are aware of the benefits, the fear of negative consequences can be balanced. In third world countries however, a lack of benefits of an HIV test, may provoke the decision not to seek or accept VCT. Finally, Ruiz and Molitor (1998) found that females were more inclined to go for VCT after being informed on the medication to decrease the changes of transferring the HIV virus to their unborn child. (Also see Bond et al. (2005), Kellerman et al (2002) and Flowers et al. (2003)).

1.3 Important factors for creating effective VCT brochures

It can be concluded from studies among South Africans and students that a number of determinants from the Integrated Model of Behavioral Prediction indeed influence the testing intentions and behaviour. This suggests that when creating VCT information texts it seems justified to include the determinants that have proven to be of influence on the testing behaviour of students and South Africans into VCT information texts, in order to increase the persuasiveness of the brochure.

1.3.1 Intention

The focus in VCT information texts should especially be on changing intentions towards VCT, since research at the level of actual behavioural change would require a different and time consuming research strategy, which is not available for this study. In addition, other VCT studies among South Africans and students also focus on the intention to go for VCT and not on the actual behaviour of the target group. One also has to consider the difficulties that occur when trying to change skills and environmental barriers that prevent a person from
1.3.2 Attitude
When focussing in VCT brochures on the intention to go for VCT, three proximal determinants (attitude, subjective norm and self-efficacy) and many distal variables can be addressed. In this study the focus will be on the influence of the attitude towards VCT on the intention to go for VCT. Specific attention is paid to the influence of giving information about measures to cope with the negative physical consequences of HIV on the attitude towards VCT. Since South Africans have a great fear for the negative consequences of an HIV test, the focus in VCT brochures should be on providing information about how to cope with these negative consequences. When being informed about the positive consequences of the coping measures like ART and positive living and the importance of finding out an HIV status in an early stage of the disease to make these coping measures effectively work, the attitude towards VCT could change and this could lead to an increase of HIV test uptake among South Africans. (Birdsall et al., 2004; Sherr et al., 1999; Vermund & Wilson, 2002; Ruiz & Molitor, 1998; Bond et al., 2005; Kellerman et al., 2002 and Flowers et al., 2003). Since an increase in the intention to go for VCT is one of the main goals of VCT brochures and the attitude towards VCT has an important influence on the intention to get tested on HIV, it seems justified to especially focus on the attitude towards VCT.

1.3.3 Distal variables
When measuring the impact of providing information about measures to cope with the negative physical consequences of HIV on the attitude towards VCT, insight has to be acquired with respect to the perceived response-efficacy and the perceived self-efficacy of the coping measures. In addition, a number of distal variables will be the subject of study here, namely ‘ethnicity’ (black people seem to get tested on HIV more often than white people), ‘gender’ (female students go for VCT more often than male students), ‘perceived severity of HIV and its physical consequences’, ‘perceived susceptibility of HIV and its physical consequences’ and ‘experiences from the past’ (when having had an HIV test in the past, one is more likely to have an HIV test in the future). Since research among South Africans and in particular among South African students has indicated the influence of these distal variables on testing intentions and behaviour, these distal variables will be incorporated in this study as well (See Peltzer et al., 2002, Boswell & Baggaley, 2002, Day et al., 2003, Simbayi & Shisana, 2003 and Hou & Wisenbaker, 2005, Shisana et al., 2005). Note that in the conceptual model the distal variables are separated into two categories: individual
characteristics, e.g. the gender, ethnicity and past experiences of the student and the intermediate variables, e.g. beliefs about the perceived severity of HIV and its negative physical consequences, perceived susceptibility to HIV and its negative physical consequences, perceived response- and self-efficacy towards ART. The reason behind this division between individual characteristics and intermediate variables is that individual characteristics are fixed determinants which cannot be changed. These individual characteristics not only influence the attitude and intention towards VCT, but they can also influence the intermediate variables. In turn, intermediate variables are not fixed and cannot influence the individual characteristics. Therefore, dividing the distal variables into two categories seems justified. To conclude this section the conceptual model for this study, resulting from the literature discussed in this chapter, is presented in figure 2.

**Figure 2: Conceptual model**

### 1.4 Conditions for incorporating coping mechanisms in VCT brochures

From studies on VCT testing behaviour, it can be concluded that presenting potential testees with measures to physically cope with an HIV positive outcome could influence the attitude towards HIV testing as well as the intention to get tested. It can therefore be useful to incorporate these coping measures in VCT brochures, when trying to convince readers to get tested on HIV. However, writing about coping measures in VCT brochures is limited by legal and ethical guidelines from the World Health Organisation (WHO), referred to as *informed consent*. Paragraph 1.4.2 will elaborate on the meaning of informed consent and its
implications on creating VCT messages. But first the perspective of the South African government on measures to cope with the negative consequences of HIV will be discussed. For years the South African government has had problems with implementing ART (anti-retroviral treatment) and distributing ART in its country. This has its impact on presenting potential testees with information about ART and positive living. In paragraph 1.4.1 this topic will be further discussed.

1.4.1 Perspective of the South African government on measures to cope with HIV/AIDS

As indicated before, the AIDS policy of the South African government has been heavily criticized abroad but also in its own country. This has everything to do with the perspective from which the South African government until recently has regarded the AIDS problem. Butler (2005) aims to explain South Africa’s controversial HIV/AIDS policy from 1994 till 2004, by distinguishing two competing paradigms; the ‘nationalist/ameliorative’ paradigm and the ‘mobilization/biomedical’ paradigm. The South African government used to see the HIV/AIDS problem from the nationalist/ameliorative paradigm. This perspective focuses on poverty and considers palliative care, prevention, individual responsibility, traditional medicines and good nutrition as coping mechanisms to fight the AIDS epidemic (Butler, 2005). In western countries on the other hand, the ‘mobilization/biomedical’ paradigm gets more support. This paradigm stresses the importance of social mobilization, political leadership and anti-retroviral therapies. An example of a South African organisation which supports the mobilization/biomedical paradigm and fights for a broad distribution of anti-retroviral medicines, and thus opposes the policy of the South African government in HIV/AIDS is the Treatment Action Campaign (TAC).

These two perspectives on treatment of an HIV infection are not fundamentally inconsistent with one another (Butler, 2005). After all, next to using anti-retroviral medicines it is of great importance that an HIV positive person takes good care of his or her body and mind and receives healthy nutrition. Nevertheless the nationalist/ameliorative paradigm got more support by the South Africa government in the recent years. According to Butler (2005) reasons for this paradigm to prevail, find a basis in the ‘denialism behaviour’ of the South African government, that only since 2003 made anti-retroviral treatment (ART) available to its inhabitants. Before that time the government denied the effects of ART; Thabo Mbeki, the president of South Africa, even questioned the causal relationship between HIV and AIDS. The thought was that the multinational pharmaceutical companies wanted to make money out of sick people by providing ART and that therefore the western countries had created the assumption that HIV causes AIDS (Butler, 2005).
Nowadays the South African government is more willing to effectively tackle the HIV/AIDS problem, as can be seen from the National Strategic Plan (SANAC, 2007). The two major goals in this plan are to reduce the number of new HIV infections by 50% by 2011 and to provide at least 80% of the HIV positive persons with anti-retroviral treatment by 2011. However, a problem that occurred when implementing the national ART plan in 2003 and still remains unsolved is the fact that the human and financial resources needed to distribute ART can not be mobilized throughout the whole country. In the past this had to do with the ‘denialism behaviour’ of the South African government and the lack of political will to do something about the pressing HIV/AIDS problem (Butler 2005). Nowadays, with the introduction of a new five year plan, the South African government is more benevolent towards the implementation of ART in South Africa. But still, South Africa has to deal with a slow, bureaucratic governmental system which hinders scaling up the provision of ART. In addition, due to the centralist character of the South African government, decision-makers’ knowledge about the problems concerning the distribution of ART is limited and thus hinders their ability to effectively make decisions on this topic. Next to that, the emigration of 80.000 health workers between 1988 and 1997, health professionals drifting from the public to private sectors and from rural to urban areas, contributes to the shortage of human resources in the public health sector. To illustrate this shortage of human resources in the public health sector: during the implementation of the previous National Strategic Plan of 2000-2005, 12.000 new posts in the public health sector were created, while already 30.000 unfilled vacancies in the public health sector existed (Butler, 2005). Butler (2005) states that ‘in such conditions, the public promise to scale up from a few thousand to more than a million ARV recipients poses an evident political hazard’. In other words, when taking these problems together, it is not self-evident that ART will actually be available to 80% of the South Africans by 2011. This could also have implications for the development of VCT messages.

When creating VCT messages, one should not automatically assume that coping measures are available to all HIV positive persons in South Africa, as is the case in first world countries. Many South Africans are unknown with a coping measure like ART, due to the situation in the recent past (AIDS policy of 1994-2004, see Butler, 2005). In addition, the fact that the availability of ART is hindered by the lack of human, financial and organisational resources, may have made South Africans sceptical in believing that 80% of the HIV positive persons will actually receive ART. When developing VCT brochures, one should consider this perspective of South Africans, thoroughly explain the meaning and working of ART and try to take away the potential scepticism.
1.4.2 Informed consent

In a rapport of the World Health Organisation (2003), which informs about the new approaches to HIV testing and counselling, several legal and ethical principles are indicated to which HIV testing communication should adhere. The WHO indicates that HIV testing should be voluntary and that the choice of the individual should be respected. Next to the right to privacy and maintaining confidentiality, informed consent should play an important role in VCT messaging. To obtain informed consent and to be sure that every person receives sufficient information and understands the VCT information adequately, the WHO distinguishes three crucial principles to which VCT communication should adhere:

- Providing pre-test information on the purpose of testing, and on the treatment and support available, once the result is known
- Ensuring understanding
- Respecting the individuals autonomy

According to these principles of the WHO ‘the decision whether or not to go for an HIV test, must be based on a full understanding of the consequences of going for an HIV test’ (Swanepoel, 2006). All relevant information should be given to the potential testees to support their decision making. This also concerns treatment options in case of an HIV positive outcome. In line with these principles of the WHO on VCT communication is the Decision Aids Approach; a general approach to health promotion that critically determines the goals, design and the motivational efficacy of the messaging of health campaigns (O’Conner et al., 2005, Swanepoel, 2006). According to the Decision Aid Approach, which focuses on empowering persons rather than persuade them (O’Conner et al., 2005), ‘VCT texts should provide potential testees with good quality (accurate and detailed) information on treatment choices, based on the best and most up-to-date scientific evidence; to cover all aspects of treatment choice, including outcomes and uncertainties; to help people understand HIV/AIDS as illness; and what to expect if certain choices with regard to HIV-testing and treatment are made’ (Swanepoel, 2006). In addition to the guidelines of the WHO and the goals of the Decision Aid Approach, an extensive instrument for the design and evaluation of decision-making texts has been developed. This instrument is called the DISCERN-instrument and is created by the Division of Public Health and Primary Health Care of the University of Oxford in 1996 (Shepperd et al., 1996). The DISCERN instrument ‘has been designed to help users of consumer health information judge the quality of written information about treatment choices’ (Shepperd et al., 1996). The authors indicate that not only consumers can use this instrument. Also producers of health messages can use this instrument as a checklist. The key principles of the DISCERN instrument to which a reliable
and high quality health messages on VCT should adhere are the following (Swanepoel, 2006):

1. Information on the source of the VCT messaging, the source’s credibility (expertise, trustworthiness) and information which could indicate a potential for bias (e.g. cooperation of the source with specific medical companies and possibly collaboration in promoting specific treatment; using emotional language and fear tactics)
2. An unambiguous identification of the topic, goal and audience of the messaging
3. Information on the scientific accuracy of the information on VCT or other measures (ART, counselling, positive living, etc.) to cope with the negative consequences of HIV/AIDS (i.e. information on the resources consulted for major claims/evidence) and its recency (publication dates and dates of revisions)
4. Information on proposed measures of action (e.g. VCT, antiretroviral therapy, anti-discriminatory laws, positive living, etc.) to cope with the negative consequences of HIV/AIDS (i.e. a description of how the treatment/action/measure works/what it entails; its benefits/advantages, response efficacy disadvantages, costs, risks and areas of uncertainty; its effects on overall quality of life)
5. Information on what would happen if HIV-infection is not treated (negative consequences of not going for VCT or loss-framing)
6. Alternative ‘treatments’ (therapies or actions/measures) to cope with the negative consequences of HIV-infection, with an indication of how the treatment/action/measure works/what it entails; its benefits/advantages, response efficacy disadvantages, costs, risks and areas of uncertainty; its effects on overall quality of life
7. Support for the decision-making process (i.e. listing additional sources of information on HIV/AIDS, VCT, ART, etc; indicating whom to contact to assist in the decision-making process on going for VCT (experts, informal support network, etc.); and indicating how to go about deciding on a course of action; for example, what variables to take into account in the decision-making process)

When giving special attention in VCT brochures to describing physical consequences of HIV and the measures to cope with the physical consequences, point four of the DISCERN-instrument can provide specific guidelines to describe these topics. By giving potential testees information on for example the effects, benefits, disadvantages, costs and risks of the proposed measures of action to cope with the negative consequences of HIV/AIDS, potential testees can make a well considered choice regarding VCT.
Since the DISCERN-instrument only serves as a checklist which indicates the topics that should be addressed in a reliable and high-quality health message, it is interesting to search for a suitable persuasive message strategy which translates the DISCERN guidelines into brochures. A message strategy can be seen as a way to present and frame the content of a message, in the case the thematic categories in a VCT text (Swanepoel, 2006). Based on informed consent (WHO, 2003) and the Decision Aid Approach, a reliable and unbiased message strategy needs to be found, that informs the reader whether or not to execute the suggested actions. However, VCT brochures do not only aim to inform readers about VCT; these texts also try to persuade readers into getting tested on HIV. Therefore a persuasive message strategy should be used in VCT texts. However, many persuasive message strategies do not objectively provide information on treatment options. Examples of these persuasive message strategies that can be used in texts are loss framing, mitigating the seriousness of the negative consequences, hedging etc. It is tempting to use these persuasive strategies in health communication. However, not only the legal and ethical principles of the WHO prevent an author from using these persuasive strategies; according to Swanepoel (2006) signs of a persuasive intent of the source of a health message may even ‘elicit reactance and counter argumentation’. Therefore it is useful to find a persuasive message strategy, which can create a balance between informing and persuading. This persuasive message strategy should convince readers to get tested on HIV, but should not provoke counter argumentation and a feeling of untrustworthiness of the source.

A message strategy that can be used to create a balance between informing and persuading is argumentation. Argumentation can be used to strengthen the credibility of the health message and to persuade the reader into performing a given health behaviour. On the other hand, when specifically writing about measures to cope with an HIV infection and treatment options, argumentation can be used to inform a reader and give an unbiased view upon, for example, ART, which will be in line with the principles of the WHO concerning VCT messaging. In the next section more insight will be given in the different kinds of argumentation and its effectiveness in communication.

1.5 Argumentation

To improve the persuasiveness of VCT information texts, it is interesting to see which persuasive message strategies influence the acceptance of a health message. However, little is known about the effects of several persuasive strategies, including argumentation, on health related behaviour (Swanepoel 2006).
In this study the focus will be on argumentation used as a persuasive strategy in VCT texts. Van Eemeren et al. (1996, in Van Eemeren ed. 2001) give the following definition of argumentation:

‘Argumentation is a verbal, social and rational activity aimed at convincing a reasonable critic of the acceptability of a standpoint by advancing a constellation of proponents justifying or refuting the proposition expressed in the standpoint’

From this definition it becomes clear that by using argumentation, a sender tries to defend his or her standpoint to a receiver, who may doubt the acceptability of the standpoint or has a different standpoint (Van Eemeren ed., 2001). By using at least one or more justifications for the standpoint, the sender aims to convince the receiver of the soundness of the standpoint. A reasonable receiver will evaluate the statements of the sender and decide whether or not the argumentation is sound.

Many studies have been published on the typology of argumentation and many theories from different authors exist, which all in their own way propose when an argument should or should not be considered as sound. It goes beyond the scope of this study to extensively discuss these differing argumentation theories. All though the study of argumentation is not as simple and clear-cut as suggested here, it has been chosen to depict one typology as a point of departure: the typology of Schellens (1985). Schellens (1985) makes a clear distinction between several argumentation schemes. This distinction is also used in other studies on health communication (Schellens & De Jong, 2004) and in leading textbooks.

1.5.1 Argumentation schemes

Schellens (1985) makes a distinction between restricted (bound) and unrestricted (unbound) argumentation schemes. Unrestricted argumentation schemes are not limited to a conclusion or position of one particular type, but have a wider application (Schellens & De Jong, 2004). Examples of unrestricted argumentation schemes are argumentation from authority, argumentation from example and argumentation from analogy. Restricted argumentation schemes are “those schemes whose application is limited to a certain type of position or conclusion: some schemes lead to a conclusion of a descriptive kind, others to a conclusion of a normative kind”. This limitation to a certain type of position or conclusion becomes clear when discussing the three restricted argumentation schemes: regularity-based argumentation, rule-based argumentation and pragmatic argumentation.
In *regularity-based argumentation*, argumentation is given for a standpoint on the basis of a regularly recurring empirical link (Schellens & De Jong, 2004). In most cases this link is causal of nature and may be used to support predictions or explanations: if one situation occurs it is certain (or probable) that a given other situation also occurs. There are two types of regularity-based argumentation: argumentation from cause to effect (based on a cause, the occurrence of a given effect is predicted) and argumentation from effect to cause (to explain the occurrence of a given effect in the past). For each type of regularity-based argumentation an example is presented below.

**Regularity-based argumentation from cause to effect:**
“I am HIV positive (A), so my CD4 count will probably decrease (B)”

*Explanation*
A (generally) leads to B  
A is the case  
Conclusion: B is (probably) the case

**Regularity-based argumentation from effect to cause:**
“My CD4 count has decreased (B), so probably I am HIV positive (A)”

*Explanation*
B is the case  
A (generally) leads to B  
Conclusion: A is (probably) the case

In *rule-based argumentation*, arguments are given for a proposition of a normative nature (Schellens & De Jong, 2004). A distinction is made by Schellens (1985) between evaluative and prescriptive rule-based argumentation. In argumentation from *evaluative* rules, arguments are given for evaluating a situation favourably or unfavourably. In argumentation based on *prescription* (or rules of conduct), arguments are given for the decision about the appropriateness or acceptability of a certain behaviour. For each type of rule-based argumentation an example is presented below.

**Evaluative rule-based argumentation**
“It is admirable (E) that she is keeping up the strict regime of ART (A).”
**Explanation**

If A is the case, then an evaluation E is justified.

A is the case

Conclusion: evaluation E is justified.

**Prescriptive rule-based argumentation**

“If you are HIV positive (A), you should have regular medical check-ups (C)”

**Explanation**

If A is the case, then conduct C is required.

A is the case

Conclusion: conduct C is required.

Schellens (1985) defines *pragmatic argumentation* as argumentation based on advantages and disadvantages. In a simple form, pragmatic argumentation recommends or discourages an action or behaviour based on a single positive consequence (advantage) or negative consequence (disadvantage). Schellens (1985) states that pragmatic argumentation can be based on regularity or on rules (evaluative or prescriptive). When arguing that a certain action has to be performed, one has to prove that this specific action leads to a certain goal. The arguer then makes the assertion that this conditional cause to effect relation is based on regularity; when the one phenomenon appears it is certain (or most likely) that the other phenomenon also appears. This regularity can be used as a justification of the reasoning. On the other hand, pragmatic argumentation is based on the assumption that from a number of alternatives, the action which yields the most benefits at the smallest costs will be preferred (prescriptive rule). Whether or not the effect of an action is considered to be a benefit or a cost, is based on evaluative rules. Since pragmatic argumentation is based on regularity as well as on rules, Schellens (1985) discusses pragmatic argumentation as a separate argumentation scheme. An example of pragmatic argumentation is as follows:

**Pragmatic argumentation**

“If you are HIV positive, you should use anti-retroviral treatment (A) because it prolongs your life (B).”

**Explanation**

Action A leads to B

B is desirable

Conclusion: A is desirable
Schellens and Verhoeven (1994) indicate that when disadvantages of a given action occur, they should not undo the advantages. Next to that no alternative should exist which yields the same desired consequences at lower costs. Finally, Schellens and Verhoeven (1994) indicate that an action should be acceptable and performable. The authors propose the following evaluation scheme to check whether the criteria of a valid pragmatic argument are met:

**Evaluation questions:**

1. Is B indeed desirable (check with evaluative and prescriptive rules)
2. Does performing A indeed lead to B or are there factors present or probable that could hinder this (Is action A effective?)
3. Is action A performable?
4. Is action A acceptable?
5. Does B, in combination with possible other advantages of A, outweigh the costs and disadvantages of A?
6. Is A the most advantageous way to accomplish B, in other words, the way with most advantages at the lowest costs and disadvantages? (Is action A efficient?)
7. Is the decisiveness of the conclusion in accordance with the answers to question 1-6?

When applying this evaluation scheme on a pragmatic argument, it can be determined whether an argument may be considered valid or not. Note from question 5 that an argument can be supported by more than one advantages or disadvantages.

In their study on argumentation schemes in Dutch persuasive public information texts, Schellens and De Jong (2004) found that out of the three argumentation schemes (regularity-based, rule-based and pragmatic argumentation), pragmatic argumentation is the one most often used in persuasive public information texts. Schellens and De Jong (2004) further found that the desirability or undesirability of a consequence in pragmatic argumentation most often remains implicit. This also applies to the viewpoints and conclusions, which usually remain implicit in the studied persuasive information brochures. Schellens and De Jong (2004) state that by implicitly indicating the desirability or undesirability of a conclusion, the informational character of a persuasive public information text increases, which could lead to an increase of the credibility of the source (Schellens and De Jong, 2004)

In their conclusion Schellens and De Jong (2004) expect pragmatic argumentation to be a useful strategy to change attitudes. This is in line with the vision of Swanepoel (2006), who
states that an important strategy to influence people’s attitudes towards HIV testing is to use pragmatic argumentation.

