

*Ndlovu CHAMP behaviour change program*



*A quantitative study on the impact of peer influence on changes in sexual behaviour in Limpopo province*  
*A quantitative study on the impact of peer influence on changes in sexual behaviour in Limpopo province*

Master thesis  
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## **Abstract**

HIV/AIDS is still a huge problem in rural SA. It follows, that appropriate successful interventions that contribute towards reducing sexual risk behaviour are very important to decrease the number of new HIV infections. The Ndlovu Care Group makes use of the CHAMP behaviour change program to conduct safer sex under youth. Peer influence could play a big role in the success of the implementation of the program. For this reason it is important to understand the effect of peer influence. This research explores the influences that peers have on each other further, and explores how this influence can be used to improve the level of safe sexual behaviour. Here for the following research question has been formulated

*“Is there a change in sexual behaviour in young adults aged 12-18 at Tlou-Kwena high school in Dennilton in the Limpopo province, South Africa, following participation in the CHAMP behaviour change program and to what extent has a potential change been mediated by peer influence?”*

This has been studied by firstly measure if there is a behaviour change after implementation of the program and secondly to what extent that change is caused by the influence of peers. The dependent variable which has been used is attitude towards condom use. And the following independent variables were included in this study: background variables, knowledge about STI's, openness about HIV, peer pressure, peer conformity, and peer involvement. The study is conducted under SA youth in the age group 12-18, from Tlou-Kwena school in Dennilton, 74 of these students are included in the final sample. Use has been made of a questionnaire, which measured the situation before implementation of the program and the situation afterwards. The results of both measure moments have been compared and analysed.

Based on the results, there could be concluded that there was a significant change for the students attitude towards condom use, which could have been caused by the role of peer influence, or more specific the lack of peer pressure. This could point at a behaviour change, but here for, more longitudinal, future research is recommended. Future research is also necessary to found more deepening in the exact role of peer influence.



## **Preface**

Living in a country in Africa was for some time an unfulfilled wish of mine. And when the opportunity occurred, I did not have to think about it much: of course I wanted to go!

I got this opportunity with the Ndlovu Care Group in Elandsdoorn, South Africa. My task was to implement the CHAMP behaviour change program and analyse the results, with a special focus on peer influence. For me it felt like I could use all the competencies I gained during my previous education. Being a social worker and a trainer, the things I had during my studies “applied psychology” and “social policy and social intervention”, all came together in this final project. The combination of the old and the new knowledge taught me a lot.

The experience was great and it exceeded my expectations. Therefore I would like to thank a few people. Firstly, my family and friends back in Holland, who knew about my wish and who supported me from the beginning. They continuously ensured that they felt really close while being so far away. Secondly, Ndlovu Care Group and in special Mariette for giving me the trust to implement the CHAMP behaviour change program and helping me out if needed, but also for showing us the great hospitality of South Africa. This also goes for all the other colleagues I have worked with and the people I have met during my stay: *baie dankie*, for your warm welcome! Trudie for supervising me back in the Netherlands and Anke for being my *beste maatjie*. And lastly, but not least: Godfrey, Matshepo, Nombuso, Sello and Tumelo, without your cooperation the program would have never worked out the way it did. Thank you all for contributing to this great journey!

*A whole new world  
a dazzling place I never knew*

*A whole new world  
A hundred thousand things to see*

*A whole new world  
With new horizons to pursue*

*A whole new world  
a new fantastic point of view*

*(Out of: Aladdin: “A Whole New World”)*

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## **1. Introduction**

“Millennium goal 6: Combat HIV/AIDS, malaria and other diseases” (Unicef, n.d.).

The importance of this millennium goal is illustrated in the fact that every 17,5 seconds somebody dies from the Human Immunodeficiency Virus (HIV) (UNAIDS, 2010). The number of people infected with HIV since the beginning of the epidemic in 1981 is almost 70 million. About 35 million people have already died of Acquired Immune Deficiency Syndrome (AIDS). Worldwide about 34 million people are living with HIV (World Health Organisation, 2013). One out of four people has HIV in some African countries. South Africa (SA) is the country with the highest number of people living with HIV and it has the fastest growing epidemic (Dube & Ocholla, 2005). The Department of Health of SA identified HIV and AIDS prevention as a health priority. HIV, AIDS and also Tuberculosis (TB) are contributing significantly to the burden of disease faced by South Africans; this is especially the case for poor and vulnerable citizens. For this reason the SA Government launched the HIV and AIDS Counselling and Testing (HCT) Campaign (The National Department of Health Republic of SA, 2013). The HCT campaign strategy is based on integrated prevention: behaviour change, use of barrier methods, providing medical male circumcision, scaling up syndrome management of sexually transmitted infection (STI) and early prevention of mother-to-child transmission (PMTCT) (The National Department of Health Republic of South Africa, 2013).