1.5.2 Structuring pragmatic arguments

It is important to note that pragmatic argumentation does not occur in persuasive public information texts in one general way; the way that (the structure of) a pragmatic argument is presented may differ in persuasive public information texts. The Toulmin model (1958) may be used as a starting point for the analysis of the way that (the structure of) a pragmatic argument is presented in a specific text.

The Toulmin model assumes that a sound argument at least includes a claim. This claim should be justified by giving data on which the claim is based. If it is not clear in which way the data supports a claim, then a warrant has to be made explicit. The warrant can be seen as a rule without exceptions and forms, so to speak, a bridge between the claim and data. When a warrant is not accepted right away, a backing can be added to the argumentation to support the cogency of the warrant. Exceptions on the warrant exist can also exist; in that case the claim has to be weakened by adding a qualifier. If a qualifier is added, then a rebuttal has to be formulated, which makes exceptions on the decisiveness of the warrant.

An argument including these six elements can be pictured as in the following example:

\[
\text{ART strengthens your immune system (D)} \quad \text{presumably (Q)} \quad \text{with ART you can live a longer life (C)} \\
\text{because} \quad \text{unless} \\
\text{A strong immune system extends your life (W)} \quad \text{You do not take the anti-retroviral medicines regularly and skip doses (R)} \\
\text{There is scientific proof that ART slows down the replication of the HIV virus in the body, which makes the immune system stronger. (B)}
\]

*Figure 3: Toulmin model (after Van Eemeren et al., 1997)*
1.5.3 Effectiveness of the Toulmin model

The effectiveness of arguments that are structured according to the Toulmin model in persuasive texts is studied by Reinard (1984). He found that adding evidence to the argument, as in adding a backing for the warrant, had a significant influence on the effectiveness of the argument and was more convincing than an argument without backing. In addition, the credibility of the source increased when adding more evidence to the argument (Reinard, 1984). Reinard (1984) states that when a rebuttal for the argument is also given, the credibility of the source also increases, since the source creates a complete and possibly unbiased view for the reader. Next to this, Areni (2002) indicates that adding a qualifier creates the impression that ‘the advertiser acknowledges the probabilistic nature of the argument, suggesting an honest communicator’.

When looking at the influence of a rebuttal on the effectiveness of an argument, Areni (2002) found that: “The ultimate effectiveness of (...) rebuttals in arguments may depend on the inference that if the conditions making up the rebuttal do not hold, then the probability associated with the conditional rule is even higher”. The example indicated in figure 3 concerning ART can throw some light on this statement. The rebuttal mentioned in this example (‘Unless you do not take the anti-retroviral medicines regularly and skip doses’) can have a positive influence on changing the attitude of a very accurate person, who can adhere to a strict regime very well. After all, the probability that ART will take effect for this person increases, since the rebuttal is not applicable for this person and therefore this persons finds the argument generally more convincing (Areni, 2002). In addition Areni (2002) comes to the conclusion that adding a rebuttal (Areni (2002) speaks of ‘contrary indicatives’) to an argument is increasing the effectiveness of the argument. “Contrary indicatives increase acceptance of the claim by abating or eliminating counter-argumentation when message recipients’ pre-exposure beliefs suggest that the claim and data are generally negatively correlated”. If counter-arguments (e.g. disadvantages of ART) are being addressed, argued or even eliminated (which happens when adding a rebuttal to an argument), then the acceptance of the argument increases.

1.6 Argumentation in VCT brochures

From section 1.5 it follows how a pragmatic argument may be structured according to the Toulmin model. However, when looking at HIV/AIDS brochures, other structures are used to present the arguments on VCT and in particular on the efficacy of ART as well. In many of these brochures, the coping measure ART is presented as an argument to get tested by
simply summing up the pros and cons under headings like ‘advantages’ and ‘disadvantages’. These advantages and disadvantages are then supported with a warrant and backing. This argumentation structure can be considered as pragmatic argumentation in its most basic form. In a Dutch VCT brochure (‘Steeds meer mannen weten het’), however, the full Toulmin model is used as a presentation structure for pros and cons of ART. The disadvantage of ART is presented as a rebuttal here. Figure 4 gives more insight into the different presentation structures of pragmatic arguments.

Version 1: Pragmatic argumentation: disadvantages presented as separate arguments from the advantages

```
Data (advantages)          Data (disadvantages)

Warrant                    Warrant

Backing                   Backing

Claim
```

Version 2: Pragmatic argumentation: disadvantages presented as a qualifier and rebuttal

```
Data                      Qualifier              Claim

Warrant                   Rebuttal

Backing
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Figure 4: Different structures of pragmatic argumentation

Note that the reader of a text in which advantages and disadvantages of ART are separated, has to make a comparative assessment of the pros and cons to come to a (positive or negative) conclusion (claim). For readers of a text in which disadvantages of ART are
presented as a rebuttal with a qualifier, the claim (e.g. with ART you can live a longer life) is stated and does not have to be concluded by the reader. The strength of this claim, however, is discussed by adding a rebuttal and a qualifier. The reader has to decide to what extent the claim (e.g. with ART you can live a longer life) is convincing.

In addition, by presenting the disadvantages of a coping measure as a rebuttal, instead of explicitly indicating the disadvantage of the coping measure as a separate argument, the author may try to mask the disadvantages (Swanepoel, 2006). It is not clear, however, to what extent the presentation structure of an argument may be of influence on the attitude and in addition, on the intention towards performing a given action. This leads to the following research question:

To what extent does the presentation structure of the arguments for or against anti-retroviral treatment, influence relevant beliefs, attitudes, and intentions towards Voluntary Counselling and Testing (VCT) among South African students?

The definitions of the concepts involved in this research question are discussed below:

**Voluntary Counselling and Testing (VCT)**

*Voluntary:* a person decides on his or her own whether or not to have the test.

*Counselling:* there are two counselling sessions: one prior to taking the test known as "pre-test counselling" and one following the HIV test, often referred to as "post-test counselling". Pre-test counselling includes preparation for the test, assistance to anticipate on the result, explanation of HIV, of the HIV test and of the importance of knowing your HIV status etc. Post-test counselling includes telling the test result and explaining the positive or negative consequences of this result. In addition, advice is given as to what to do from there.

*Testing:* a health worker takes a tube of blood from a testee and following this, in a laboratory his or her HIV status will be ascertained.

**Anti-retroviral treatment (ART)**

Anti-retroviral medicines suppress the replication of HIV by blocking the enzymes HIV uses to replicate itself. This allows the immune system to regain its strength and combat opportunistic infections.

**Intention**

Intention is an indication of a person's readiness to perform a given behaviour, and it is considered to be the immediate antecedent of behaviour.
**Attitude**

Attitude towards a given behaviour is the degree to which performance of the behaviour is positively or negatively valued.

**Beliefs**

A behavioural belief is the subjective probability that the behaviour will produce a given outcome.

**Arguments**

Statements that are put forward to support or rebut, or justify or refute, some other statement

**Presentation structure of arguments**

The way arguments are organized in a text; the composition of arguments in a text.

**South African students**

Students from the University of Pretoria in the age group 18 to 30 years.

To sum up the discussion about the variables that will be investigated in this study, the following conceptual model is presented:

**Figure 5: Complete conceptual model**

As can be seen from this conceptual model, next to the experimental text versions (exposure to media and other interventions) a number of other distal variables are included in this study.
as well. These distal variables are separated into individual characteristics and intermediate variables. For this division has been chosen, since individual characteristics cannot be influenced by other variables, while intermediate can be influenced by other variables from the conceptual model. This distinction also influences the experiment: the individual characteristics are considered to be independent variables (as is the case for the experimental text versions) and their influence on the intermediate variables, attitude and intention towards VCT will be measured. The intermediate variables are dependent; they intermediate between the independent variables and the attitude and intention towards VCT. The influence of the intermediate variables will only be measured with regard to the attitude and intention towards VCT. For more specific information on the influence of these distal variables (as found in other studies) on the determinants of this conceptual model, section 1.1, 1.2 and 1.3 provides more insight. Here, the individual characteristics and the intermediate variables are made explicit:

**Individual characteristics:**

- Gender
  - Male
  - Female
- Ethnicity
  - Black
  - White
- Experiences from the past
  - Ever considered having an HIV test
  - Having had an HIV test
  - Knowing people who have had an HIV test
  - Knowing people living with HIV/AIDS

**Intermediate variables:**

- Perceived severity concerning HIV/AIDS
- Perceived severity concerning physical consequences HIV/AIDS
- Perceived susceptibility concerning HIV/AIDS
- Perceived susceptibility concerning physical consequences HIV/AIDS
Get the message - Get tested for HIV

- Perceived response-efficacy concerning ART
- Perceived self-efficacy concerning ART

- Source credibility of messages about the coping measure ART

The source credibility was added to the conceptual model as a distal variable since Reinard (1984) and Areni (2002) indicate that adding a rebuttal for the argument, increases the credibility of the source. It is interesting to see whether the source credibility differs when the presentations structure of the disadvantages of ART differ as well.

Before the set-up of an experiment is presented in which data were collected to answer the research question (chapter 4), a preliminary analysis of the content of existing VCT brochures in South Africa will be discussed in chapter 2 (method section) and chapter 3 (result section). The focus of the content analysis (a systematic analysis of message characteristics) was on the measures that are being offered to cope with the negative physical consequences of a HIV positive outcome. The analysis pertained to questions such as: which coping measures are offered, what kind of information is included about the coping measures in the VCT brochures (Information about the working, efficacy, advantages, disadvantages etc.)? In addition, the argumentation schemes that were used in the brochures to present these coping measures were analysed (e.g. regularity-based argumentation, rule-based argumentation, pragmatic argumentation etc.). The content analysis was performed to get more insight into the content of contemporary VCT brochures in South Africa. Based, among other things, on the results of the content analysis, experimental text versions were developed.
2. Method section: content analysis

A content analysis was performed to get a clear picture of the content of South African VCT brochures. The results of this content analysis were used to develop experimental brochures that (content-wise) would come across as realistic VCT brochures. A content analysis is a ‘systematic, objective, quantitative analysis of message characteristics’ (Neuendorf, 2002). It is a careful examination of human interactions, with examples ranging from analysing the word use in, for example political speeches to an analysis of the topics addressed in VCT brochures, as in the case of this study. Two steps are important when performing a content analysis: the creation of a representative corpus of documents and the collection of sufficient background material to reconstruct the meaning of the content of the documents (Wester & Peters, 2004). The content analysis in this study included an examination of the negative physical consequences of HIV and measures to cope with the negative physical consequences of an HIV test as they occurred in a number of South African VCT brochures. In addition, the structure of the arguments (if present) on the effectiveness of these coping measures was analysed.

In section 2.1 the composition of the corpus of VCT brochures is explained. Section 2.2 describes the design of the codebook and discusses the background material that was used as a point of departure for the variables of the codebook. The codebook was divided into three sections: a section for the analysis of negative physical consequences (2.2.1), a section (2.2.2) for the analysis of measures to cope with these negative physical consequences (with specific attention to the efficacy of these coping measures) and a section for the analysis of the presentation structure of arguments on the efficacy of the coping measures (2.2.3).

2.1 Corpus

In total, ten South African brochures were selected from a collection of HIV/AIDS brochures from UNISA (University of South Africa, Pretoria). This collection of HIV/AIDS brochures was developed over the years by UNISA staff members, who added every newly released South African brochure to the collection. During the first selection, only the VCT brochures that aimed at students were added to the corpus. Five HIV/AIDS brochures were found that focussed specifically on students, from which four aimed at Voluntary Counselling and Testing. A fifth brochure (“Choose life! Living with HIV and AIDS in our world”) did not
specifically discuss VCT, but this brochure included a distinct section on VCT. Therefore this brochure was also added to the corpus.

To get a broader insight into the content of VCT brochures, it was decided to also add a number of VCT brochures to the corpus which did not specifically address students. Five brochures were found that aimed to inform a general audience about Voluntary Counselling and Testing. Table 2.1 shows the complete corpus of brochures used for the content analysis:

<table>
<thead>
<tr>
<th>VCT brochures focussing on students</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Get tested for HIV. Higher Education HIV/AIDS Programme</td>
</tr>
<tr>
<td>B Choose Life! Living with HIV and AIDS in our world</td>
</tr>
<tr>
<td>C Knowledge is power! Voluntary counselling and testing for HIV – Why should I do it?</td>
</tr>
<tr>
<td>D Your relationship – taking it to the next level</td>
</tr>
<tr>
<td>E Geen toekomst nie, reg? Waarom sal jy dan die moeite wil doen om te toets? Dink eers hieroor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VCT brochures focussing on a general audience</th>
</tr>
</thead>
<tbody>
<tr>
<td>F Are you thinking of having the test for HIV – the virus that causes AIDS?</td>
</tr>
<tr>
<td>G Why should I test for HIV?</td>
</tr>
<tr>
<td>H The test everyone should take</td>
</tr>
<tr>
<td>I Voluntary Counselling and testing</td>
</tr>
<tr>
<td>J Pretoria vigs inligtings opleidings en berading sentrum</td>
</tr>
</tbody>
</table>

Table 2.1: Corpus for content analysis

2.2 Codebook

2.2.1 Design of the codebook section for negative physical consequences of HIV
The first section of the codebook revolved around the negative physical consequences that may occur when one is tested HIV positive. For this study it was interesting to see to what extent the negative physical consequences of HIV were indicated in VCT brochures. One might argue that by indicating the negative physical consequences of HIV, the importance of including coping measures in the VCT brochure increases. Would VCT brochures include negative physical consequences in combination with measures to cope with these
consequences? Or would VCT brochures include coping measures without indicating the negative physical consequences of HIV? Or would VCT include negative physical consequences of HIV without indicating measures to cope with these consequences?

It has to be kept in mind that the severity of the physical consequences is different for every stage of the HIV infection. The World Health Organisation indicates four stages of the course of the illness. These stages functioned as a basis for this section of the content analysis aimed at the negative physical consequences of an HIV infection. The stages are indicated below.

<table>
<thead>
<tr>
<th>Stage</th>
<th>What's happening</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1:</td>
<td>HIV enters the body duplicating itself rapidly in the CD4 cells. There are a few or no signs that the person is infected. Swollen lymph glands are common, but are not usually a cause for alarm.</td>
</tr>
<tr>
<td>Stage 2:</td>
<td>This stage is typically characterised by minor skin problems, head or chest colds and weight loss. Herpes zoster (also known as shingles) often occurs during this stage.</td>
</tr>
<tr>
<td>Stage 3:</td>
<td>During this period, the amount of HIV in the body, or the viral load, is increasing. In the process it is destroying more and more CD4 cells. More serious problems begin to occur, such as profound weight loss, chronic diarrhoea, fever, oral thrush (a fungus in the mouth), vaginal thrush, pneumonia (lung infection) and TB.</td>
</tr>
<tr>
<td>Stage 4:</td>
<td>Very serious diseases, some of which are seldom found in HIV-negative people, occur. These include a kind of lung infection called <em>pneumocystis carinii</em> pneumonia, oesophageal thrush (a fungal lung infection in the throat), infection of the brain such as toxoplasmosis and cryptococcal meningitis, severe diarrhoea, profound weight loss and cancers such as Kaposi’s sarcoma.</td>
</tr>
</tbody>
</table>

The illnesses that, according to the WHO, occur during the various stages of an HIV infection were made explicit in the subheadings in the codebook. A number of additional negative physical consequences of HIV were found during the analysis of the content of the VCT brochures; these illnesses were added to the codebook as well. Table 2.2 shows the
codebook for the analysis of negative physical consequences of an HIV positive test result that might in VCT brochures.

<table>
<thead>
<tr>
<th></th>
<th>Stage 1 - Outcome: HIV positive – few or no symptoms, the HIV virus enters the body duplicating itself rapidly</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Stage 2 – Minor symptoms of illness, reasonable balance between CD4 cells and HIV virus</td>
</tr>
<tr>
<td></td>
<td>Coughing</td>
</tr>
<tr>
<td></td>
<td>Thrush – rash</td>
</tr>
<tr>
<td></td>
<td>Skin problems – sores</td>
</tr>
<tr>
<td></td>
<td>Fever</td>
</tr>
<tr>
<td>C</td>
<td>Phase 3 – More serious problems occur, CD4 count below 200</td>
</tr>
<tr>
<td></td>
<td>Diarrhoea</td>
</tr>
<tr>
<td></td>
<td>Profound weight loss</td>
</tr>
<tr>
<td></td>
<td>Lung infections</td>
</tr>
<tr>
<td></td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>D</td>
<td>Phase 4 – Very serious diseases – AIDS</td>
</tr>
<tr>
<td></td>
<td>Cancer</td>
</tr>
</tbody>
</table>

Table 2.2 Codebook for the negative physical consequences

2.2.2 Design of the codebook section for measures to cope with negative physical consequences of HIV

There are two ways to cope with an HIV positive outcome: medication (biomedical/mobilization paradigm) and/or positive living (nationalist/ameliorative paradigm) (Butler, 2005). Looking from the biomedical/mobilization paradigm, typical measures to cope with the negative consequences of an HIV infection would be the use of anti-retroviral medicines to suppress the replication of the HIV virus in the body, PEP to block the HIV virus within 72 hours after the infection took place and Nevirapine to reduce the chances of passing on the HIV virus from a mother to her child. The nationalist/ameliorative paradigm focuses on measures other than medicines to cope with the physical consequences of HIV. This is called positive living and includes, for example, eating healthy, exercising, lowering stress levels etc. Based on these two paradigms a classification was made in the codebook to analyse the different coping measures that occur in brochures. The labels included in this codebook were collected by a background study on the measures to cope with HIV. In addition, during the analysis of the content of the brochures, measures that were not yet
incorporated into the codebook were added as well. In table 2.3, the codebook for analysing the coping measures in VCT brochures is presented.

<table>
<thead>
<tr>
<th>Medication</th>
<th>Mobilization / biomedical paradigm</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>ART</td>
</tr>
<tr>
<td>A*</td>
<td>Efficacy ART</td>
</tr>
<tr>
<td>B</td>
<td>PEP</td>
</tr>
<tr>
<td>B*</td>
<td>Efficacy PEP</td>
</tr>
<tr>
<td>C</td>
<td>Nevirapine</td>
</tr>
<tr>
<td>C*</td>
<td>Efficacy Nevirapine</td>
</tr>
<tr>
<td>Positive Living</td>
<td>Nationalistic / Ameliorative paradigm*</td>
</tr>
<tr>
<td>D</td>
<td>Eating healthy food</td>
</tr>
<tr>
<td>D*</td>
<td>Efficacy eating healthy food</td>
</tr>
<tr>
<td>E</td>
<td>Regular medical check-ups</td>
</tr>
<tr>
<td>E*</td>
<td>Efficacy regular medical check-ups</td>
</tr>
<tr>
<td>F</td>
<td>Safe sex</td>
</tr>
<tr>
<td>F*</td>
<td>Efficacy safe sex</td>
</tr>
<tr>
<td>G</td>
<td>Rest, regularity and lower of stress levels</td>
</tr>
<tr>
<td>G*</td>
<td>Efficacy rest, regularity and lower stress levels</td>
</tr>
<tr>
<td>H</td>
<td>Stop smoking and drinking</td>
</tr>
<tr>
<td>H*</td>
<td>Efficacy stop smoking and drinking</td>
</tr>
<tr>
<td>I</td>
<td>Exercise (work as long as possible)</td>
</tr>
<tr>
<td>I*</td>
<td>Efficacy exercise</td>
</tr>
<tr>
<td>J</td>
<td>Alternative medication and therapies.</td>
</tr>
<tr>
<td>J*</td>
<td>Efficacy alternative medication and therapies</td>
</tr>
<tr>
<td>K</td>
<td>Positive view for the future</td>
</tr>
<tr>
<td>K*</td>
<td>Efficacy positive view for the future</td>
</tr>
<tr>
<td>L</td>
<td>Support from family and friends</td>
</tr>
<tr>
<td>L*</td>
<td>Efficacy support for family and friends</td>
</tr>
<tr>
<td>M</td>
<td>Treat new infections</td>
</tr>
<tr>
<td>M*</td>
<td>Efficacy treatment for new infections</td>
</tr>
</tbody>
</table>

(* Refer to table 2.4)

Table 2.3 Codebook coping measures
For each coping measure it was interesting to see how exactly the measure was addressed in the VCT brochure. Would the brochure simply name the coping measure or would it also discuss the efficacy of the coping measure? According to Witte et al. (1996) the efficacy of a coping measure is based on the response-efficacy of the measure and the self-efficacy of the person acting on the measure. The response-efficacy is based on beliefs about the effectiveness of the recommended response in deterring the threat. The self-efficacy is based on individuals’ beliefs of their ability to perform the recommended response (Witte, 1996, Gist & Mitchell, 1992).

To be able to trace the beliefs about the effectiveness of the recommended response that the author addresses in VCT brochures, labels were designed to indicate how the efficacy of coping measures could occur in brochures. These labels were derived from a study by Swanepoel (2006) on Dutch VCT messages. Swanepoel (2006) based the labels of his content analysis on the DISCERN instrument, discussed in section 1.4.2 of this study. Especially point 4 of the DISCERN instrument was used as a basis for the development of labels for the analysis of the response-efficacy of the coping measures (Swanepoel, 2006). Topics addressed under point 4 of the DISCERN instrument are the following: a description of how the treatment/action/measure works/what it entails; its benefits/advantages, response efficacy, disadvantages, costs, risks and areas of uncertainty; its effects on overall quality of life.

In addition, labels were added to trace the beliefs about the self-efficacy that were addressed in VCT brochures. Based on the ideas of Gist and Mitchell (1992), who indicate that self-efficacy is based on internal determinants (e.g. knowledge about VCT and skills to go for VCT) and external determinants (e.g. accessibility of a testing site and money to pay for an HIV test), labels for the self-efficacy were incorporated under ‘label 6’ in the codebook.

Table 2.4 presents the labels for analysis of the response-efficacy and self-efficacy of the coping measures in VCT brochures. Note, however, that a number of sub-labels (4.2, 4.3, 5.1, 5.2, etc.) specifically refer to the response-efficacy of medication and are therefore not used for the content analysis regarding the coping measure ‘positive living’.
| 1. | What is it? |
| 2. | How does it work? |
| 3. | **Advantages / Efficacy / Consequences** |
| 3.1 | Improvement of quality of life |
| 3.2 | Increase in life expectancy |
| 3.3 | Decrease of opportunistic infections |
| 3.4 | Restore normal role functioning (work) |
| 3.5 | Psychological benefits |
| 4. | **Response-efficacy** (effective for whom, when and when not; range, modality and rebuttal) |
| 4.1 | No cure |
| 4.2 | Resistance to medication |
| 4.3 | Restrictions in pregnant mother to child transmission |
| 5. | **Disadvantages /Conditions / costs** |
| 5.1 | Life-time adherence |
| 5.2 | Strict regimen |
| 5.3 | Confidentiality and public intake of medication |
| 5.4 | Side-effects |
| 5.5 | Long-term consequences |
| 5.6 | Uncertainty of long-term effects |
| 5.7 | Uncertainty of interaction effects (other medication/drugs/alternative therapies) |
| 5.8 | Social/medical pressure to take medication |
| 5.9 | Reminder of illness |
| 6. | **Self-efficacy** (Coping with disadvantages/risks/uncertainty) |
| 6.1 | Internal: physical capacities / barriers (e.g. skills) |
| 6.2 | Internal: Mental capacities / barriers (e.g. knowledge) |
| 6.3 | External: Social capacities / barriers (e.g. accessibility) |
| 6.4 | External: Economic capacities / barriers (e.g. costs) |

*Table 2.4 Labels efficacy*

### 2.2.3 Design of the codebook section for argumentation schemes

The section on argumentation schemes in the codebook was designed using the argumentation schemes discussed by Schellens in *Redelijke argumenten* (1985). Schellens and De Jong (2004) also used this typology of argumentation schemes in their study, to investigate the different argumentation schemes that occurred in persuasive public information documents.
Specific attention was paid to the presentation structure of the pragmatic argumentation in the brochures. A distinction was made between pragmatic argumentation presentation structures in which the disadvantages of the coping measures were presented as a separate argument, and pragmatic argumentation presentation structures in which the disadvantages were presented as a qualifier and rebuttal. Table 2.5 shows the section of the codebook to analyse the argumentation schemes of the measures to cope with the negative consequences of HIV in VCT brochures.

<table>
<thead>
<tr>
<th>Argumentation schemes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Regularity-based argumentation</td>
</tr>
<tr>
<td>B Rule-based argumentation</td>
</tr>
<tr>
<td>C Pragmatic argumentation</td>
</tr>
<tr>
<td>C1 Pragmatic argumentation, disadvantages presented separate from advantages</td>
</tr>
<tr>
<td>C2 Pragmatic argumentation (structured according to the Toulmin model), disadvantages presented as a qualifier and rebuttal</td>
</tr>
<tr>
<td>D Argumentation from analogy</td>
</tr>
<tr>
<td>E Argumentation from authority</td>
</tr>
<tr>
<td>F Argumentation from example</td>
</tr>
</tbody>
</table>

Table 2.5: Codebook argument schemes

2.2.4 General characteristics of VCT brochures

To complete the codebook, some general characteristics of the VCT brochures were incorporated. The first general characteristic was the source of the brochure. In addition, the year of the release of the brochure was incorporated. Note, however, that not all VCT brochures included information about the source and year of release.

<table>
<thead>
<tr>
<th>Y Year of release</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z Source of brochure</td>
</tr>
</tbody>
</table>

Table 2.6 Codebook general characteristics

2.5 Coding process

The content analysis was performed by the researcher. She analysed the content of the brochures four times: the first time to extend the codebook and to add labels that were missing in the codebook; every other analysis was performed to refine the reliability of the
content analysis. According to Neuendorf (2002) a content analysis should be performed by more than one person or the analysis will otherwise be considered to be of low reliability. However, since this content analysis was first of all intended as a preliminary study to the (more important) experiment to be described in chapter 4 and no general conclusions were to be drawn concerning the content of VCT brochures, an analysis by only one expert was deemed to be appropriate.

An additional remark concerning the coding process of the argumentation schemes should be made here. Since pragmatic argumentation is based on rules and on regularity, it was sometimes difficult to classify the various arguments in VCT brochures under the label ‘pragmatic’, ‘rule-based’ or ‘regularity-based’ argumentation. The following requirements concerning the argument schemes were developed to be able to make a sound classification of the arguments in VCT brochures.

*Regularity-based argumentation:* If the probability of the consequences (pros and cons) of a certain coping measure was addressed in an argument (cause-effect or effect-cause), but no appeal regarding the desirability or undesirability was made, then the argument was considered to be a regularity-based argument.

*Rule-based argumentation:* If the desirability or undesirability of a certain measure to cope with the physical negative consequences of HIV was addressed in an argument, but no consequences (pros or cons) of the coping measure were indicated, then the argument was considered to be a rule-based argument.

*Pragmatic argumentation:* If the desirability or undesirability of a certain measure to cope with the physical negative consequences of HIV was addressed in an argument, and in addition consequences (pros or cons) of the coping measure were indicated, then the argument was considered to be a pragmatic argument.
3. Results section: content analysis

In this chapter the results of the content analysis of ten South African VCT brochures, referred to in chapter 2, are discussed. Section 3.1 indicates to what extent the negative physical consequences of an HIV positive result occurred in the VCT brochures. Section 3.2 describes the measures to cope with negative physical consequences of HIV that occurred in VCT brochures. In section 3.3 the argument schemes used to present the measures to cope with negative physical consequences of HIV are discussed.

3.1 Negative physical consequences of HIV in VCT brochures

Of the ten VCT brochures that were subjected to the content analysis, seven brochures included information about the negative physical consequences of HIV. However, none of the VCT brochures indicated which specific illness (diarrhoea, tuberculosis, sores etc.) an HIV positive person might expect to experience. Often a VCT brochure indicated that an HIV positive person is susceptible to ‘diseases’ or ‘illnesses’. Most of the VCT brochures included a statement which not did address the negative physical consequences of HIV, but functioned as an introductory sentence to the information on negative physical consequences of HIV, such as the following:

Example 3.1:
‘A positive result means that you have been infected with HIV’

This sentence (which occurred in almost every VCT brochure) was often followed by an explanation on the effects of HIV in the body (the immune system deteriorates) and that the effects of HIV in the body are only noticeable after a couple of years. In the content analysis these statements were placed under A: Stage 1, since it refers to the first phase of an HIV infection when there are a few or no signs that a person is infected. However, in three VCT brochures the chance of developing AIDS (D: Stage 4) was also indicated. Two VCT brochures mentioned the chance of contracting opportunistic infections and indicated ways to treat the opportunistic infections. Since these opportunistic infections are treatable, and are less severe and fatal than AIDS, statements of this nature were placed under ‘C: Stage 3’. Table 3.1 gives an overview of the results of the content analysis with regard to the occurrence of negative physical consequences of HIV in VCT brochures.
3.2 Measures to cope with the negative physical consequences of HIV in VCT brochures

Seven brochures included measures to cope with the negative physical consequences of a positive HIV result. The coping measure ‘positive living’ occurred more often in VCT brochures than the coping measure ‘medication’ did. In this result section, firstly the outcome of the content analysis with regard to the medical coping measures is discussed. In table 3.2, an overview of the occurrence of the medical coping measures in VCT brochures is shown. Note that the codes A, B and C indicate that the coping measure is only mentioned in the brochure and codes A*, B* and C* indicate that the efficacy of the coping measure is also discussed in the brochure. The numbers 3.1, 3.2, 4.1 etc. refer to the numbers of the codebook with regard to the efficacy of the coping measures presented in chapter 2, table 2.4.

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A: Stage 1</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B: Stage 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1 Coughing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B2 Trush/rash</td>
<td></td>
<td></td>
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<td>B3 Skinproblems and sores</td>
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<td>B4 Fever</td>
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<tr>
<td>C: Stage 3</td>
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<td>X</td>
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<td>C1 Diarrhoea</td>
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<tr>
<td>C2 Profound weight Loss</td>
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<tr>
<td>C3 Lung infections</td>
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<tr>
<td>C4 Tuberculosis</td>
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<td>D: Stage 4</td>
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<td>X</td>
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<td>D1 Cancer</td>
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Table 3.1: Results of the content analysis regarding the negative physical consequences of HIV in VCT brochures
Table 3.2: Results of the content analysis regarding medical coping measures in VCT brochures

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<tbody>
<tr>
<td>A ART</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
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<td></td>
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<tr>
<td>A* Efficacy ART</td>
<td>X (3.2, 3.1, 6.3)</td>
<td></td>
<td>X (3.1, 3.2, 4.1, 5.1)</td>
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<tr>
<td>B PEP</td>
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<td>B* Efficacy PEP</td>
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<tr>
<td>C Nevirapine</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>C* Efficacy Nevirapine</td>
<td>X (4.3)</td>
<td></td>
<td>X (4.3, 6.3)</td>
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</table>

It can be concluded that three brochures (D, G and H) included information about ART as a measure to cope with the negative physical consequences of HIV. Next to brochure H, a fourth VCT brochure (C) also included information about ART, but only as a measure to reduce the chance of transmitting HIV from mother to unborn child (called Nevirapine). The following sentences are examples of the way in which the use of medication was described in VCT brochures

Example 3.2 (Brochure C):

Receive anti-retroviral treatment during pregnancy, birth and to the newborn baby. This reduces the risk of the mother passing the infection to the baby by 67%.

Example 3.3 (Brochure D):

The introduction of ART in South Africa means you can live a longer, healthier life. If your CD4 cell count is lower than 200, you can choose to go onto ART at a government hospital. Some workplaces also provide HIV and AIDS programmes that include ART.

Example 3.4 (Brochure G):

You can get anti-HIV medicines

Example 3.5a (Brochure H):

Antiretroviral medicines can help many people who develop AIDS to live long, healthy lives. They are a lifelong treatment, not a cure.
Example 3.5b (Brochure H):

Most people with HIV only need to take antiretrovirals after many years.

Example 3.5c (Brochure H):

If you are pregnant and have HIV, you should be able to get antiretroviral medicines at your clinic to reduce the risk of your baby getting HIV.

Three brochures that included ART as a coping measures, mentioned the efficacy of ART (with an exception of brochure G). Two distinct advantages were presented in the VCT brochures: ‘ART enables you to live a long and healthy life’ and ‘ART reduces the chance of transmitting HIV from mother to child’. In addition, in two brochures information was given about when to use ART (if the CD4 count is lower than 200) and where to get it (addressing the self-efficacy of the reader with regard to ART). Only one brochure indicated the disadvantages of ART (brochure H, issued by the Treatment Action Campaign). The outcome that especially this brochure extensively discussed ART and advantages and disadvantages of ART, more than the other brochures did, might be explained by the fact that the TAC (Treatment Action Campaign) is an organisation that strongly supports the mobilization/biomedical paradigm. Most of the other brochures are issued by governmental organisations, which, until recently, did not support the use of medication in the fight against HIV. However, none of the VCT brochures included in this corpus provided information on the exact working of the medicine was not included in the VCT brochures in this corpus.

When looking at the measure ‘positive living’ to cope with the negative physical consequences of HIV, it can be concluded that seven brochures included information about this coping measure. Especially ‘safe sex’ and a ‘positive view for the future’ were discussed most often in the VCT brochures. Figure 3.1 indicates the number of brochures in which information about measures to live positively was included. A division is made here between the VCT brochures that specifically aimed at students and VCT brochures that did not aim at a specific target group.
Figure 3.1: Results of the analysis of the coping measure ‘positive living’ in VCT brochures.

Positive living coping measures mostly occurred in VCT brochures in sentences like the following:

Example 3.6:
‘If you are tested HIV positive, you should eat healthy’

Example 3.7:
‘You have to take care of your stress levels’

Example 3.8:
‘Your counsellor will refer you for further medical check-ups’

Often the coping measures were only mentioned in VCT brochures, but no specific information about the efficacy of the coping measure was included. If a brochure did include information about the efficacy of the positive living coping measure, then mostly advantages (positive effects or consequences) were presented. When looking at other labels of the codebook, it can be concluded that information about the exact working of living positively and possible disadvantages were absent in the ten VCT brochures of this content analysis. To compensate the lack of information about measures to cope with the negative physical consequences of HIV, often a sentence like ‘Your counsellor will provide you with more information about the treatment options of HIV’ was included in the brochures. Note that these sentences that refer to a counsellor for more information on treatment options might be included because little space is left available in most VCT brochures to elaborate on this topic. Table 3.3 gives an overview of the results of the content analysis with regard to the coping measure ‘positive living’.
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</thead>
<tbody>
<tr>
<td><strong>D Healthy eating</strong></td>
<td>X (3.1, 3.2, 3.4)</td>
<td>X</td>
<td></td>
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<tr>
<td><em><em>D</em> Efficacy healthy eating</em>*</td>
<td>X (3)</td>
<td>X (3.1)</td>
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<tr>
<td><strong>E Regular medical check</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tr>
<tr>
<td><em><em>E</em> Efficacy regular medical check</em>*</td>
<td>X (3)</td>
<td>X</td>
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<tr>
<td><strong>F Safe sex</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
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</tr>
<tr>
<td><em><em>F</em> Efficacy safe sex</em>*</td>
<td>X (3)</td>
<td>X (3)</td>
<td>X (3)</td>
<td>X (3)</td>
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<tr>
<td><strong>G Rest, regularity, lowering stress</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td><em><em>G</em> Efficacy rest, regularity and lowering stress</em>*</td>
<td>X (1, 3.1, 3.2)</td>
<td>X (3.1)</td>
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<tr>
<td><strong>H Stop smoking and drinking</strong></td>
<td>X</td>
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<tr>
<td><em><em>H</em> Efficacy stop smoking and drinking</em>*</td>
<td>X (3)</td>
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<tr>
<td><strong>I Exercise</strong></td>
<td>X</td>
<td>X</td>
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<tr>
<td><em><em>I</em> Efficacy exercise</em>*</td>
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<td>X (3.1)</td>
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<tr>
<td><strong>J Alternative medication and therapies</strong></td>
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<tr>
<td><em><em>J</em> Efficacy alt. medication and therapies</em>*</td>
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<tr>
<td><strong>K Positive view for future</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td><em><em>K</em> Efficacy positive view for future</em>*</td>
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<tr>
<td><strong>L Support family and friends</strong></td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td></td>
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<tr>
<td><em><em>L</em> Efficacy support family and friends</em>*</td>
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<td>X (6.1)</td>
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<tr>
<td><strong>M Treat new infections</strong></td>
<td>X</td>
<td></td>
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<td></td>
<td>X</td>
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<tr>
<td><em><em>M</em> Efficacy treat new infections</em>*</td>
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<td>X (3.3, 6.3)</td>
</tr>
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</table>

*Table 3.3: Results of the content analysis regarding positive living coping measures in VCT brochures*
3.3 Argumentation schemes in VCT brochures

As mentioned before, seven VCT brochures included information about measures to cope with the negative physical consequences of HIV. These seven brochures were analysed with regard to the arguments that were used to present the coping measures and the efficacy of the coping measures. Pragmatic argumentation occurred in all seven VCT brochures, rule-based argumentation occurred in five brochures and regularity-based argumentation was never used to present the coping measures or the effectiveness of the coping measures. However, in the seven VCT brochures, arguments were included that reasoned from cause to effect. This may be regarded as regularity-based argumentation, but since the cause to effect of a desired action is indicated, these arguments were categorised under pragmatic argumentation. The following example makes this clear:

Example 3.9:
‘You can make sure that you do not get re-infected with a different strain of HIV by using a condom every time you have sex’.

It could be argued that this is a regularity-based argument: using a condom every time you have sex (cause) results in preventing re-infection of HIV with a different strain (effect). But at the same time (implicitly) a rule-based argument is included in this argument: If you are HIV positive, you should make sure that you do not get re-infected with a different strain of HIV (prescriptive rule). As indicated in the method section, when rule- and regularity based argumentation occur in one argument, the argument should be categorised under pragmatic argumentation.

Rule-based argumentation occurred in five out of seven brochures. Examples of rule-based argumentation with regard to the measures to cope with the negative physical consequences of HIV are the following:

Example 3.10:
‘If you test HIV positive, you should eat healthy’

Example 3.11:
‘If you are HIV positive, you have the right to receive ART’.

These arguments are rules of conduct (prescriptive rules), since no further advantages disadvantages, effects or consequences are indicated in the VCT brochure.
When looking at the three unrestricted argumentation schemes (argumentation from analogy, argumentation from authority and argumentation from example), it can be concluded that three brochures included argumentation from examples, one brochure included argumentation from authority (in the form of a counsellor) and no VCT brochure included argumentation from analogy. Table 3.3 summarizes the argumentation schemes in VCT brochures:

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<tbody>
<tr>
<td>A. Regularity-based argumentation</td>
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<tr>
<td>B. Rule-based argumentation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
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<td></td>
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<tr>
<td>C. Pragmatic argumentation</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>C1. Separate arguments</td>
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<td>C2. Qualifier &amp; rebuttal</td>
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<td>X</td>
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<tr>
<td>D. Argumentation from analogy</td>
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<td>E. Argumentation from authority</td>
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<td>X</td>
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<td>F. Argumentation from example</td>
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Table 3.4: Results analysis argumentation schemes with regards to coping measures in VCT brochures

To conclude this part of the study, the presentation structure of the pragmatic arguments was examined more thoroughly. The focus of this analysis was especially on the structure of the disadvantages in pragmatic arguments. Only one brochure, however, included disadvantages of a coping measure (ART). This concerned an argument in brochure H ‘The test everyone should take’ from the Treatment Action Campaign:

Example 3.13:
‘Anti-retroviral medicines can help many people who develop AIDS to live long, healthy lives. They are a lifelong treatment, not a cure’

The disadvantages of ART are not presented here as a separate argument, but as a qualifier and a rebuttal (presentation structure according to the Toulmin model). The qualifier in this example is the word ‘can’ (anti-retroviral medicines can help many people who develop AIDS to live long, healthy lives). The qualifier indicates that the claim is not absolute. A counter
argument is included in the form of a rebuttal, which indicates why the claim does not always hold: ‘they are a lifelong treatment, not a cure’. It can therefore be concluded that a qualifier and rebuttal were used here to present the disadvantages of the pragmatic argument.

3.4 Implications for the design of the experimental VCT brochures

From the content analysis it becomes clear that little attention is paid to the efficacy of measures to cope with the negative physical consequences of HIV in VCT brochures. When especially looking at the coping measure ART (which will be the focus of the experiment), it appears that only four out of the ten VCT brochures included information concerning ART. The reader of VCT brochures is provided with little information about the response- and self-efficacy of ART and most often (except for the brochure of the Treatment Action Campaign) the disadvantages of ART are left unmentioned. In the experimental versions, these shortcomings should not occur, in order to increase the perceived efficacy of the reader: the response-efficacy (both the advantages and disadvantages) of ART will be incorporated into the experimental VCT brochures, and in addition an appeal will be made to self-efficacy. Next to that, the efficacy of ART will be pragmatically argued, since this argumentation scheme occurs most often in VCT brochures (as appears from this study, but also from a study of Schellens and De Jong, 2004 on health brochures in general).

Two different experimental versions will be created: one version with the disadvantages of ART presented as a rebuttal and qualifier and one version with the disadvantages presented separate from the advantages. The influence of these experimental versions on the beliefs, attitude and intention towards VCT will be compared in the experiment.
4. Method section: Experiment

This chapter sets out the design process of the experiment. Section 4.1 discusses the characteristics of the participants in this study. Section 4.2 describes the experimental design and the choices that were made in developing the brochures that were used in the experiment. Section 4.3 discusses the design of the three parts of the questionnaire used to assess the impact of the brochures on the beliefs, attitude and intention to go for VCT. To conclude this chapter, section 4.4 discusses the way the experiment was carried out.

4.1 Participants

The group of participants in this study consisted of 100 South African students from the University of Pretoria. The ages of the students varied from 18 to 30 years, with a mean age of 21.4. A total of 49 females and 51 males participated. Students from two ethnicities participated: 50 blacks and 50 whites. Past experiences of these participants are summarized in Table 4.1. 66 participants had considered having an HIV test in the past; 38 participants actually had an HIV test. A total of 81 participants personally knew somebody who has had an HIV test. In addition, 40 participants personally knew somebody living with HIV/AIDS. In total, a group of 50 students received experimental brochure A and 50 students received experimental brochure B (see section 4.2 for more information on the content and design of the experimental brochures).

Table 4.1 Experiences from the past of the participants of the experiment

<table>
<thead>
<tr>
<th>Experience</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Considered having an HIV test?</td>
<td>66</td>
<td>34</td>
</tr>
<tr>
<td>Have had an HIV test?*</td>
<td>38</td>
<td>45</td>
</tr>
<tr>
<td>Personally knowing someone who has had an HIV test?</td>
<td>81</td>
<td>18</td>
</tr>
<tr>
<td>Personally knowing someone living with HIV/AIDS?</td>
<td>40</td>
<td>59</td>
</tr>
</tbody>
</table>

* As expected, participants who negatively answered the question about having considered an HIV test, often skipped the question with regard to having had an HIV test.
4.2 Experimental design

In this study two experimental conditions were created. See table 4.2.

| Group 1 (50 participants) | Reading experimental brochure A – coping measure ART pragmatically argued, with the disadvantages presented separate from the advantages |
| Group 2 (50 participants) | Reading experimental brochure B – coping measure ART pragmatically argued, structured according to the Toulmin model, with the disadvantages presented as a qualifier and rebuttal |

Table 4.2: Conditions of the experimental study

For the design of the two experimental conditions, an existing VCT brochure ‘Get tested for HIV – Higher Education HIV/AIDS Programme’ was manipulated. This brochure belonged to the corpus of brochures in the content analysis (chapter 2 and 3) and can be regarded as a typical South African VCT brochure: the topics addressed in this VCT brochure ‘Get test for HIV – Higher Education HIV/AIDS programme’ also occurred in other South African VCT brochures of which the content was analysed. This brochure was also chosen as a point of departure for the experimental design because it is one of the few South African VCT brochures that specifically focuses on students. Next to that, the brochure was found to be used as educational material on the campus of the University of Pretoria. (See appendix 1 for a copy of the original brochure ‘Get tested for HIV – Higher Education HIV/AIDS Programme’)

From personal communication with the designers of the VCT brochure ‘Get tested for HIV – Higher Education HIV/AIDS programme’ (see appendix 5 – Email to the designers of the original VCT brochure) it appeared that this brochure was not based on any specific behavioural theory and that the impact of this VCT brochure on the beliefs, attitude and intention of students to get tested on HIV was not (yet) evaluated.

Since the original VCT brochure was not theoretically based, the determinants which were expected to influence the testing behaviour of South African students (see chapter 1 – sections 1.2 and 1.3) were incorporated into the experimental brochures, paying specific attention to the coping measure ART. Important other determinants that were changed in the
experimental brochures compared to the original brochure were the severity of HIV (and in particular the severity of the negative physical consequences of HIV) and the susceptibility to HIV. The experimental difference between the two brochures was that in experimental brochure A, the coping measure ART was pragmatically argued, with the disadvantages presented separate from the advantages. In experimental brochure B, the coping measure ART was also pragmatically argued, but here the argument was structured according to the Toulmin model, with the disadvantages presented as a rebuttal with a qualifier. In section 4.2.1 the design of the experimental text versions will be discussed more thoroughly.

4.2.1 Experimental text versions
4.2.1.1 Changes with regard to the severity of HIV
The changes with regard to the severity of HIV were made to improve the quality of the experimental brochures (in the view of the researcher) and to be conducive to the experiment. The changes are based on the ideas of Witte et al. (1998) and imply that when increasing the severity of HIV, the reader will actually perceive the severity to be more intense and he or she will actively search for a measure to cope with this threat. When searching for a coping measure, the attention of the reader will shift to the experimental part of the brochure: the part where ART is argued in two different ways. By shifting the attention of the reader to this part of the brochure, the results of the experiment might be more attributable to the difference in argumentation structure of the coping measure ART. In addition, from section 1.2 (chapter 1) it appeared that the perceived severity of HIV (and in particular the severity of the physical consequences of HIV) would be an important distal variable and was expected to be of influence on the beliefs, attitude and intention of students to go for VCT. However, the original brochure ‘Get tested for HIV – Higher Education HIV/AIDS Programme’ does not extensively address the severity of HIV and the severity of the physical consequences of HIV is not included at all. Therefore, in both experimental brochures the information was changed under the heading ‘Why is it important to know your HIV status’, by which especially the severity of the negative physical consequences of HIV was addressed. In addition, the coping measure ART was included under this heading to avoid that the reader of the experimental brochures would consider the threat of HIV to be too severe and would decide that coping is beyond him or her (see section 1.2, page 9 for information on this aspect of fear appeal messages). Furthermore, the heading ‘Why is it important to know your HIV status’ was placed in the beginning of the experimental brochures, instead of halfway the brochures, as in the original text. The idea behind this change was that the reader would be immediately aware of the threat of HIV and would be stimulated to read further, in search for more information on a measure to cope with these
negative physical consequences (e.g. information on ART, which is the main focus of this experiment).

4.2.1.2 Changes with regard to the susceptibility of HIV

From section 1.2 (chapter 1) it appeared that the perceived susceptibility of HIV was an important distal variable expected to be of influence on the beliefs, attitudes and intention to get tested on HIV. In the original brochure ‘Get tested for HIV – Higher Education HIV/AIDS Programme’ only students who were sexually active and had unprotected sex were considered to be susceptible to HIV. However, there are more ways by which the HIV virus can be transmitted. Under the heading ‘Who should get tested’ changes with regard to various risks of infection were made in the experimental brochures, supposing that only students who consider themselves to be susceptible to HIV would search for a coping measure (e.g. ART, the focus of this experiment):

You should go for an HIV test if you or your partner:
- is sexually active. Even if you had unprotected sex once, you could be at risk for HIV.
- have ever been pricked with a needle or sharp instrument which had blood in or on it
- have ever had a blood transfusion
- have ever shared needles or syringes for injecting drugs
- got tested more than three months ago and have been at risk since

By summing up more ways in which people can get infected with HIV, it was intended to increase the perceived susceptibility of the readers and to make them actively read further, in search for measures to cope with a possible HIV infection (e.g. information on ART, which is the main focus of this experiment). This section on the susceptibility to HIV was placed in the beginning of the experimental brochures, instead of the end (as in the original brochure), to address the group of students for whom it is important to read the whole brochure.

By making these alterations under the headings ‘Why is it important to know your HIV status’ and ‘Who should get tested’, the space left available for other manipulations in the original brochure became smaller. After all, the experimental brochures were printed on the same format paper as the original brochure. Therefore it was decided to exclude information about what to do when your test result was negative (since information on this topic was already included in an earlier section in the brochure). Next to that, information about measures to cope with a positive result was also deleted from the brochure (information on this topic was also earlier mentioned in the brochure). By making these alterations, space became
available to include information about the coping measure ART, of which the argument structure was presented in different ways in the two experimental text versions.

4.2.1.3 Manipulations with regard to the presentation structure of the coping measure ART
From section 1.2 (chapter 1) it appeared that informing students about measures to cope with the negative physical consequence of HIV might increase the VCT uptake among students. Since the VCT brochure ‘Get tested for HIV – Higher Education HIV/AIDS Programme’ did not include information on anti-retroviral treatment (ART) as a measure to cope with the negative physical consequences of HIV, two experimental brochures were designed in which information on anti-retroviral treatment (ART) was included. The content of the two experimental brochures concerning ART was the same: based on information retrieved from HIV/AIDS brochures in which ART was included (the Dutch HIV/AIDS brochures ‘Steeds meer mannen weten het’ and ‘Alles over HIV and AIDS’ and the South African HIV/AIDS brochures ‘HIV and AIDS information booklet’ and ‘HIV and AIDS. Prevention, Care and Treatment’) and on the results of the content analysis (chapter 3), a section on ART was created in the experimental brochures with the heading ‘What should I know about anti-retroviral treatment (ART)’. From the content analysis it appeared that the coping measure ART was addressed in some VCT brochures, but these VCT brochures often lacked a thorough reasoning behind the efficacy of ART. Especially information on the working of ART and the disadvantages of ART were often absent from the VCT brochures, while the source of VCT brochures, according to the informed consent principles of the WHO (2003), should include information about the advantages as well as the disadvantages of the coping measure. To be able to design experimental brochures which adhered to the principles of the WHO, and thus included information on the efficacy, advantages and disadvantages of ART, the labels of the DISCERN instrument were used here (see chapter 1 section 1.4.2 for more information on the DISCERN instrument).

The difference that was created between the two experimental brochures referred to the presentation structure of the arguments on the effectiveness of ART. In both experimental brochures the effectiveness of ART was pragmatically argued, but the presentation of the disadvantages of ART differed. Experimental brochure A incorporated the disadvantages ART as a separate heading in the text and experimental brochure B included the disadvantages of ART as a rebuttal and qualifier in the text (Toulmin). The relevant parts of the two experimental text versions on ART are shown in example 4.1 and example 4.2. An explanation of the presentation structure of the arguments is indicated in the example in bold type; decisions made during the design of the experimental text version are discussed after each example.
Experimental version A: disadvantages of ART presented as separate arguments from the advantages

What should I know about Anti-retroviral treatment (ART)?

Advantages anti-retroviral treatment (ART):

* Anti-retroviral Treatment (ART) prolongs and improves the quality of life of a person with HIV (claim), since it allows the immune system to regain its strength (data). Anti-retroviral medicines suppress the replication of HIV by blocking the enzymes HIV uses to replicate itself (backing).

* ART restores your normal role functioning in daily life. It enables you to do the things you normally do (claim), since ART will make you less frequently sick (data). Anti-retroviral medicines will improve the strength of your body in order to combat opportunistic infections (like tuberculosis and pneumonia) (backing).

ART will be provided to all people in need through government hospitals and clinics. (A sentence to bolster the self-efficacy of ART)

Disadvantages of anti-retroviral treatment (ART):

* ART is not a cure for HIV/AIDS. Like most medicines, ART causes side-effects like diarrhoea, vomiting and headaches.

* Once you start ART, you will have to take the medicines regularly for the rest of your life and do not skip doses, otherwise the HIV virus can become resistant to ART.

But remember many HIV positive people who take anti-retroviral medicines live healthy, happy and productive lives for a long time. (A sentence to weaken the disadvantages of ART)

Example 4.1: Version A - Disadvantages of ART presented as separate arguments from the advantages

In experimental version A (see example 4.1) the advantages of ART are presented as a claim, with data and backing supporting the claim. However, the disadvantages of ART are presented as claims without further data and backings supporting the claim. The choice for this presentation structure was based on the fact that the content of the two experimental versions had to be as similar as possible to avoid any influence of differences in content on the test results. When a data and backing would be included to support the disadvantages of ART in this version, then the other version, in which the disadvantages of ART are presented as a rebuttal with a qualifier, should also have to have included a data and a backing. This would have lead to a lengthy argument, for which no space was left available in the brochure. It has to be noted that in text version A the disadvantages of HIV were positioned as two disadvantages, while actually four disadvantages of ART were mentioned (no cure, side-effects, strict regime and chance of resistance). The decision to position the four
disadvantages of ART as two was made to weaken the disadvantages of ART and to put more emphasis on the efficacy of ART. An additional attempt to weaken the disadvantages of ART was made by incorporating the sentence ‘But remember many people who take anti-retroviral medicines live healthy, happy and productive lives for a long time’ right after the presentation of the disadvantages.

With regard to text version B, an explanation of the presentation structure of the arguments on the efficacy of ART is shown in example 4.2 in bold type. After example 4.2 the choices made during the design of the experimental text are discussed.

**Experimental version B: disadvantages of ART presented as a rebuttal**

**What should I know about Anti-retroviral Treatment (ART)?**

Antiretroviral treatment (ART) prolongs and improves the quality of life of a person with HIV (claim), since it allows the immune system to regain its strength (data). Anti-retroviral medicines suppress the replication of HIV by blocking the enzymes HIV uses to replicate itself (backing). Remember that once you start ART, you will take the medicines regularly for the rest of your life and do not skip doses, otherwise the virus can become resistant to ART (rebuttal).

ART restores your normal role functioning in daily life. It enables you to do the things you normally do (claim), since ART will make you less frequently sick (data). Anti-retroviral medicines will improve the strength of your body in order to combat opportunistic infections (like tuberculosis and pneumonia) (backing). Like most medicines however, ART can cause side effects like diarrhoea, vomiting and headaches (rebuttal).

ART will be provided to all people in need through government hospitals and clinics. *(A sentence to bolster the self-efficacy)*

ART is not a cure for HIV/AIDS, but remember many HIV positive people who take anti-retroviral medicines live healthy, happy and productive lives for a long time. *(A sentence to weaken the disadvantages of ART)*

**Example 4.2: Version B - disadvantages of ART presented as a rebuttal**

Text version B (see example 4.2) consisted of two major claims with data and backing for each claim that was presented. In this text version the disadvantages of ART were incorporated in a rebuttal. As can be noted from the example, a qualifier was not used. The decision to omit the qualifier in this experimental text version was based on the possibility that a qualifier might endanger the similarity of the content of the two experimental text versions; therefore the qualifier was removed from experimental text version B.
A final remark has to be made about the last sentence of text version B. The fact that ART is not a cure for HIV/AIDS was not incorporated in the text as a rebuttal, because the disadvantage ‘no cure’ was considered to be too strong a disadvantage and that would devalue the claims in a too serious way. The conclusion to omit the ‘no cure’ argument as a rebuttal in the text is also supported by the ideas of Toulmin (in Van Eemeren et al. 2002): a claim should hold even though a rebuttal is added. When creating the experimental brochure, serious doubt arose as to whether the claims (‘Anti-retroviral treatment prolongs and improve the quality of life of a person living with HIV’ and ‘ART restores your normal role functioning in daily life’) would hold if the rebuttal ‘no cure’ was added to the argumentation.

By omitting the ‘no cure’ argument as a disadvantage (rebuttal) in experimental brochure B, the similarity of the content of the two experimental was jeopardised. To ascertain the similarity of the content of the two experimental versions, it was decided to include the ‘no cure’ disadvantage as a concluding sentence, followed by a statement (used in experimental version A as well) to weaken the disadvantages of ART and to increase the efficacy of ART.

4.2.2 Pre-test of the experimental brochures
The experimental brochures A and B were presented to a focus group of five students from the University of Pretoria to globally assess the quality of the brochures and to establish whether this focus group would find it probable that a VCT brochure in this style would occur on the campuses of universities in South Africa. The students in the focus group indicated that the style of writing of the experimental brochures seemed honest and direct, which they considered to be a good way to approach students. This opinion was based on the fact that the students from the focus group received lots of information on HIV/AIDS in the past that they not always found to be clear and straightforward and that they would appreciate information on HIV/AIDS that would not ‘go around the bush’. In addition, the students indicated that they learned from the content of the brochures, especially with regard to the different tests that exist to determine one’s HIV status. Overall the students looked upon the experimental brochures as VCT brochures of good quality that could actually be presented to them at their university campus.

After this positive outcome of the pre-test, the content of the experimental brochures was handed to the graphical designer of the UNISA. She managed to create experimental brochures of which the format was identical to the original VCT brochure ‘Get tested for HIV – Higher Education HIV/AIDS Programme’. This graphical design resulted into an even more realistic VCT brochure. (See appendix 2 and 3 for a copy of the experimental brochures).
4.3 Design of the questionnaire

A questionnaire was designed to measure the impact of the experimental brochures A and B on the beliefs, attitude and intention of students towards VCT. The questionnaire consisted of three sections. In section A, questions were included about the general characteristics of the participant (for more information see section 4.3.1), section B included questions about the impact of the brochure on beliefs, attitudes and intention towards VCT (for an extensive discussion see section 4.3.2) and sections C contained evaluative questions about the source of the brochure (the design of this section is explained in section 4.3.3). A copy of the questionnaire is included under attachment 4.

4.3.1 Design of the questionnaire: Section A - General characteristics of the participant

4.3.1.1 Demographical characteristics
In section A of the questionnaire, questions were included about the age of the student, the gender, the ethnical background and the first and second language of the student. These variables were included since the conceptual model indicated that these individual characteristics might influence the beliefs, attitude and intention towards VCT. The questions about the first and second language of the student were included to see whether the language of the brochure (English) could have been a problem for the reader to understand. For the other demographical characteristics applied that their influence on the intermediate variables (perceived severity of HIV, perceived severity of the negative physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, response-efficacy of ART, self-efficacy of ART, persuasiveness of brochure and source credibility) and on the attitude and intention towards VCT were statistically analysed. The questions about the demographical characteristics were numbered 1 to 5.

4.3.1.2 Past experiences
Questions 6 to 9 of the questionnaire were included to get an insight into the past experiences of students with regard to HIV/AIDS and their VCT behaviour on the beliefs, attitude and intention towards VCT. The influence of these individual characteristics on the intermediate variables (perceived severity of HIV, perceived severity of the negative physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, response-efficacy of ART, self-efficacy of ART, persuasiveness of brochure and source credibility) and on the attitude and intention towards VCT were statistically analysed. The following questions were posed here were:
6. Have you ever considered having an HIV test?
7. If yes, have you ever had an HIV test?
8. Do you personally know someone who has taken an HIV test?
9. Do you personally know someone living with HIV/AIDS?
The students had two options to respond: yes or no.

From question 10 on, the questionnaire included statements that had to be reacted upon by indicating one’s position on a five-point Likert scale. The five point Likert scale was designed with the position ‘Strongly disagree’ at the left end of the continuum and ‘Strongly agree’ at the right end of the continuum. Instructions were given in the questionnaire (placed between question 9 and 10) on how to position an opinion on a five-point Likert scale.

4.3.1.3 Perceived efficacy of coping with the negative physical consequences of HIV and the intention towards VCT before reading the experimental brochure
The last part of section A included statements about the perceived efficacy of coping with the negative physical consequences of HIV (question 12 & 13; Cronbach’s Alpha = 0.71) and the intention to go for an HIV test (question 14 & 15; Cronbach’s Alpha = 0.94) before reading the experimental brochure. The same statements were included at the end of section B of the questionnaire (thus after reading the experimental brochure). Asking the participants to react on these statements before and after they had read the brochures, the impact of the VCT brochures, and especially the impact of providing information on the coping measure ART could be determined. In addition, statements were included to assess the perceived threat of the negative physical consequences of HIV (question 10 & 11), but since the Cronbach’s Alpha was 0.13, the questions were not used for further analysis.

After the first 15 questions (statements) were answered, the participant was asked to read the experimental brochure and to fill out the other questions of the questionnaire.

4.3.2 Design of the questionnaire: Section B - Efficacy of the experimental brochure
The impact of the experimental brochure was assessed with regard to nine determinants of influence of the testing behaviour of students: perceived severity of HIV, perceived severity of the negative physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy of ART, perceived self-efficacy of ART, persuasiveness of brochure, source credibility, attitude towards VCT and intention to go for VCT. (See chapter 1.3 for more information about the influence of these determinants on the testing behaviour of South African students). The design and the internal consistency of the questions for each determinant are discussed in
this section. (For questions used to measure the source credibility, see section C of the questionnaire).

**Perceived severity of HIV**
Question 45 and 50 assessed the impact of the experimental brochure on the perceived severity of HIV. The questions were derived from the RBD scale found in Witte et al. (1996). This scale was used in earlier studies as well and has proven to be valid and reliable. The internal consistency of the questions of this determinant was moderate: Cronbach’s Alpha = 0.63.

**Perceived severity of the negative physical consequences of HIV**
Question 46 and 47 assessed the impact of the experimental brochure on the perceived severity of the negative physical consequences of HIV. The questions were also derived from the RBD scale found in Witte et al. (1996). Cronbach’s Alpha was 0.82: which proved the internal consistence of the questions posed with regard to this determinant.

**Perceived susceptibility to HIV**
Questions 48 and 56 assessed the impact of the experimental brochure on the perceived susceptibility to HIV. The questions were also derived from the RBD scale found in Witte et al. (1996). The internal consistency of the questions of this determinant was moderate (Cronbach’s Alpha = 0.64)

**Perceived susceptibility to the negative physical consequences of HIV**
Questions 51 and 53 assessed the impact of the experimental brochure on the perceived susceptibility to the negative physical consequences of HIV. Again, the questions were derived from the RBD scale found in Witte et al. (1996). However, the Cronbach’s Alpha (0.49) indicated an insufficient internal consistency. Therefore the results with regard to these two questions will be reported separately in the result section.

**Response-efficacy of ART**
The design of the questions to assess the impact of the brochures on the response-efficacy of ART was slightly complicated. Since the presentation structure of the arguments on the response-efficacy of ART differed between the two experimental brochures, it was important to find out whether the separate components of the two major arguments (claim, data, relation between claim – data, backing, rebuttal (separate disadvantage)) themselves would be responsible for a possible impact. Therefore, the attitude of students towards each argument component regarding the response-efficacy of ART was measured. Table 4.1
shows an overview of the internal consistency of the questions about each of these components.

<table>
<thead>
<tr>
<th>Component</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim 1 (question 18, 19 and 21)</td>
<td>0.72</td>
</tr>
<tr>
<td>Claim 2 (question 20 and 22)</td>
<td>0.72</td>
</tr>
<tr>
<td>Data 1 (question 23 and 30)</td>
<td>0.30</td>
</tr>
<tr>
<td>Data 2 (question 24 and 31)</td>
<td>0.16</td>
</tr>
<tr>
<td>Relation claim-data 1 (question 27 and 34)</td>
<td>0.74</td>
</tr>
<tr>
<td>Relation claim-data 2 (question 32 and 35)</td>
<td>0.71</td>
</tr>
<tr>
<td>Backing 1 (question 25 and 36)</td>
<td>0.71</td>
</tr>
<tr>
<td>Backing 2 (question 26 and 37)</td>
<td>0.65</td>
</tr>
<tr>
<td>Rebuttal (disadvantage) 1 (question 28 and 38)</td>
<td>0.66</td>
</tr>
<tr>
<td>Rebuttal (disadvantage) 2 (question 29 and 33)</td>
<td>0.76</td>
</tr>
</tbody>
</table>

**Table 4.1: Cronbach’s Alphas of the component of the argumentation on ART**

The sets of questions posed to measure the students’ attitude towards data 1 and data 2 were found to be inconsistent (Cronbach’s alpha 0.30 and 0.16 respectively). The other sets of questions, posed to assess the students’ attitude towards the several components of the two arguments were found to be internally consistent (see table 4.1). Since the argument ‘ART is no cure’ was not presented as an element from the Toulmin model in the experimental brochures, two additional questions were added to the questionnaire to measure the impact of this disadvantage on the beliefs, attitude and intention towards VCT (Cronbach’s Alpha = 0.73).

These questions all together measured the perceived response-efficacy of ART. This resulted in Cronbach’s Alpha = .92.

**Self-efficacy ART**
Questions 39, 40, 41, 42, 43 and 44 were posed to assess the impact of the brochures on the self-efficacy with regard to ART. The questions were derived from the RBD scale found in Witte et al. (1996) and from studies by Awad et al. (2004), Van Dyk (2001) and Boshamer & Bruce (1999). The internal consistency of the questions for the self-efficacy of ART was moderate (Cronbach’s Alpha = 0.64 and 0.65 if item 41 deleted). Therefore item 41 was deleted and not used for further analysis with regard to the self-efficacy of ART.

**Persuasiveness of the brochure**
The persuasiveness of the brochure was added as an item to the questionnaire to find out to what extent the students considered the experimental brochure to be influence on their intention to go for VCT. The persuasiveness of the brochure was measured by the following statements ‘This brochure convinced me to go for Voluntary Counselling and Testing’ (60) and ‘Because of this brochure I will go for voluntary counselling and testing’ (64). The internal consistency was high: Cronbach’s Alpha = 0.85.

**Attitude towards VCT**

The questions (52, 55, 57, 58 and 59) that were used to measure the impact of the experimental brochure on the attitude towards VCT of the students, were derived from the RBD scale found in Witte et al. (1996) and from studies of Awad et al. (2004), Van Dyk (2001) and Boshamer & Bruce (1999). The internal consistency of the questions of this determinant proved to be good: Cronbach’s Alpha = 0.74 and 0.78 if item 59 deleted. Therefore item 59 was deleted and not used for further analysis with regard to the attitude towards VCT.

**Intention towards VCT**

Question 54 and 63 were included to assess the impact of the brochure on the intention to go for VCT. The questions were derived from a scale found in Maes et al. (1996), which had proven to be valid and reliable in earlier studies as well (e.g. Burger, Loohuis & Van Beek, 2006 and Hoeken, 1994). The internal consistency of the questions with regard to the intention appeared to be high: Cronbach’s Alpha = 0.89.

Note that for all these variables (perceived severity of HIV, perceived severity of the negative physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy of ART, perceived self-efficacy of ART, persuasiveness of brochure, source credibility, attitude towards VCT and intention to go for VCT), the influence of the *individual characteristics* (gender, ethnicity and past experiences) will also be statistically determined.

**4.3.3 Design of the questionnaire: Section C – Source reliability**

Section C was placed at the end of the questionnaire with the assumption that after filling out the questions of section B, students might shift their focus to the manipulative part of the experimental brochures (on the efficacy of ART). With the focus on this part of the experimental brochure, students might indicate a difference in the source reliability between the two experimental brochures.
The questions (65, 66, 67, 68, 69, 70, 71 and 72) used to assess the impact of the experimental brochure on the source reliability were derived from an existing scale found in Maes et al. (1996). This scale measures source reliability and has been proven to be valid and reliable in earlier studies as well (see Burger, Loohuis & Van Beek, 2006 and Hoeken, 1994). Two questions were added to this scale, which were derived from a questionnaire found in Saal (2003), also based on the original scale of Maes et al. (1996)). The internal consistency of the questions regarding the source reliability was high: Cronbach’s alpha = .86 and 0.87 if item 71 deleted. Therefore item 71 was deleted and not used for further analysis with regard to the source credibility.

4.3.4 Pretest of the questionnaire
Ten students from the University of Pretoria pre-tested the questionnaire. Defects, spelling errors and difficulties in the questionnaire were traced and corrected. In addition, one professor from UNISA and one professor from Radboud University Nijmegen commented on the design of the questionnaire. Based on these comments some further adjustments were made.

4.4 Procedure
The participants (a convenience sample) were approached on the campus of the University of Pretoria. The students were asked for their cooperation. If they were willing to cooperate, a short instruction about the experiment was given by the researcher. The researcher stayed around to answer (possible) questions and to collect the questionnaire when the students were finished.

At total of 50 students filled out the first 15 questions and then read the experimental brochure A, in which the coping measure ART was pragmatically argued, with the disadvantages presented separate from the advantages. After reading this experimental brochure, the students filled out the rest of the questionnaire. At the same time 50 students were approached to fill out the first 15 questions of the questionnaire and then read the experimental brochure B, in which the disadvantages of ART were presented as a rebuttal with a qualifier. After reading this experimental brochure, the students filled out the rest of the questionnaire.
4.5 Statistical analysis

To statistically analyse the data that were acquired by distributing the questionnaire among students from the University of Pretoria, the software package SPSS was used. To get an overview of the demographical characteristics of the participants, descriptive statistics were used (e.g. calculating mean, frequencies, percentages etc.). T-tests were used to find out whether mean scores for the intermediate and dependent variables (perceived severity HIV and its negative physical consequences, perceived susceptibility to HIV and its negative physical consequences, response- and self-efficacy ART, attitude towards VCT, intention to go for VCT, source credibility and the persuasiveness of the experimental brochures) differed in relation to the values of the experimental conditions and in relation to individual characteristics (text version, gender, ethnicity, considered having an HIV test, having had an HIV test, personally knowing somebody who had an HIV test and personally knowing somebody living with HIV). Two tailed tests were used here, since the direction of the relationship between the intermediate and dependent variables and the experimental conditions and individual characteristics was not theoretically underpinned. To find out if there would be any interaction effects of experimental conditions and the individual characteristics on the intermediate and dependent variables, multivariate and (if appropriate) univariate analyses of variance were performed.
5. Results section: experiment

In this chapter the results of the experiment are discussed. This result section is divided into five sections: in section 5.1 the influence of the experimental conditions on the intermediate variables is discussed, including the variables perceived severity of HIV, perceived severity of the negative physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy of ART, perceived self-efficacy of ART and the source-credibility. It was examined whether differences existed between the mean scores of the students who read experimental brochure A versus experimental brochure B on the intermediate variables. Section 5.2 presents the influence of the experimental conditions regarding the attitude (perceived response-efficacy of VCT) and intention towards VCT and whether students who read experimental brochure A showed a different mean score on the attitude and intention towards VCT than students who read experimental brochure B. In section 5.3 the influence of the individual characteristics on the intermediate variables is presented. The mean scores of the same variables discussed in section 5.1 were compared between black and white students and male and female students. In addition the influence of past experiences of students on their mean scores with regard to the intermediate variables are discussed in section 5.3. Section 5.4 presents the influence of the individual characteristics on the attitude (perceived response-efficacy of VCT) and intention to get tested for HIV. In section 5.5 correlations between the intermediate variables and the attitude and intention towards VCT are discussed.

A preliminary remark should be made here concerning the interpretation of the scores for variables and items where Likert scales were used (This concerns the items perceived severity of HIV, perceived severity of the negative physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy ART, perceived self-efficacy ART, source credibility, attitude and intention towards VCT before reading the VCT brochure, intention after reading the VCT brochure and the persuasiveness of the VCT brochure). Table 5.1 shows how these scores should be interpreted.
Table 5.1: Interpretation of scores

<table>
<thead>
<tr>
<th>Score</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00 – 1.50</td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>1.51 – 2.50</td>
<td>Disagree</td>
</tr>
<tr>
<td>2.51 – 3.50</td>
<td>Neutral: neither agree nor disagree</td>
</tr>
<tr>
<td>3.51 – 4.50</td>
<td>Agree</td>
</tr>
<tr>
<td>4.51 – 5.00</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

It was decided to divide the scores into these five categories, since it best resembles the answering categories of the questionnaire. In addition, other studies that made use of a five point Likert scale, also used this division (e.g. Feddes, 2006).

5.1 Influence of experimental brochures on the intermediate variables

In this section, the influence of reading experimental text versions A and B on the intermediate variables (perceived severity of HIV, perceived severity of the negative physical consequences, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy of ART, perceived self-efficacy of ART and source credibility) is discussed.

5.1.1 Perceived severity of HIV and the negative physical consequences of HIV

Table 5.2 shows the mean scores of students reading experimental text version A and B on the severity of HIV and the negative physical consequences of HIV.

Table 5.2: Perceived severity of HIV and the negative physical consequences of HIV in relation to the experimental text version

<table>
<thead>
<tr>
<th></th>
<th>Experimental text version A</th>
<th>Experimental text version B</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Perceived severity HIV/AIDS</td>
<td>M = 4.78</td>
<td>M = 4.70</td>
</tr>
<tr>
<td></td>
<td>SD = 0.37</td>
<td>SD = 0.49</td>
</tr>
<tr>
<td>- Perceived severity negative physical consequences HIV</td>
<td>M = 4.64</td>
<td>M = 4.46</td>
</tr>
<tr>
<td></td>
<td>SD = 0.54</td>
<td>SD = 0.87</td>
</tr>
</tbody>
</table>
Students strongly believed that HIV/AIDS is a severe illness. No significant differences were found between the scores for the two text versions on the perceived severity of HIV ($t(96) = .924, p = .36$).

In addition, no significant differences were found between the two text versions with regard to the mean scores of perceived severity of the negative physical consequences of HIV ($t(96) = 1.261, p = .21$). In general, the students agreed that the negative physical consequences of HIV are severe (experimental text version A: $M = 4.64; SD = 0.54$; experimental text version B: $M = 4.46; SD = 0.87$).

### 5.1.2 Perceived susceptibility to HIV and the negative physical consequences of HIV

Table 5.3 presents the mean scores of the perceived susceptibility to HIV and the negative physical consequences of HIV of students reading experimental text version A and B.

<table>
<thead>
<tr>
<th></th>
<th>Experimental text version A</th>
<th>Experimental text version B</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived susceptibility HIV/AIDS</strong></td>
<td>M = 3.35; SD = 1.18</td>
<td>M = 3.92; SD = 0.97</td>
</tr>
<tr>
<td><strong>Perceived susceptibility negative physical consequences HIV</strong></td>
<td>M = 4.12; SD = 1.05</td>
<td>M = 4.33; SD = 0.94</td>
</tr>
<tr>
<td></td>
<td>M = 4.63; SD = 0.70</td>
<td>M = 4.45; SD = 0.96</td>
</tr>
</tbody>
</table>

Students who read the experimental text version A (ART pragmatically argued, disadvantages presented separate from the advantages) showed a mean score of $M = 3.35; SD = 1.18$ and students who read experimental text version B (ART pragmatically argued, disadvantages presented as a rebuttal (Toulmin)) scored $M = 3.92; SD = 0.97$. However, no significant difference was found between the scores of students who read experimental text version A and students who read experimental text version B ($t(97) = -1.70, p = .09$).

When looking at the determinant perceived susceptibility to the negative physical consequences of HIV, the students in this experiment found themselves highly susceptible to the negative physical consequences of HIV/AIDS when being diagnosed HIV positive.
A comment has to be made here about the questions measuring this determinant. Since the internal consistency of the two questions was found to be insufficient, the results of the two questions are reported separately. The first question ‘Should I test HIV positive, I am at risk of getting opportunistic infections (like pneumonia and tuberculosis for example)’ resulted in mean score of M = 4.12; SD = 1.05 for the students who read experimental text version A and students reading experimental text version B scored M = 4.33; SD = 0.94. The second question ‘Should I test HIV positive, it is impossible that I will get opportunistic infections’ resulted in a mean score of M = 4.63; SD = 0.70 for students who read experimental text version A and students who read experimental text version B scored M = 4.45; SD = 0.96. However, no significant difference was found between the scores of students reading the two experimental text versions (t(96) = -1.01, p = .32 for question 1, and t(96) = 1.08, p = .28 for question 2).

5.1.3 Perceived efficacy of ART

Table 5.4 shows the mean scores of the students reading experimental text version A and B on the perceived response- and self-efficacy of ART.

<table>
<thead>
<tr>
<th></th>
<th>Experimental text version A</th>
<th>Experimental text version B</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Perceived response-efficacy ART</td>
<td>M = 3.81, SD = 0.50</td>
<td>M = 3.73, SD = 0.58</td>
</tr>
<tr>
<td>- Perceived self-efficacy ART</td>
<td>M = 3.62, SD = 0.59</td>
<td>M = 3.69, SD = 0.69</td>
</tr>
</tbody>
</table>

The t-test with regard to the perceived response-efficacy of ART revealed no significant difference between the scores for students reading the two experimental brochures (t(98) = .755, p = .45). Students who read the experimental brochure in which the disadvantages of ART were presented separate from the advantages showed a mean score of M = 3.81; SD = 0.50 with regard to the perceived response-efficacy of ART. Students who read experimental brochure B, in which the disadvantages of ART were presented as a rebuttal (Toulmin) showed a mean score of M = 3.73; SD = 0.58 on the perceived response-efficacy of ART.

From table 5.4 it becomes clear that a minor difference existed between the mean scores for the two experimental text versions on the perceived self-efficacy of the students with regard to ART. Students that read experimental text version (A) in which the disadvantages of ART
were presented separately showed a mean score on the perceived self-efficacy of $M = 3.62; SD = 0.59$ and students who read the experimental text version (B) in which the disadvantages of ART were presented as a rebuttal showed a mean score on the perceived self-efficacy of $M = 3.69; SD = 0.69$. However, the difference between the mean scores of the experimental text versions (A and B) proved not to be significant ($t(96) = -.479, p = .63$).

In addition, it was possible to analyse the response-efficacy of ART on the level of the separate arguments making up the response-efficacy determinant. A significant difference was found between the scores for experimental text version A and B with regard to the argument ‘*The response efficacy of ART is high, although it is not a cure for HIV*’ ($t(98) = 2.197, p < .05$). Experimental text version (B) in which the disadvantages of ART were presented as a rebuttal showed a mean score with regard to this argument (‘*The response-efficacy of ART is high, although it is not a cure*’) of $M = 3.98; SD = 0.82$. In experimental text version A, in which the disadvantages of ART were presented as a separate argument, the mean score with regard to the argument ‘*The response-efficacy of ART is high although it is not a cure for HIV*’ was $M = 4.30; SD = 0.62$. In other words, students who read the brochure in which the disadvantages of ART were presented as a separate argument, perceived the argument ‘*The response-efficacy of ART is high, although it is not a cure*’ to be more convincing than students who read the brochure in which the disadvantages of ART were presented as a rebuttal (Toulmin).

### 5.1.4 Source credibility

Table 5.5 presents the influence of reading experimental text version A and B on the mean scores of students with regard to the source credibility.

<table>
<thead>
<tr>
<th></th>
<th>Experimental text version A</th>
<th>Experimental text version B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source credibility</td>
<td>M = 3.77</td>
<td>M = 3.99</td>
</tr>
<tr>
<td></td>
<td>SD = 0.66</td>
<td>SD = 0.55</td>
</tr>
</tbody>
</table>

The students who read the VCT brochure in which the disadvantages of ART were presented separate from the advantages (experimental text version A) perceived the source of the brochure to be reliable ($M = 3.77; SD = 0.66$). The students who read the VCT brochure in which the disadvantages of ART were presented as a rebuttal (experimental text version B)
considered the source of the brochure more reliable (M = 3.99; SD = 0.55). However, this difference was not statistically significant (t(94) = -1.738, p = .09).

5.2 Influence text version on the attitude and intention towards VCT

5.2.1 Attitude towards VCT
An independent sample t-test was run to see whether differences occurred between the mean scores of the group of participants who read experimental brochure A and experimental brochure B on the attitude towards VCT. The attitude towards VCT was measured investigating the perceived response-efficacy towards VCT.

<table>
<thead>
<tr>
<th>Experimental text version A</th>
<th>Experimental text version B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude (response-efficacy VCT) M = 4.48</td>
<td>M = 4.39</td>
</tr>
<tr>
<td>SD = 0.61</td>
<td>SD = 0.67</td>
</tr>
</tbody>
</table>

The mean scores of the two text versions with regard to the attitude (perceived response-efficacy) differed (experimental text version A: M = 4.48; SD = 0.61; experimental text version B: M = 4.39; SD = 0.67), however no significant differences were found (t (96) = .751, p = .45).

5.2.2 Intention towards VCT
An important goal of this study was to see whether there would be a difference between the scores of students reading the two experimental text versions on their intention to get tested on HIV. Table 5.7 shows the mean scores for the intention of students before and after reading the experimental brochures. In addition, the mean scores for the perceived persuasiveness of the two experimental text versions are presented.
Students who read the brochure in which the disadvantages of ART were presented separate from the advantages (experimental version A) showed a mean score of $M = 2.79$; $SD = 1.37$ with regard to the intention to go for VCT. The group of students that read the brochure in which the disadvantages of ART were presented as a rebuttal (Toulmin, experimental version B) showed a mean score of $M = 3.01$; $SD = 1.24$. The difference between these mean scores proved not to be significant ($t (96) = -.851, p = .40$).

In addition, the intention before reading the experimental text versions was measured. When first looking at experimental text version A, the intention of participants did not significantly differ before and after reading the VCT brochure in which the disadvantages of ART were presented separated from the advantages. The mean intention before reading brochure A was $M = 2.69$; $SD = 1.39$ and after reading brochure A the mean score on the intention was $M = 2.79$; $SD = 1.37$. This difference proved not to be statistically significant ($t(47) = .916, p = .36$).

The students who read experimental text version B (in which the disadvantages of ART were presented as a rebuttal (Toulmin)) showed a mean intention of $M = 3.01$; $SD = 1.24$ while those students showed a mean score of $M = 3.06$; $SD = 1.33$ before reading experimental version B. The intention to get tested on HIV did decrease with .05. This effect, however, was not statistically significant ($t(48) = -.078, p = .94$).

Specific questions were posed as to whether the readers themselves thought that the experimental brochure might have been effective in persuading students to get tested on

<table>
<thead>
<tr>
<th>Experimental text version A</th>
<th>Experimental text version B</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Intention after reading the experimental text version</td>
<td>$M = 2.79$</td>
</tr>
<tr>
<td></td>
<td>$SD = 1.37$</td>
</tr>
<tr>
<td>- Intention before reading the experimental text version</td>
<td>$M = 2.69$</td>
</tr>
<tr>
<td></td>
<td>$SD = 1.39$</td>
</tr>
<tr>
<td>- Persuasiveness brochure</td>
<td>$M = 2.79$</td>
</tr>
<tr>
<td></td>
<td>$SD = 1.14$</td>
</tr>
</tbody>
</table>
Get the message - Get tested for HIV

HIV. Students who read experimental brochure A (disadvantages of ART presented separate from the advantages) showed a mean score of \( M = 2.79; \ SD = 1.14 \) with regard to the persuasiveness of the brochure and students who read experimental brochure B (disadvantages of ART presented as a rebuttal (Toulmin)) showed a mean score of \( M = 2.98; \ SD = 1.02 \) with regard to the persuasiveness of the brochure. However, this difference in mean score was not significant (\( t(96) = -.889, p= .38 \)).

5.3 Influence of individual characteristics on intermediate variables

In this section the effects are discussed of the individual characteristics (e.g. gender, ethnicity and past experiences) on the intermediate variables (perceived severity of HIV, perceived severity of the negative physical consequences, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy of ART, perceived self-efficacy of ART, source credibility). Only significant differences between the individual characteristics on the intermediate variables are presented here. No significant differences were found with respect to the perceived severity of the negative physical consequences, perceived susceptibility to the negative physical consequences of HIV and source credibility.

5.3.1 Gender

Table 5.8 presents the mean scores for the male and female students with regard to the perceived severity of HIV.

<table>
<thead>
<tr>
<th></th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Perceived severity of HIV</td>
<td>M = 4.83</td>
<td>M = 4.65</td>
</tr>
<tr>
<td></td>
<td>SD = 0.31</td>
<td>SD = 0.52</td>
</tr>
</tbody>
</table>

Male students considered HIV/AIDS to be a more severe threat than female students (\( t(96) = 2.108, p< .05 \)). Both male and female students considered HIV/AIDS to be a severe illness, but men showed a mean score of \( M = 4.83; \ SD = 0.31 \) and women showed a mean score of \( M = 4.65; \ SD = 0.52 \).
Another significant difference between male and female students was found on the level of separate arguments making up the response-efficacy determinant of ART (Rebuttal 2: *The response-efficacy of ART is high, although it causes side effects*). This argument proved to be more convincing for female students compared to male students \((t(98) = -2.582, p< .025)\). Female students considered the argument *The response-efficacy of ART is high, although it causes side-effects* to be more convincing \((M = 3.78; SD = 0.76)\) than male students did \((M = 3.36; SD = 0.83)\).

### 5.3.2 Ethnicity

The mean scores between black and white students differed only with regard to one intermediate variable: perceived self-efficacy of ART. Table 5.9 shows the mean scores of the black and white students with regard to this variable.

*Table 5.9 Perceived self-efficacy of ART in relation to ethnicity*

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived self-efficacy ART</td>
<td>M = 3.43</td>
<td>M = 3.88</td>
</tr>
<tr>
<td></td>
<td>SD = 0.67</td>
<td>SD = 0.53</td>
</tr>
</tbody>
</table>

The \(t\)-test revealed that a significant difference between black and white students with regard to the self-efficacy of ART \((t(96) = -3.640, p < .001)\). White students showed a higher perceived self-efficacy towards ART \((M = 3.88; SD = 0.53)\) than black students \((M = 3.43; SD = 0.67)\).

### 5.3.3 Past experiences

The influence of past experiences (having considered having an HIV test, having had an HIV test, personally knowing somebody who have had an HIV test and personally knowing somebody living with HIV/AIDS) on the intermediate variables is discussed in this section.

#### 5.3.3.1 Considered having an HIV test

Table 5.10 firstly presents the mean scores of the students who did and did not consider having an HIV test on the perceived susceptibility to HIV and on the perceived response-efficacy of ART.
Get the message - Get tested for HIV

Table 5.10 Intermediate variables in relation to ethnicity

<table>
<thead>
<tr>
<th>Considered having an HIV test</th>
<th>Not considered having an HIV test</th>
</tr>
</thead>
</table>
| - Perceived susceptibility to HIV | M = 3.83  
SD = 1.05  
| M = 3.25  
SD = 1.16 |
| - Perceived response-efficacy ART | M = 3.86  
SD = 0.55  
| M = 3.60  
SD = 0.49 |

Students who considered having an HIV test in the past felt more susceptible to HIV/AIDS (M = 3.83; SD = 1.05) than students who never considered having an HIV test (M = 3.25; SD = 1.16) (t(97) = 2.815, p < .01).

In addition, a significant difference was found with regard to the perceived response-efficacy of ART between students who did consider and did not consider having an HIV test (t(98) = 2.300, p < .025). Students who did consider having an HIV test before found ART to be a more effective response to HIV (M = 3.86; SD = 0.55) than students who did not consider having an HIV test (M = 3.60; SD = 0.49).

Next to these two significant outcomes, the past experience ‘having considered an HIV test’ proved to influence three argument components with regard to the response-efficacy of ART. Claim 1 (‘ART prolongs and improves the quality of my life, when being HIV positive’) was more convincing among students who had considered an HIV test in the past (t(98) = 2.407, p < .025). Claim 2 (‘ART enables me to do the things I normally do in daily life, when being HIV positive’) was more convincing among students who considered having an HIV test in the past (t(98) = 2.288, p < .025). Finally, the argument (‘The response-efficacy of ART is high, although it is not a cure’) was more convincing for students who have considered having an HIV test in the past than it was for students who did not consider having an HIV test (t(98) = 3.037, p < .005). Table 5.11 summarizes the mean scores for the three argument components that are being influenced by the individual characteristic ‘having considered an HIV in the past’.
Table 5.11: Argument components in relation to the past experience considered having an HIV test.

<table>
<thead>
<tr>
<th></th>
<th>Considered having an HIV test</th>
<th>Not considered having an HIV test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claim 1 (ART prolongs and improves my quality of life, when being HIV positive)</td>
<td>M = 4.18 SD = 0.69</td>
<td>M = 3.81 SD = 0.78</td>
</tr>
<tr>
<td>Claim 2 (ART enables me to do the things I normally do in daily life)</td>
<td>M = 4.13 SD = 0.71</td>
<td>M = 3.75 SD = 0.91</td>
</tr>
<tr>
<td>The response-efficacy of ART is high, Although it is not a cure</td>
<td>M = 4.30 SD = 0.65</td>
<td>M = 3.84 SD = 0.82</td>
</tr>
</tbody>
</table>

5.3.3.2 Personally knowing somebody living with HIV

A significant difference was found between the scores for students who personally did know somebody living with HIV and students who did not personally know somebody living with HIV on the determinant perceived susceptibility to HIV (t(96) = 2.893, p< .005). Students who personally knew somebody living with HIV/AIDS perceived themselves to be more susceptible to HIV (M = 4.08; SD = 0.96) than students who did not personally know somebody living with HIV (M = 3.33; SD = 1.13).

No further significant differences between the scores of the past experiences of students on the intermediate variables were found.

5.4 Influence of individual characteristics on attitude and intention to go for VCT

In this section the effects of the individual characteristics (e.g. gender, ethnicity and past experiences) on the attitude (perceived response-efficacy towards VCT) and intention are discussed. Only significant differences between the individual characteristics on the attitude and intention to go for VCT are presented here.
5.4.1 Ethnicity

Table 5.12 presents the mean scores for black and white students on the intention to get tested for HIV.

Table 5.12 Intention in relation to ethnicity

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Intention before read</td>
<td>M = 3.19</td>
<td>M = 2.57</td>
</tr>
<tr>
<td>experimental brochure</td>
<td>SD = 1.44</td>
<td>SD = 1.23</td>
</tr>
<tr>
<td>- Intention after read</td>
<td>M = 3.20</td>
<td>M = 2.59</td>
</tr>
<tr>
<td>experimental brochure</td>
<td>SD = 1.37</td>
<td>SD = 1.17</td>
</tr>
</tbody>
</table>

A significant difference was found between white and black students on the intention to get tested for HIV before reading the experimental brochures (t(97) = 2.321, p < .022). White students proved to have a lower intention to get tested on HIV before reading the experimental text versions (M = 2.57; SD = 1.23 compared to black students (M = 3.19; SD = 1.44)

In addition, the mean scores of black and white students differed significantly with respect to the intention to go for VCT after reading the VCT brochure (t(96) = 2.379, p < .019). Black students showed a mean score on the intention to get tested on HIV after reading the experimental brochures of M = 3.20; SD = 1.37 and white students had a mean score on the intention to get tested on HIV of M = 2.59; SD = 1.17. In other words, white students had a neutral / moderately negative intention to get tested on HIV after reading the experimental VCT brochures and black students had a neutral / moderate positive intention to get tested on HIV after reading the experimental VCT brochures.

5.4.2 Past experiences

Table 5.13 presents the mean scores for students who did and students who did not consider having an HIV test on the attitude and intention towards VCT.
Table 5.13 Attitude and intention in relation to the past experience considered having an HIV test

<table>
<thead>
<tr>
<th></th>
<th>Considered having an HIV test</th>
<th>Not considered having an HIV test</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Attitude (perceived response-efficacy VCT)</td>
<td>M = 4.53; SD = 0.60</td>
<td>M = 4.26; SD = 0.69</td>
</tr>
<tr>
<td>- Intention before reading the experimental brochure</td>
<td>M = 3.33; SD = 1.26</td>
<td>M = 2.01; SD = 1.13</td>
</tr>
<tr>
<td>- Intention after reading the experimental brochure</td>
<td>M = 3.25; SD = 1.32</td>
<td>M = 2.20; SD = 0.95</td>
</tr>
<tr>
<td>- Persuasiveness brochure</td>
<td>M = 3.04; SD = 1.08</td>
<td>M = 2.58; SD = 1.02</td>
</tr>
</tbody>
</table>

Students who did consider having an HIV test had a significant higher scores on the attitude (perceived response-efficacy) with regard to VCT (M = 4.53; SD = 0.60), than students who did not consider having an HIV test (M = 4.26; SD = 0.69) (t(96) = 2.007, p< .05).

In addition, a logical and very predictable significant difference was found between the scores of students who considered having an HIV test and students who did not consider having an HIV test on the intention to get tested before reading VCT brochures significant (t(97) = 5.097, p< .001). Students who did consider having an HIV test showed a mean score of M = 3.33; SD = 1.26 and students who did not consider having an HIV test revealed a mean score of M = 2.01; SD = 1.13.

Another significant difference that was to be expected was found on the intention to get tested for HIV before reading the experimental brochure, between the scores for students who did consider and students who did not consider having an HIV test (t(96) = 4.087, p< .001). Students who considered having an HIV test proved to have a higher intention to get tested on HIV (M = 3.25; SD = 1.32) than students who never intended to get tested on HIV (M = 2.20; SD = 0.95). Students who never considered having an HIV test even formed a negative intention towards VCT.

With regard to the persuasiveness of the VCT brochure, the past experience of the students in 'considering to have an HIV test' proved to statistically significant influence the scores of students (t(96) = 2.039, p< .05). The group of students who did consider having an HIV test scored significantly higher (M = 3.04; SD = 1.08) than the students who did not consider having an HIV test (M = 2.58; SD = 1.02)
When looking at the past experience ‘having had an HIV test’ four significant differences on the mean scores with regard to the attitude and intention towards VCT were found. Table 5.14 presents the mean scores of students who did and did not have an HIV test in the past on the attitude and intention towards VCT.

**Table 5.14 Attitude and intention in relation to the past experience having had an HIV test**

<table>
<thead>
<tr>
<th></th>
<th>Having had an HIV test</th>
<th>Not having had an HIV test</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Attitude (perceived response-efficacy VCT)</td>
<td>M = 4.65 SD = 0.51</td>
<td>M = 4.30 SD = 0.67</td>
</tr>
<tr>
<td>- Intention before reading the experimental brochure</td>
<td>M = 3.53 SD = 1.31</td>
<td>M = 2.63 SD = 1.18</td>
</tr>
<tr>
<td>- Intention after reading the experimental brochure</td>
<td>M = 3.58 SD = 1.29</td>
<td>M = 2.53 SD = 1.15</td>
</tr>
<tr>
<td>- Persuasiveness brochure</td>
<td>M = 3.26 SD = 0.99</td>
<td>M = 2.65 SD = 1.03</td>
</tr>
</tbody>
</table>

With regard to the attitude (perceived response-efficacy) of VCT a significant difference was found on the scores for students who had had an HIV test and students who had not had an HIV test (t(79) = 2.582, p< .025). Students who had had an HIV test considered the attitude (perceived response-efficacy) of VCT to be higher (M = 4.65; SD = 0.51) than students who had not had an HIV test (M = 4.30; SD = 0.67).

In addition, a significant effect on the intention to get tested before reading the experimental text versions was found for students who had have an HIV test and students who had not have an HIV test before (t(80) = 3.252, p< .005). Students who got tested on HIV in the past showed a higher mean score (M = 3.53; SD = 1.31) on the intention to get tested for HIV before reading the experimental brochures than students who never had had an HIV test before (M = 2.63; SD = 1.18). A significant effect was also found on the intention to go for VCT after reading the experimental brochures between the scores of students who did and did not have had an HIV test in the past (t(79) = 3.849, p< .001). Students who got tested in the past were willing to get tested for HIV in the future (M = 3.58; SD =1.29) and students who had not had an HIV test in the past held a neutral / more negative opinion towards the intention to get tested on HIV (M = 2.53; SD 1.15).

A final significant effect for students who did have and who did not have an HIV test before was found on the persuasiveness of the experimental brochure (t(79) = 2.695, p< .01).
Students who had had an HIV test in the past found the experimental brochures more persuasive ($M = 3.26; SD = 0.99$) than students who did not have an HIV test before ($M = 2.65; SD = 1.03$).

With regard to the intention to get tested on HIV after reading the experimental brochure and with regard to the persuasiveness of the experimental brochure, significant differences were found between students who personally know somebody living with HIV/AIDS and students who did not personally know somebody living with HIV/AIDS. See table 5.15:

Table 5.15 Attitude and intention in relation to the past experience knowing somebody living with HIV/AIDS

<table>
<thead>
<tr>
<th></th>
<th>Personally knowing somebody living with HIV/AIDS</th>
<th>Personally not knowing somebody living with HIV/AIDS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Intention after reading the</td>
<td>$M = 3.23$</td>
<td>$M = 2.67$</td>
</tr>
<tr>
<td>experimental brochure</td>
<td>$SD = 1.39$</td>
<td>$SD = 1.21$</td>
</tr>
<tr>
<td>- Persuasiveness brochure</td>
<td>$M = 3.25$</td>
<td>$M = 2.62$</td>
</tr>
<tr>
<td></td>
<td>$SD = 1.09$</td>
<td>$SD = 1.01$</td>
</tr>
</tbody>
</table>

Students who personally know somebody living with HIV/AIDS proved to have a neutral / moderate intention to get tested ($M = 3.23; SD = 1.39$) and students who did not personally know somebody living with HIV/AIDS showed a neutral / negative position towards the intention to get tested on HIV ($M = 2.67; SD = 1.21$) ($t(95) = 2.101, p< .05$).

In addition, the group of students that personally did know somebody living with HIV/AIDS considered the experimental brochure to be more persuasive ($M = 3.25; SD = 1.09$) compared to students who do not personally know somebody living with HIV/AIDS ($M = 2.62; SD = 1.01$) ($t(95) = 2.911, p< .005$).

To conclude this section on the analysis of variance, a multivariate analysis of variance between the experimental text versions, gender, ethnicity an past experiences on the intermediate variables (perceived severity of HIV, perceived severity of the negative physical consequences, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy of ART, perceived self-efficacy of ART) revealed three significant interaction effects: an interaction effect was found on the persuasiveness of the brochures between the text version (experimental brochure A and B)
and having had an HIV test in the past \( F(78) = 4.58, p< .05 \); another interaction effect was found on the perceived response-efficacy of ART between the experimental text versions and the past experience ‘knowing somebody living with HIV’ \( F(78) = 5.13, p< .05 \); and an interaction effect was found on the source credibility between the experimental text versions and the gender of the student \( F(78) = 8.35, p< .01 \). However, from univariate analyses only one interaction effect appeared to be significant: the experimental text versions interacted significantly with the past experience ‘having had an HIV test’ on the persuasiveness of the brochure \( F(81) = 11.075, p< .001 \). Figure 5.1 provides more insight into this interaction effect:

In the group of students who read experimental text version A, in which the disadvantages of ART were presented separate from the advantages, a large difference was found between students who had \( (M = 3.52; SD = .89) \) and who had not had \( (M = 2.18; SD = .99) \) an HIV test regarding the evaluation of the persuasiveness of the experimental brochure. In the group of students who read experimental text version B, in which the disadvantages of ART were presented as a rebuttal, the evaluation of the persuasiveness of the experimental brochure showed hardly any difference among students who had \( (M = 2.91; SD = 1.04) \) and who did not had \( (M = 3.00; SD = .94) \) an HIV test.
5.5 Correlations between intermediate variables and the attitude and intention towards VCT

To analyse the relation between the intermediate variables and the attitude and intention towards VCT (after reading the experimental brochures), correlation analyses were conducted. The outcomes are presented in table 5.16 – 5.24.

Table 5.16 presents the correlations between the intermediate variable ‘perceived severity of HIV’ and the attitude and intention towards VCT:

Table 5.16 Correlations between perceived severity of HIV and the attitude and intention towards VCT

<table>
<thead>
<tr>
<th>Perceived severity of HIV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attitude (perceived response-efficacy VCT) Rs = .355 ***</td>
</tr>
<tr>
<td></td>
<td>Intention to go for VCT         Rs = -.054</td>
</tr>
</tbody>
</table>

Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found

A strong, positive correlation was found between the perceived severity of HIV and the attitude (perceived response-efficacy) towards VCT (Rs = .355, p< .001). The higher the scores for students on the perceived severity of HIV, the higher the scores for students on the attitude towards VCT. No further significant correlations were found between the perceived severity of HIV and the intention towards VCT.

Table 5.17 presents the correlations between the intermediate variable ‘perceived severity of negative physical consequences of HIV’ and the attitude and intention towards VCT:

Table 5.17 Correlations between perceived severity of the negative physical consequences of HIV and the attitude and intention towards VCT

<table>
<thead>
<tr>
<th>Perceived severity of the negative physical consequences of HIV</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Get the message - Get tested for HIV

- Attitude (perceived response-efficacy VCT)  Rs = .230 *
- Intention to go for VCT  Rs = -.176

Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found

A statistically significant positive correlation was found between a student’s perceived severity of the negative physical consequences of HIV and the attitude (perceived response-efficacy) towards VCT (Rs = .230, p< .05). As the perceived severity of the negative physical consequences of HIV increases, there is a corresponding increase in the attitude of the student towards VCT. No further significant correlations were found here.

Table 5.18 presents the correlations between the intermediate variable ‘perceived susceptibility to HIV’ and the attitude and intention towards VCT:

Table 5.18 Correlations between perceived susceptibility to HIV and the attitude and intention towards VCT

<table>
<thead>
<tr>
<th>Perceived susceptibility to HIV</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Attitude (perceived response-efficacy VCT)  Rs = .135</td>
</tr>
<tr>
<td>- Intention to go for VCT  Rs = .292 **</td>
</tr>
</tbody>
</table>

Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found

A statistically significant positive correlation was found between the scores for students on the perceived susceptibility to HIV and their scores on the intention to go for VCT (Rs = .292, p< .01). When students feel more susceptible to HIV, they reveal a higher intention to go for VCT. No further significant correlations were found here.

Table 5.19 presents the correlations between the perceived susceptibility to the negative physical consequences of HIV on the one hand and the attitude and intention towards VCT on the other hand. Since the two questions with regard to the susceptibility to the negative physical consequences of HIV were not internally consistent, the questions on this intermediate variable are reported upon separately.

Table 5.19 Correlations between perceived susceptibility to the negative physical consequences of HIV and the attitude and intention towards VCT

<table>
<thead>
<tr>
<th>Perceived susceptibility to the negative physical consequences of HIV</th>
</tr>
</thead>
</table>

80
A statistically significant positive correlation was found between the scores for the perceived susceptibility to the negative physical consequences of HIV (question 1) and the attitude towards VCT (Rs = .265, p< .01). In addition, a statistically significant positive correlation was found between scores of the perceived susceptibility to the negative physical consequences of HIV (question 2) and the attitude towards VCT (Rs = .494, p< .001). No further significant correlations were found here.

Table 5.20 shows the correlations between the intermediate variable 'perceived response-efficacy of ART' with the attitude and intention towards VCT:

<table>
<thead>
<tr>
<th>Perceived response-efficacy of ART</th>
<th>(question 1)</th>
<th>(question 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude (perceived response-efficacy VCT)</td>
<td>Rs = .265 **</td>
<td>Rs = .494 ***</td>
</tr>
<tr>
<td>Intention to go for VCT</td>
<td>Rs = .180</td>
<td>Rs = .197</td>
</tr>
</tbody>
</table>

Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found

A strong significant positive correlation was found between the perceived response-efficacy of ART and the attitude towards VCT (Rs = .339, p< .001). It can be concluded that when the score for the perceived response-efficacy of ART increases, the score for the attitude (perceived response-efficacy) of VCT increases as well. No further significant correlations were found here.

Table 5.21 presents the correlations between the perceived self-efficacy of ART and the attitude and intention towards VCT:

<table>
<thead>
<tr>
<th>Perceived self-efficacy of ART</th>
<th>(question 1)</th>
<th>(question 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude (perceived self-efficacy VCT)</td>
<td>Rs = .339 ***</td>
<td></td>
</tr>
<tr>
<td>Intention to go for VCT</td>
<td>Rs = .156</td>
<td></td>
</tr>
</tbody>
</table>

Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found
Get the message - Get tested for HIV

- Attitude (perceived response-efficacy VCT) \( Rs = .322 \ *** \)
- Intention to go for VCT \( Rs = -.057 \)

Note: *: \( p < .05 \), **: \( p < .01 \), ***: \( p < .001 \). In case of no asterisks, no significant correlation was found

The perceived self-efficacy of ART was found to strongly correlate with the attitude towards VCT (\( Rs = .322, p < .001 \)). As the scores for the perceived self-efficacy of ART increase, the attitude (perceived response-efficacy) of VCT increases as well. No further significant correlations were found here.

Table 5.22 presents the correlations between the source credibility and the attitude and intention.

**Table 5.22 Correlations between source credibility and the attitude and intention towards VCT**

<table>
<thead>
<tr>
<th>Source credibility</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>- Attitude (perceived response-efficacy VCT) ( Rs = .190 )</td>
</tr>
<tr>
<td>- Intention to go for VCT ( Rs = -.044 )</td>
</tr>
</tbody>
</table>

Note: *: \( p < .05 \), **: \( p < .01 \), ***: \( p < .001 \). In case of no asterisks, no significant correlation was found

From table 5.22 it can be concluded that no significant correlations were found between the source credibility and the attitude and intention towards VCT.

Table 5.23 shows the results from the Spearman’s correlation between the persuasiveness of the brochure and the attitude and intention towards VCT:

**Table 5.23 Correlations between persuasiveness of the experimental brochure and the attitude and intention towards VCT**

<table>
<thead>
<tr>
<th>Persuasiveness of the experimental brochure</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Attitude (perceived response-efficacy VCT) ( Rs = .346 \ *** )</td>
</tr>
<tr>
<td>- Intention to go for VCT ( Rs = .547 \ *** )</td>
</tr>
</tbody>
</table>
Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found.

Two strong correlations were found with regard to the persuasiveness of the brochure. The scores of students on the persuasiveness of the brochure proved to positively correlate with the attitude towards VCT (Rs =.346, p= .001). In addition, the scores of students on the persuasiveness of the brochures was found to positively correlate with the scores for students on the intention to go for VCT (Rs = .547, p< .001).

Spearman’s correlation was also used to see whether relations existed between the perceived fear for HIV and its negative physical consequences (perceived severity and susceptibility) with the coping measure ART. After all, the idea presented in 4.2.1 was that a more intensely perceived severity and susceptibility of HIV and its negative physical consequences would lead to more active search for coping measures. It is interesting to see whether this (possibly) increased threat to HIV and its negative physical consequences, would also lead to a more positive perceived response- and self-efficacy towards ART. Table 5.24 presents the results of the correlation analysis:

<table>
<thead>
<tr>
<th>Perceived severity HIV</th>
<th>Perceived response-efficacy ART</th>
<th>Perceived self-efficacy ART</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rs = .190</strong></td>
<td><strong>Rs = .174</strong></td>
<td></td>
</tr>
</tbody>
</table>
Get the message – Get tested for HIV

- Perceived severity negative physical consequences HIV  
  Rs = .089  
- Perceived susceptibility HIV  
  Rs = .167  
- Perceived susceptibility negative physical consequences HIV 1  
  Rs = .023  
- Perceived susceptibility negative physical consequences HIV 2  
  Rs = .165

Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found.

However, from table 5.24 it becomes clear that no correlations exist between the threat (perceived severity and susceptibility to HIV and the negative physical consequences of HIV) and the efficacy of the coping measure (perceived response- and self-efficacy ART).

Table 5.25 concerns the correlations between the attitude and the intention towards VCT:

Table 5.25 Correlations between attitude and intention towards VCT

<table>
<thead>
<tr>
<th>Attitude (perceived response- efficacy VCT)</th>
<th>Intention to go for VCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Attitude (perceived response- efficacy VCT)</td>
<td>Rs = 1.000</td>
</tr>
<tr>
<td>- Intention to go for VCT</td>
<td>Rs = .345 ***</td>
</tr>
</tbody>
</table>

Note: *: p< .05, **: p< .01, ***: p< .001. In case of no asterisks, no significant correlation was found.

A statistically significant positive correlation was found between the attitude (perceived response-efficacy of VCT) and the intention to go for VCT (Rs = .345, p< .001). As the scores of students on the attitude towards VCT rise, the scores on the intention to go for VCT rise as well.
6. Conclusions and discussion

In this concluding chapter, the research question presented in chapter 1 will be answered:

To what extent does the presentation structure of the arguments for or against ART, influence relevant beliefs, attitudes and intentions concerning Voluntary Counselling and Testing (VCT) among South African students?

This chapter is divided into a section which discusses the influence of the presentation structure of arguments on ART on the beliefs about the severity of HIV, susceptibility to HIV and efficacy of ART (in this study also referred to as intermediate variables), attitude and intention towards VCT and a section which discusses the influence of individual characteristics on the testing beliefs, attitudes and intention of South African students towards VCT. Furthermore, conclusions are drawn with regard to the relations between beliefs, attitude and intention towards VCT.

Influence of the presentation structure of arguments for or against ART on the beliefs, attitude and intention with regard to VCT

The results of this study did not reveal significant proof for the influence of the presentation structure of arguments for or against ART on the beliefs, attitude and intention with regard to VCT. When first looking at the beliefs (perceived severity of HIV, perceived severity of the physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the physical consequences of HIV, perceived response-efficacy ART, perceived self-efficacy ART and source credibility) no statistical significant differences were found with regard to the scores on these beliefs for students who read the experimental brochure A (in which the disadvantages of ART were presented separate from the advantages) and students who read experimental brochure B (in which the disadvantages of ART were presented as a rebuttal (Toulmin)). Furthermore, the presentation structure of arguments for or against ART did not statistically significant influence the attitude towards VCT nor did it influence the intention to go for VCT. In addition, the intention before and after reading the experimental brochures was measured, but again, no statistical significant differences were revealed with regard to the intention before nor after reading the experimental brochures. Possible explanations for this outcome might be the limited scope of the differences between the two experimental brochures. The content of the two experimental brochures had to be as similar
as possible and limited differences were a necessity to be sure that effects from the experiment were only to be attributed to the presentation structure of the argument. However, by creating minimal differences in the experimental conditions, minimal effects were to be expected. Moreover, since the experimental text is only about a fifth part of the total VCT brochure, the difference between the experimental brochures does not clearly emerge.

A statistical significant difference was found, however, between the two experimental brochures on the evaluation of a specific argument: ‘The response-efficacy of ART is high, although it is not a cure for HIV’. This argument was part of an argumentation scheme on the response-efficacy of ART. The evaluation of this argument differed significantly between the two experimental brochures. Readers of the brochure in which the disadvantages of ART were presented separate from the advantages (version A) agreed more strongly with the ‘no cure’ argument than the readers of the brochure in which the disadvantages of ART were presented as a rebuttal. However, it has to be noticed that the ‘no cure’ argument was (the only disadvantage) not presented as a rebuttal in experimental brochure B (see experimental design, section 4.2.1.3 for an explanation). The ‘no cure’ argument was placed at the end of the text about the efficacy of ART, immediately followed by a sentence to weaken the disadvantages of ART. In the brochure in which the disadvantages of ART were presented separate from the advantages, the ‘no cure’ argument was positioned under one bullet point together with the disadvantage ‘side-effects’. The sentence in which the disadvantages of ART were softened followed a bit further in the text. A possible explanation for the significant difference between the scores of students who read experimental brochure A an B on the evaluation of the ‘no cure’ argument might be that the South African students are not easy to mislead by ‘manipulative’ sentences which are meant to weaken the disadvantages of ART. They possibly see through the manipulative intent of the author, which is in line with the outcome of the pre-test of the experimental brochures; the students of the pre-test indicated that they prefer facts, an overview of disadvantages and advantages and they will decide for themselves whether ART is effective in averting the threat: HIV.

Another belief that was measured in this study (a belief that can be seen as a control variable as to whether the students themselves thought that experimental brochures convinced them to go for VCT), was the persuasiveness of the brochure. Again, the presentation structure of the arguments for and against ART did not influence this belief. However, an interaction effect was found between the ‘text version’ and the past experience ‘had an HIV test before’ on the persuasiveness of the brochure. It appeared that students who had and students who did not had have an HIV test in the past hardly differed in their opinion on the persuasiveness
of experimental brochure B, while a relatively large difference existed between students who had and did not have an HIV test in the past in their opinion on the persuasiveness of experimental brochure A. Students who have had an HIV test before and read experimental brochure A, in which the disadvantages of ART were presented separate from the advantages, considered the brochure to be persuasive. Students who did not have an HIV test in the past, considered experimental brochure A not to be persuasive. An explanation for this remarkable result may be that students who have had an HIV test, know the pros and cons of ART very well and would therefore appreciate a direct presentation structure of advantages and disadvantages of ART. With the knowledge they gathered when making the decision to get tested in the past, they can hardly be mislead by presenting the disadvantages of ART as a rebuttal. On the other hand, students who did not have an HIV before, perhaps did not yet study all information on an HIV test and on measures to cope with a positive result. For these students a direct approach (bluntly presenting the reader with advantages and disadvantages of ART) might be repelling. It seems to be more persuasive for students who have not yet had an HIV test, to soften the disadvantages of ART by presenting them as a rebuttal (presentation structure of arguments on ART in experimental brochure B).

Influence of individual characteristics on the beliefs, attitude and intention to get test on HIV

Gender
A significant difference was found between men and women with regard to the perceived severity of HIV/AIDS: male students considered HIV/AIDS to be a more severe threat than female students. Next to that, the argument ‘The response-efficacy of ART is high, although it causes side effects’ proved to be more convincing among female students compared to male students. When comparing these results with the study of Zak-Place and Stern (2003), who found that female students showed a higher intention to get tested for VCT than male students, it can be assumed that because male students consider HIV/AIDS to be a more severe illness, but because male students find the coping measure ART to be less effective than female students, it is expected that their intention to get tested on HIV is lower. However, this assumption was not substantiated in this study; the scores for male and female students on the intention to get tested on HIV did not differ significantly. Further research on this topic seems worthwhile. With regard to the other beliefs and attitude towards VCT, no statistically significant differences were found between the mean scores of male and female students.


Ethnicity
Statistically significant differences were found on the scores of black and white students with regard to the perceived self-efficacy of ART. White students showed a significant higher score on the perceived self-efficacy of ART compared to black students. Perhaps, due to their higher social economical status, white students might think it is easy for them to have access to ART, while black students might consider their (often) lower social economical status to be a barrier to get ART when testing HIV positive. In theory, this is a misconception, since the National Strategic HIV-AIDS Plan 2007-2011 declares that the South African government will provide ART to 80% of the HIV positive persons, irrespective of the ethnicity. However, in practice, it is seems questionable whether the rights of black and white with regard to access to ART are indeed equal. (Cf. see figures of the National Household survey 2005, which indicate that 84.2% of the black people attend public health care centres and 80.8% of the white people attend private health care centres. As the medical aid provided by the private health centres is much better organised than the medical aid of the public health care centres, it is questionable whether the black and white South Africans have equal access to ART).

Another statistically significant difference was found between black and white students with regard to the intention to get tested. Black students revealed a higher intention to get tested on HIV, compared to white students. Perhaps, since HIV/AIDS occurs more often among blacks compared to whites (National Household survey, 2005), it might be more accepted to get tested on HIV/AIDS in the black communities. After all, their chances of being HIV positive are higher, compared to white students. In addition, white students might think there is no need at all for them to get tested on HIV: many white South Africans still consider HIV/AIDS to be an illness to which only black people are susceptible (National Household Survey, 2005). Further research may provide more insight into the differences between black and white students on their perceived self-efficacy of ART and their intention to get tested on HIV. With regard to the other beliefs (perceived severity of HIV and its negative physical consequences of HIV, perceived susceptibility to HIV and its negative physical consequences, perceived response-efficacy ART, persuasiveness brochure and source credibility) and the attitude towards VCT, no statistically significant results were found.

Considered having an HIV test
South African students who considered having an HIV test scored significantly higher on beliefs, attitude and intention towards VCT than students who did no consider having an HIV test. When looking at the beliefs that influence the VCT attitude and intention, the perceived susceptibility to HIV/AIDS and the perceived response-efficacy of ART (special differences
were found with regard to the response-efficacy arguments ‘**ART prolongs and improves the quality of my life, when being HIV positive**’, ‘**ART enables me to do the things I normally do in daily life, when being HIV positive**’ and ‘*The response-efficacy of ART is high, although it is not a cure*’) proved to be significant higher among students who considered having an HIV test compared to students who did not consider having an HIV test.

A statistical significant difference was also found between students who did and did not consider having an HIV test concerning the persuasiveness of the VCT brochures. Students who did consider having an HIV test had a moderately positive opinion on the persuasiveness of the experimental brochures and students who did not consider having an HIV test evaluated the persuasiveness of the experimental brochures negatively. Furthermore, the attitude (perceived response-efficacy of VCT) and intention towards VCT proved to be higher among students who considered having an HIV test compared to students who did not consider having an HIV test.

Overall it can thus be concluded that students who considered having an HIV test, held more positive beliefs and attitudes towards VCT and are more willing to get tested on HIV/AIDS compared to students who did not consider having an HIV test in the past. This is quite an obvious conclusion; students who considered having an HIV test have probably already studied information on VCT and have thus already found reasons to get tested on HIV. It is therefore logical that these students hold more positive beliefs, attitudes and intentions towards VCT than students who did not consider having an HIV test.

**Having had an HIV test before**

Having had an HIV test before did not influence the beliefs concerning the perceived severity and susceptibility of HIV nor did it influence the perceived efficacy of ART. However, it did influence the attitude and intention towards VCT. Students who had had an HIV test before had a more positive attitude (response-efficacy) towards VCT. In addition, students who did have an HIV test in the past were more willing to get tested for HIV than students who did not have an HIV test before. This last group of students even revealed a negative intention to get tested for HIV. These results applied for the intention before reading the experimental brochures as well as after reading the experimental brochures.

Statistical significant differences were found on the evaluation of the persuasiveness of the VCT brochure between the groups of students who had and have not had an HIV test. Students who did not have an HIV test before held a more negative opinion towards the persuasiveness of the experimental brochures.
Overall it can be concluded that students who have had an HIV test, held a more positive attitude towards VCT and were more willing to get tested on HIV/AIDS compared to students who did not have an HIV test in the past. Again, this is quite an obvious conclusion since persons who have had an HIV test before already performed VCT behaviour and in doing so, their attitude and intention towards VCT had to be positive. It is more interesting to explain the reason why students who have had an HIV test did not significantly differ with regard to their beliefs on VCT compared to students who had not had an HIV test before. When looking for example at the susceptibility to HIV (and its negative physical consequences) the assumption can be made that students who have had an HIV before and know their HIV status, are more certain that they are not infected with (not susceptible to) HIV. On the other hand, students who had not had an HIV test in the past might not feel susceptible to HIV at all and therefore no difference exists between the mean scores on the susceptibility of HIV (and its negative physical consequences) of students who had had and who had not had an HIV test in the past.

**Personally knowing somebody who has had an HIV test**

No significant differences were found on the beliefs, attitude and intention towards VCT between the mean scores of students who personally did or did not know somebody who has had an HIV test. It seems that the acts of others (cf. perceived norm in the Integrated Model of Behavioral Prediction) does not influence the beliefs, attitudes and intention of the students of this study to get tested on HIV. Further research on this topic seems worthwhile.

**Personally knowing somebody living with HIV/AIDS**

Students who personally knew somebody living with HIV/AIDS revealed a higher perceived susceptibility to HIV than students did not personally know somebody living with HIV/AIDS. Furthermore, students who personally know somebody living with HIV/AIDS indicated that they were more likely to get tested on HIV than students who did not personally know somebody living with HIV/AIDS. Students who did not know somebody living with HIV/AIDS even considered it to be unlikely that they would get tested on HIV. In addition, students who did not know somebody living with HIV/AIDS considered the persuasiveness of the brochure low, while students who did personally know somebody living with HIV/AIDS considered the persuasiveness of the experimental brochures to be higher. A possible explanation for these three statistically significant differences between the mean scores of students who do and do not personally know somebody living with HIV is the idea that when being directly confronted with a disease in your near surroundings, you might feel more susceptible to HIV. HIV/AIDS is not a disease that happens to everyone else; it can happen to you and your friends and family as well. Therefore one might develop the intention to get tested on HIV/AIDS and hold
Get the message – Get tested for HIV

a more positive attitude towards brochures persuading people to get tested on HIV/AIDS than students who do not personally know somebody living with HIV.

**Correlations between beliefs and the attitude and intention to get tested for HIV**

For this study it was interesting to see whether significant correlations existed between the beliefs (perceived severity of HIV, perceived severity of the negative physical consequences of HIV, perceived susceptibility to HIV, perceived susceptibility to the negative physical consequences of HIV, perceived response-efficacy of ART, perceived self-efficacy of ART, source credibility and the persuasiveness of the brochure), the attitude (perceived response-efficacy VCT) and the intention to get tested for HIV. Indeed some statistical significant correlations were found between beliefs, attitude and intention towards VCT as presented in Fishbein and Yzer (2003) and the conceptual model, but not all proposed relations assumed in this model proved to be significant.

Significant correlations were found between the attitude towards VCT and perceived severity of HIV (and the negative physical consequences of HIV), perceived susceptibility to the negative physical consequences of HIV, perceived response- and self-efficacy of ART and persuasiveness of the brochures. Only the perceived susceptibility to HIV and source credibility did not correlate with the attitude towards VCT. All the other beliefs with regard to VCT and HIV/AIDS significantly proved to positively influence the attitude towards VCT. It can be assumed here that when writing VCT educational material, the beliefs presented in this study (except for the perceived susceptibility to HIV and the source credibility) should be addressed in order to improve the attitude towards VCT.

With regard to the intention to get tested on HIV, positive correlations were found with perceived susceptibility to HIV, the perceived response-efficacy towards ART and the attitude towards VCT. These results are in line with the expectations as they are pictured in the conceptual model. It is expected that a basic condition for forming the intention to get tested on HIV is the feeling of being susceptible to HIV. However, as indicated by Witte et al. (1996), when feeling susceptible but no effective measures are offered to cope with an HIV positive outcome of the HIV test, one might engage in controlling the fear instead of the danger: HIV. By offering effective measures to cope with HIV (as in this study is ART), a positive attitude will be formed towards VCT which positively correlates with the intention to get tested for HIV: the goal of many VCT brochures.
No further significant correlations were found between the intention to get tested and other beliefs on HIV/AIDS and VCT in this study.

**Recommendations for the design of VCT brochures**

When writing VCT educational material, it could be useful to take the results and conclusions of this study into consideration. Especially when developing VCT educational material that aims to change the intention of South African students towards VCT, it seems wise to include information that appeals to the perceived susceptibility to HIV, the perceived response-efficacy of ART and the attitude towards VCT: these determinants prove to positively correlate with the intention to get tested on HIV.

With regard to the presentation structure of arguments (in particular disadvantages of ART) in VCT brochures, it is advised that when using a sentence to weaken the disadvantages of ART in a VCT brochure, it should not immediately follow the disadvantage it is trying to weaken. It is recommended to position the manipulative sentence a bit further in the argumentation scheme, not close to the disadvantage it is trying to weaken, in order to minimize the chance that the manipulative intent of the author gets noticed. This is not only a conclusion from the experimental study, but it was also the outcome of the pre-test of the experimental brochure, where students indicated that they preferred facts and information on HIV/AIDS that would not 'go around the bush'. When further specifying the ideas about the use of manipulative sentences, it is advised to only use a rebuttal to mask the disadvantages of ART on students who have not had an HIV test before. Students who have had an HIV test in the past probably have more knowledge on HIV, ART and VCT and can therefore hardly be mislead by a rebuttal to mask the disadvantages of ART; these students consider the VCT brochure in which the disadvantages of ART are directly presented to be significantly more persuasive than the VCT brochure in which the rebuttal was used.

One of the conclusions from this study pertained to the perceived self-efficacy of ART which was found to be different for black and white students. This conclusion supports the importance of stressing the fact that ART is available to anyone, at anyplace at anytime (on the condition that the South African government is indeed able to effectively implement the National Strategic HIV/AIDS plan 2007-2011 and to provide ART to 80% of the HIV positive persons). Black students should be made aware that their chances to receive anti-retroviral treatment are equal to the chances of white students.
Finally, and most importantly, it should be noted that the participants in this study revealed a moderately low intention to get tested for HIV, as well before as after reading the experimental brochure. This worrying outcome could be explained by the moderately low perceived susceptibility to HIV of South African students (note that this moderately low perceived susceptibility to HIV can be justified, e.g. in a situation where a student is not sexually active, but it can also be based on a misjudgement of the situation of the student). White students revealed a significantly lower intention to get tested for HIV compared to black students. Obviously, the risk of getting infected with HIV is also present among white South Africans. Needless to say, but it is very important to direct the focus of VCT campaigns on both black and white students, to increase their awareness of being susceptible to HIV and thereby increasing their intention to get tested for HIV. Another idea for increasing the intention of students to get tested for HIV arose from the results with regard to personally knowing somebody living with HIV (see also Peltzer et al. 2002). The intention of students who personally know somebody living with HIV/AIDS proved to be significantly higher than the intention of students who did not personally know somebody living with HIV/AIDS. Since one out of ten people is expected to be HIV positive in South Africa, it will soon be hardly possible for people living in South Africa to not know somebody in their near surroundings who is HIV positive. By creating more openness around the HIV/AIDS problem (which is of course easier said than done), more people might disclose their positive status and this might encourage others to get tested on HIV as well.

Hopefully, based on this study and, of course, on more research on determinants that should be addressed in VCT educational material, some positive chances might be realised with respect to the attitude and intention towards VCT among South African students.
7. Limitations of this study and recommendations for future research

Generalizations of the conclusions
The results and conclusions of this study were based on data from South African students from the University of Pretoria. Due to the relatively small number of participants (100) it is not possible to generalize the outcome of this study to students from other universities, let alone to larger and more differing populations inside or outside South Africa.

Problems with the experimental design
This experiment was created to get an insight into the impact of two experimental brochures on the beliefs, attitude and intention of students towards VCT. In experimental brochure A the disadvantages of ART were presented separate from the advantages and in experimental brochure B the disadvantages of ART were presented as a rebuttal. Questionnaires were also distributed among students who did not read a VCT brochure and students who read the original VCT brochure ‘Get tested for HIV – Higher Education HIV/AIDS Programme’. This was done in order to get more insight into the baseline beliefs, attitudes and intentions of students towards VCT and to measure the potential effectiveness of the original VCT brochure in persuading students to go for VCT. However, the questionnaire that was used to measure these two conditions differed in relevant aspects from the questionnaire that was used to measure the impact of experimental brochure A and B on the beliefs, attitude and intention of students towards VCT. An attempt was made to compare the items of both questionnaires, but, apart from questions about the intention towards VCT, the items in the questionnaires did not match well enough in order to run useful statistical analyses. Therefore it is not clear to which extent the beliefs and attitude towards VCT increased or decreased after reading the experimental brochures as compared to reading the original brochure or no brochure at all. As a consequence, regrettably this study provides no insight into the possible impact of the experimental brochures on the baseline beliefs, attitudes and intentions of students towards VCT.

Another recommendation for future experimental studies on the effectiveness of the presentation structure of arguments is that the experimental differences between the two texts should be measured in a smaller textual format than was used in this study. Since the experimental text on ART was only about one fifth part of the total experimental VCT brochure, the attention of the reader may not have been drawn clearly enough to the part of the brochure the experiment was all about.
Problems with the questionnaire

During the distribution of the questionnaire among South African students, it was brought to the attention of the researcher that it was not realistic for some respondents who are not sexually active to fill out questions with regard to their susceptibility of HIV and to possible negative physical consequences of HIV for themselves. When students are not sexually active, it is self-evident that they will hardly feel susceptible to HIV and will not have the intention to get tested for HIV in the near future. When adding questions about the sexual behaviour of the participant in the questionnaire, it would have been possible to analyse the correctness of the assessment of the students with regard to their susceptibility to HIV (thereby making a division between sexually active and sexually inactive students). However, a question about the sexual behaviour of the participants was considered to be too private and was therefore excluded from a draft of the questionnaire. For further research in the near future, however, it might be a good idea to include a question with regard to the sexual behaviour of the participant.
References


Get the message - Get tested for HIV


Get the message - Get tested for HIV

What is Voluntary Confidential Counselling and Testing (VCCT)?

VCCT is about getting to know your HIV status by taking an HIV test. This test will tell you whether you are HIV positive or negative. Voluntary means that the decision to go for the test is entirely your own choice. Confidential means that you have the right to absolute privacy.

What happens during an HIV test?

There are three phases to VCCT:

1. Pre-test counselling
   The pre-test counselling will prepare you for the test and will help you to anticipate the result - whether it turns out to be positive or negative. A trained counsellor will explain to you what HIV is, explain your level of risk of having the virus, and explain what the HIV test is. This counsellor will also explain the importance of knowing your HIV status, while exploring the reasons that you have decided to take the HIV test. He/she will also discuss the different options available to you and give you the opportunity to ask any questions you may have about HIV or the HIV test. You will be encouraged to talk freely about your fears and concerns.

2. The HIV test
   There are three common types of HIV tests: the Elisa HIV-antibody Test, the Western Blot Test and the Rapid Test. The Elisa and Western Blot tests will require that you have a tube of blood taken. This blood sample will be sent to a laboratory for testing. The results will be received a week later. The Rapid Test will require that a drop of blood (from a finger prick) is tested and the results will be available within an hour, usually while you wait. If this test is positive, a second rapid test will be done to confirm the result.

3. Post-test counselling
   During the post-test counselling you will be told the results of the test. There are a number of basic issues that the counsellor can help you with:

If your result is Positive

A positive test result means that you have been infected with HIV. The counsellor will help you through some of your feelings of shock, fear and anger. You will have the opportunity to talk about whether or not you are going to tell your family and your sexual partner. The counsellor will also discuss healthy and positive living with you. Being HIV positive does not mean that you have no future. Many people live happy, healthy and productive lives with HIV, but it does mean that you will have to learn about keeping your immune system healthy, lower your stress levels and build up a good support system. It is also important that you protect yourself and your partner from further infection. You will also be given information about your rights as someone living with HIV.

Your counsellor will refer you for further supportive counselling and medical help whenever you need it.

If your result is Negative

The counsellor will explore with you the various ways of keeping yourself and your sexual partner safe from contracting HIV. He or she will help you understand the window period and the possibility of needing to be retested. Even if you have tested negative, your counsellor will share with you the importance of taking responsibility for avoiding future ‘risky’ behaviour and of using condoms. If you and your partner have come together for the test and one of you is positive, you may need support as to how this affects your relationship.

Why is it important to know your HIV status?

As a student at a higher education institution, you are in a high risk age group for HIV. It is very important that you get to know your HIV status. Deciding whether or not to go for an HIV test is a difficult decision. While some people think that it is better not to know their status, there are many advantages to knowing your status. With this knowledge you can take control of your life and your future.

If the result of your test is negative:

- You will be very relieved that you do not have HIV. You can begin to make sure that you practice safer sex and use a condom every time you have sex.

- If you have had unprotected sex recently (sex without a condom), the virus might not yet show up in the test. This is called the window period. The counsellor will ask you to come back for another test in three months time.

If the result of your test is positive:

- This means that you have been infected by HIV. Knowing that you are HIV positive will help you to make informed lifestyle decisions. You can start to take care of your stress levels, eat a more balanced and healthy diet and live a healthier life. Knowing your HIV status will prolong your life. The earlier you are diagnosed the better.

- HIV does not kill opportunistic infections do. HIV attacks your body’s immune system so that you are at risk of getting a variety of infections. If you are HIV positive and know your status, you can become aware of the symptoms of the various infections and make sure that you get treatment as early as possible.

- You can make sure that you do not get re-infected with a different strain of HIV by using a condom every time you have sex. You can also make sure that you protect your sexual partner from becoming HIV positive.

- Knowing that you are HIV positive will allow you to plan for the future - for your own health and well-being, as well as that of your family and partner.
Appendix 2 – Experimental brochure A: disadvantages of ART presented separate from the advantages
What should I know about Anti-retroviral Treatment (ART)?

**Advantages**
- Anti-retroviral treatment (ART) prolongs and improves the quality of life of a person with HIV, since it allows the immune system to regain its strength. Anti-retroviral medicines suppress the replication of HIV by blocking the enzymes HIV uses to replicate itself.
- ART restores your normal functioning in daily life. It enables you to do the things you normally do, since ART will make you less frequently sick. Anti-retroviral medicines will improve the strength of your body in order to combat opportunistic infections (like tuberculosis and pneumonia).
- ART will be provided to all people in need through government hospitals and clinics.

**Disadvantages**
- ART is not a care for HIV/AIDS. Like most medicines, ART causes side-effects, like diarrhea, vomiting and headaches.
- Once you start ART, you have to take medicines regularly for the rest of your life and do not skip doses, otherwise the HIV virus can become resistant to ART.

But remember many HIV positive people who take anti-retroviral medicines live healthy, happy and productive lives for a long time.

Are there disadvantages to **Knowing** your HIV status?

Although there are many benefits to knowing your HIV status, there could also be negative consequences. In many families and communities it is difficult to disclose your status because of stigma and discrimination. Before you have a VCT test, you need to talk to a counsellor and discuss all the possible outcomes of being tested. This will allow you to make an informed decision. Nobody can force you to have a test. It’s also entirely up to you whether or not to disclose your status to anyone else, an informed decision. Nobody can force you to have a test. It’s also entirely up to you whether or not to disclose your status to anyone else.

The advantages of knowing your status greatly outweigh the disadvantages. Deciding not to go for a test does not mean that you do not have the HIV virus!

**How do you get Tested?**

Consult the Student Health Services on your campus. At most universities you can have free VCT at student health. If this is not available on your campus:
- You can contact the toll-free National AIDS Helpline at 0800 012 322. They will refer you to a testing site close to you.
- You can be tested free of charge at any government hospital or clinic.
- You can contact the nearest AIDS Training, Information and Counselling Centre – ATICC (consult your local telephone directory).

It is up to you to practice safer sex every time you have sex. You are responsible for your own sexual health. No-one else can do it for you. Having a negative test result does not mean that you cannot be infected with HIV next time. Use a condom every time you have sex!
What is Voluntary Confidential Counselling and Testing (VCCT)?

VCCT is about getting to know your HIV status by taking an HIV test. This test will tell you whether you are HIV positive or negative. Voluntary means that the decision to go for the test is entirely your own choice. Confidential means that you have the right to absolute privacy.

Why is it important to know your HIV status?

HIV destroys the body’s immune system, which normally fights the germs and viruses that make you sick. When the body’s immune system becomes very weak, you start to get opportunistic infections like pneumonia and tuberculosis. You are then said to have AIDS.

As a student at a higher education institution, you are in a high-risk age group for HIV. It is very important that you get to know your HIV status. Deciding whether or not to go for an HIV test is a difficult decision. While some people think that it is better to not know their status, there are many advantages to knowing your status. Knowing your HIV status will help you take control of your life and future. When you are HIV positive you can start taking care of your body by living positively and taking anti-retroviral treatment. The earlier you are diagnosed, the more effective these coping strategies are and the longer you will live.

Who should get Tested?

You should go for an HIV test if you or your partner:

- are sexually active. Even if you had unprotected sex once, you could be at risk for HIV.
- have ever been pricked with a needle or sharp instrument which had blood in or on it.
- have ever had a blood transfusion.
- have ever shared needles or syringes for injecting drugs.
- got tested more than three months ago and have been at risk since.

What happens during an HIV test?

1. Pre-test counselling
The pre-test counselling will prepare you for the test and help you to anticipate the result - whether it turns out to be positive or negative. A trained counsellor will explain to you what HIV is, explore your level of risk of having the virus, and explain what the HIV test is. The counsellor will also explain the importance of knowing your HIV status, while exploring the reasons that you have decided to take the HIV test. He/she will also discuss the different options available to you and give you the opportunity to ask any questions you may have about HIV or the HIV test. You will be encouraged to talk freely about your fears and concerns.

2. The HIV test
There are three common types of HIV tests: the Elisa HIV-antibody Test, the Western Blot Test and the Rapid Test. The Elisa and Western Blot tests will require that you have a tube of blood taken. This blood sample will be sent to a laboratory for testing. The results will be received a week later. The Rapid test will require that a drop of blood (from the finger prick) is tested and the results will be available within an hour, usually while you wait. If the test is positive, a second rapid test will be done to confirm the result.

3. Post-test counselling
During the post-test counselling you will be told the results of the test. There are a number of basic issues that the counsellor will help you with:

If your result is Negative

You will be very relieved that you do not have HIV. The counsellor will explore with you the various ways of keeping yourself and your sexual partner safe from contracting HIV. He or she will help you understand the window period and the possibility of needing to be retested. Even if you have tested negative, your counsellor will share with you the importance of taking responsibility for avoiding future 'risky' behaviour and of using condoms. If you and your partner have come together for the test and one of you is positive, you may need support as to how this affects your relationship.

If your result is Positive

A positive test result means that you have been infected with HIV. The counsellor will help you work through some of your feelings of shock, fear and anger. It is also important to find support with other people you trust, like family and friends. Remember that being HIV positive does NOT mean that you have no future. Many people live happy, healthy and productive lives with HIV by receiving anti-retroviral treatment and taking care of their health. You can start by eating healthy, getting exercise, reducing your stress levels and getting enough rest. It is also important that you protect yourself and your partner from further infection.

Your counsellor will refer you for further supportive counselling and medical check-ups. It is important to become aware of the initial symptoms of the various infections that you can get when you have HIV and make sure that you get treatment as early as possible. HIV does not kill, opportunistic infections do.
Appendix 3 – Experimental brochure: disadvantages of ART
presented as a rebuttal
What should I know about Anti-retroviral Treatment (ART)?

Anti-retroviral treatment (ART) prolongs and improves the quality of life of a person with HIV, since it allows the immune system to regain its strength. Antiretroviral medicines suppress the replication of HIV by blocking the enzymes HIV uses to replicate itself. Remember that once you start ART, you will take the medicines regularly for the rest of your life and do not skip doses, otherwise the virus can become resistant to ART.

ART restores your normal functioning in daily life. It enables you to do the things you normally do, since ART will make you less frequently sick. Anti-retroviral medicines will improve the strength of your body in order to combat opportunistic infections (like tuberculosis and pneumonia). Like most medicines however, ART can cause side effects like diarrhoea, vomiting and headaches.

ART will be provided to all people in need through government hospitals and clinics.

ART is not a cure for HIV/AIDS, but remember many HIV positive people who take anti-retroviral medicines live healthy, happy and productive lives for a long time.

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What is Voluntary Confidential Counselling and Testing (VCCT)?

VCCT is about getting to know your HIV status by taking an HIV test. This test will tell you whether you are HIV positive or negative. Voluntary means that the decision to go for the test is entirely your own choice. Confidential means that you have the right to absolute privacy.

Why is it important to know your HIV status?

HIV destroys the body’s immune system, which normally fights the germs and viruses that make you sick. When the body’s immune system becomes very weak, you start to get opportunistic infections like pneumonia and tuberculosis. You are then said to have AIDS.

As a student at a higher education institution, you are in a high-risk age group for HIV. It is very important that you get to know your HIV status. Deciding whether or not to go for an HIV test is a difficult decision. While some people think that it is better to not know their status, there are many advantages to knowing your status. Knowing your HIV status will help you take control of your life and future. When you are HIV positive you can start taking care of your body by living positively and taking anti-retroviral treatment. The earlier you are diagnosed, the more effective these coping strategies are and the longer you will live.

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* have ever had a blood transfusion
* have ever shared needles or syringes for injecting drugs
* got tested more than three months ago and have been at risk since

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Your counsellor will refer you for further supportive counselling and medical check-ups. It is important to become aware of the symptoms of the various infections that you can get when you have HIV and make sure that you get treatment as early as possible. HIV does not kill, opportunistic infections do.
Appendix 4 – Questionnaire

Introduction

Dear student,

As a student from the University of Nijmegen (The Netherlands) I would like to thank you for participating in this research and filling out this questionnaire. This questionnaire is designed to get information about your opinion on a brochure concerning Voluntary Counselling and Testing for HIV. This research is part of the EPIDASA project which aims to increase the effectiveness of HIV/AIDS communication in South-Africa. Please note the following:

- There are no right or wrong answers
- This questionnaire is anonymous
- Filling out this questionnaire will only take 20 minutes of your time
- When finished with filling out this questionnaire, please give it back to the researcher.

This questionnaire consists of 3 sections

Section A requires some personal information
Section B requires your opinion after reading the brochure
Section C requires your opinion on the author of the brochure

Instructions:
1. Please read each question carefully, and answer the question to the best of your knowledge. Take as much time as you need. Please work from front to back of the questionnaire, and do not go to previous sections
2. Be sure to follow directions given for answering sets of questions. Please answer all questions, do not skip any questions.

Thank you for your participation!
Section A: Personal information
Firstly, we would like some information about you. Please answer the following personal questions. All answers will be treated as confidential information.

1. How old are you? .................

2. What is your sex?
   Male ........... □
   Female......... □

3. What is your first language? .............................................

4. What is your second language? ........................................

5. To what ethnic group do you belong?
   □ Black
   □ White
   □ Coloured
   □ Asiatic
   □ Other, ......................

6. Have you ever considered having an HIV test?
   □ Yes
   □ No

7. If yes, have you ever had an HIV test?
   □ Yes
   □ No

8. Do you personally know someone who has taken an HIV test?
   □ Yes
   □ No

9. Do you personally know someone living with HIV/AIDS?
   □ Yes
   □ No
Get the message - Get tested for HIV

Instructions

Before reading the brochure, please first look at the instructions and then answer the six questions following the instructions. An example of how the questions should be answered is given below:

Example

<table>
<thead>
<tr>
<th>It is wise to go for an HIV test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>

If you find it very unwise to go for an HIV test, you will tick strongly disagree
If you find it unwise to go for an HIV test, you will tick disagree
If you find it neither unwise nor wise to go for an HIV test, you will tick neutral
If you find it wise to go for an HIV test, you will tick agree
If you find it very wise to go for an HIV test, you will tick strongly agree

- Please tick the block which best reflects your opinion of the brochure
- Please note that some questions are stated negatively
- Now first answer the questions below before you read the brochure

--------------------------------------------------------------------------------------------------

10. Should I test HIV positive, I will be afraid of the physical consequences of HIV/AIDS

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

11. Should I test HIV positive, I do not think that the physical consequences of HIV/AIDS are serious

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

12. Should I test HIV positive, I will not know how to cope with the physical consequences of HIV/AIDS

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>
13. Should I test HIV positive, I would be able to handle the physical consequences of HIV/AIDS

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

14. I intend to go for an HIV test within the next three months

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

15. I am **not** planning on getting tested for HIV within the next three months

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

---

- **Now read the brochure on voluntary counselling and testing and answer the questions on the following pages. You are allowed to look in the brochure when answering the questions**
Sections B: Give your opinion on the brochure about Voluntary Counselling and Testing for HIV

Be sure to answer all questions – do not omit any. Never tick more than one block per item.

16. Anti-retroviral treatment is **not** effective in prolonging one’s healthy life, since it is not a cure for AIDS

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

17. Anti-retroviral treatment enables me to live a normal life, even though it is not a cure for AIDS

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

18. Should I test HIV positive, anti-retroviral treatment will be useless in prolonging my life with HIV

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

19. Should I test HIV positive, anti-retroviral treatment will be effective in improving the quality of my life with HIV

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

20. If I test HIV positive, anti-retroviral medicines will help me to do the things I normally do in daily life

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

21. Should I test HIV positive, anti-retroviral medicines will help me to live a healthy life.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

22. If I test HIV positive, anti-retroviral treatment will **not** help me to lead a normal life

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
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23. Should I test HIV positive, anti-retroviral treatment will **not** improve the strength of my immune system

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24. Should I test HIV positive, taking anti-retroviral medicines will decrease my chances of becoming sick often

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25. If I test HIV positive, anti-retroviral treatment will suppress the replication of the HIV virus in my body.

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26. If I test HIV positive, anti-retroviral treatment will make my body strong enough to fight all opportunistic infections (like pneumonia and tuberculosis for example)

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27. Should I test HIV positive, anti-retroviral treatment will improve my quality of life, because it allows my immune system to regain its strength.

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28. Should I test HIV positive, anti-retroviral treatment will **not** prolong my life, since the HIV virus can become resistant to anti-retroviral medicines

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29. Should I test HIV-positive, anti-retroviral treatment will **not** restore my normal functioning in daily life, since ART causes side effects

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30. Should I test HIV positive, antiretroviral treatment will allow my immune system to regain its strength.

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31. Should I test HIV positive, anti-retroviral treatment will **not** prevent me from getting opportunistic infections (like pneumonia and tuberculosis).

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32. Should I test HIV positive, anti-retroviral treatment will **not** help me to live a normal life, since I will be frequently sick.

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<th>Strongly disagree</th>
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33. Should I test HIV-positive, anti-retroviral treatment will help me to restore my normal functioning in daily life, even though ART has side effects.

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34. Should I test HIV positive, anti-retroviral treatment will **not** prolong my life, since it will not improve the strength of my immune system.

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35. Should I test HIV positive, anti-retroviral treatment will enable me to live a normal life, because it prevents opportunistic infections (like tuberculosis and pneumonia for example).

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36. If I test HIV positive, anti-retroviral medicines will **not** effectively block the enzymes that HIV uses to replicate itself.

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37. If I test HIV positive, anti-retroviral medicines will **not** strengthen my body to such an extent that it will be able to fight opportunistic infections.

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38. Should I test HIV positive, the use of anti-retroviral treatment will allow me to live a long, healthy life, even though the HIV virus can become resistant to the treatment.

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39. Should I test HIV positive, I will be able to use anti-retroviral medicines to prevent the physical consequences of HIV/AIDS

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<th>Strongly disagree</th>
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40. Should I test HIV positive, I will have access to anti-retroviral treatment

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41. Should I test HIV positive, I would **not** know where to get anti-retroviral treatment

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42. Should I test HIV-positive, I will **not** be able to keep up with the strict regime of the intake of anti-retroviral medicines

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43. Should I test HIV-positive, I will be able to cope with the side effects of anti-retroviral medicines

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44. Should I test HIV positive, I will **not** be able to take anti-retroviral medicines for the rest of my life

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45. I believe that HIV/AIDS is a serious threat to one’s health

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46. I believe that the physical consequences of HIV/AIDS are severe

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47. I believe the physical consequences of HIV/AIDS are **not** harmful

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48. I am not at risk of being infected with HIV

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49. I am able to go for an HIV test

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50. I believe that HIV/AIDS is not harmful to one’s health

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51. Should I test HIV positive, I am at risk of getting opportunistic infections (like pneumonia and tuberculosis for example)

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<th>Strongly disagree</th>
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52. It is not useful to know your HIV status, because there is no cure for AIDS

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53. Should I test HIV positive, it is impossible that I will get opportunistic infections

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54. I intend to go for an HIV test within the coming three months

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55. Voluntary counselling and testing is effective in determining one’s HIV-status

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56. It is possible that I could become HIV positive

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57. It is wise to go for an HIV test

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58. Getting tested for HIV is good, because knowing your HIV status helps you to protect your health and the health of others

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59. Anyone who is tested for HIV is smart

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60. This brochure convinced me to go for Voluntary Counselling and Testing

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61. I am afraid of going for an HIV test, because I can’t handle the negative consequences of a positive result.

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62. It is easy for me to go for an HIV test

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63. I will **not** go for an HIV test within the next three months

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64. Because of this brochure I will go for Voluntary Counselling and Testing

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Section C: Give your opinion on the author of this brochure

65. I consider the author of this brochure to be a reliable source
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

66. I think the author of this brochure is an expert on HIV/AIDS
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

67. I find the author of this brochure to be poorly informed
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

68. I consider the author of this brochure to be accurate
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

69. I find the author of this brochure trustworthy
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

70. I find the author of this brochure unintelligent
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

71. I think the author of this brochure is trying to manipulate the reader
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

72. I find the author of this brochure sincere
   Strongly disagree | Disagree | Neutral | Agree | Strongly agree

THIS IS THE END OF THE QUESTIONNAIRE
THANK YOU VERY MUCH FOR YOUR COOPERATION!!
Appendix 5 – Email to the designers of the original VCT brochure

From: Barbara Michel <barbaramichel@absamail.co.za>
Sent: 15 November 2006 20:11 PM
To: “marije burger” marijtje22@hotmail.com
Subject: RE: Information about VCT brochure

Hi Marije and Anne,

I’m just on my way on travel for the next 2 weeks with little time to respond properly…. If this is not sufficient please let me know and we could arrange some additional time to talk.

VCT was identified as a priority in the sectors response to HIV and AIDS. There were only a few institutions that had the capacity to develop their own.

The pamphlet was developed for the Higher Education sector based on a range of consultations with various HIV AIDS representatives from the sector who attended the forum meetings we held three times a year. Their feedback informed the design and development of the pamphlet with the poster as a package to promote VCT.

The pamphlet was developed as a national project for the sector as many campuses and HE institutions did not have the resources to design and print their own. In addition to this the pamphlet would provide some support and advocacy to a newly constructed sector response and promoted the idea of a sector wide intervention and response to HIV rather than individual institutional responses which many institutions could not afford. The pamphlet as developed as most young adults identified that it was important to have resources for the for the HE sector target group.

The design and development was based on a limited survey of available resources for youth taking into consideration the needs of the young adult on campuses around the country. Many resources were designed for adults and other for younger school going youth at the time, with the HE youth needing something more specific for them as young people and needed a more ‘funky’ look.

The design was based on consultation with the task team for VCT in place at the time. The choice of the pictures of HE youth was based on a selection from a few design ideas, and HE sector stakeholders preferred this one out of the choice of three or four ideas.

The information and content was based on giving information that would be appropriate across all our campuses and would highlight the access to VCT either on or close to campuses. It considered basic information about VCT as well as highlight some of the issues when someone tests positive. Both Tania Vergnani and I have significant experience in working with youth and designed the package based on the knowledge that youth need something ‘trendy’ to fit their profile and setting.

It was tested informally at a couple of campuses (considering diversity and context) before printing.

No formal evaluation has been conducted as yet and as I am no longer in the HE sector programme – this might still be a planned activity – I can’t say.

Informally, at the time, campuses used the pamphlet extensively, many in their orientation pack and talks during the introduction week. There has been a second print run and distribution to all campuses at their request and there is a self reported informal increase in the uptake of VC on campus. The intention as for the poster to advertise the fact that the campus has a VCT service for students. For UNISA, there was always a tension as to how distance education settings could consider using the resource within a distance education setting. There was little interest from the institution and despite efforts to engage with them in a creative use of the pamphlet (such as referrals to a local clinics, or through contact sessions, or through the various regional and provincial UNISA centers) this did not materialize.
Hope this helps

Best

Barbie

Barbara Michel

From: marije burger [mailto:marijtte22@hotmail.com]
Sent: 15 November 2006 09:52 AM
To: barbaramichel@absamail.co.za
Subject: Information about VCT brochure

Dear Barbara,

We are two students from the University of Nijmegen (The Netherlands) and we are writing our Master thesis here in South Africa under the supervision of Prof. Swanepoel.

We are interested in the effectiveness of the brochure 'Get tested for HIV - Higher Education HIV/AIDS Programme'. We were wondering whether you have conducted any research on the effectiveness of this brochure. For example, have you done a pretest before implementing this brochure, did you use theoretical articles as a basis for the design of your brochure and did you evaluate the effect of the brochure after implemention it.

We would be greatful for any information (research) you used for developing and evaluating this brochure.

We hope to hear from you soon.

Kind regards,

Anne Loojuis and Marije Burger