### **1.1 Research background**

This research investigates the effects of a behaviour change intervention on rural youth in SA; with a specific focus on the influence of peers, girls and boys in the age group 12-19, in an attempt to make the youth less vulnerable to HIV. Becoming a member of a peer group is one of the primary developmental tasks of adolescence (Santor, Messervey & Kusumakar, 2000). It is a key aspect of normal adolescent development, peer groups influence adolescent socialization and identity by allowing young people to explore individual interests and uncertainties while they are creating a sense of belonging and continuity within a group of friends (Clasen & Brown, 1985). But there is a flip side to becoming a member of a peer group as peer pressure is also “the price of group membership” (Santor, et al, 2000). This because it is linked to a variety of potential problems, for example, risk-taking behaviour,

substance abuse, delinquency, as well as dating attitudes and riskysexual behaviour. This has to do with peer conformity, belonging to a group requires conformity to group interests and desires, these interests and desires are not strictly a matter of individual preference. The potential problems can result from an effort to conform to the norms of the group and to demonstrate commitment and loyalty to other group members (Santor, et al, 2000). How much time the young adult spends with their peer group and the degree to which they get involved is defined as peer involvement (Bierman & Furman, 1984). These three factors namely: peer pressure, peer conformity and peer involvement represents peer influence in this research. Peer influence--the effect that others have on individual and group attitudes and behaviour (Simons-Mortons & Farhat, 2010)--plays an important role in behaviour, especially for young adolescents (Selikow, Ahmed, Flisher, Mathews & Mukoma, 2009). Affiliation with friends who engage in risky behaviour is a strong predictor of an adolescent's own risk behaviour (Prinstein, Boergers & Spirito, 2001). The Community Health Awareness Mobilisation & Prevention (CHAMP) behaviour change program, was implemented by the Ndlovu Care Group (NCG), a Non-Governmental Organisation (NGO) that works in rural SA. The CHAMP program is adapted from the Stepping Stones program (Jewkes & Cornwall, 1998). The NCG aligns its operations to the goals of the Department of Health of SA (Ndlovu Care Group, n.d.). The vision of the NCG is to provide opportunities and hope through innovative Healthcare, Childcare, and Community Development. NCG divides its activities into two groups, community health care and community development programs. NCG is dependent on a wide range of local and international donors and cooperates with the SA Government and other stakeholders, among which Utrecht University (Ndlovu Care Group, n.d.).

## **1.2 Stepping Stones Program & CHAMP behaviour change program**

The content of the CHAMP behaviour change program was adapted from the Stepping Stones program (Jewkes & Cornwall, Stepping Stones, (adapted from the original Stepping Stones package by Alice Welbourn), 1998). The Stepping Stones program is a program designed to help promote sexual health, through participatory learning approaches to build knowledge, risk awareness, communication skills, and to improve psychological well-being and prevent HIV. The program also stimulates critical reflection (Jewkes, Woods, & Duvvury, 2010a). Change of sexual risk behaviour is very important in HIV prevention (Jewkes, Nduna,

Levin, Jama, Dunkle, Puren, & Duvyury, 2008), as HIV is mainly transmitted through sexual activity. The Stepping Stones program departs from the assumption that our sexual lives are embedded in a broader context with partners, families and the community or society in which people live (Jewkes, Nduna & Jama, 2010b) and that those factors strongly influence how people act, which possibilities are open, and the ability to make safe and healthy choices.

The Ndlovu Care group adapted the Stepping Stones program to customise the CHAMP behaviour change program to school-going rural youth. Where Stepping Stones focuses on different target groups and areas, the CHAMP behaviour change program only focuses on schoolchildren in the age of 12-18 in a rural area. The CHAMP behaviour change program retained the relevant workshops from the Stepping Stones topics to serve purpose of the Ndlovu Care Group. Some of the original exercises of Stepping Stones were changed to get a better fit with the environment in which Ndlovu operates (Ndlovu Care Group, n.d.) and the adolescent target group.

The CHAMP behaviour change program workshops are designed to provide opportunities for the participants to make safe choices, to examine their own behaviour and to reflect on the consequences of their behaviour. Those opportunities examine the participants' values and attitudes towards gender and relationships, expand their knowledge on subjects which are related to sexuality and HIV/AIDS, develop skills which help them communicate with others and ensure that participants determine what they want in life and how to change behaviour to achieve this. The program is founded on the assumption that having knowledge is important, but that knowledge alone is not enough to effect behaviour change (Jewkes et al, 2010b).

The impact of the Stepping Stones intervention on behaviour attitude and beliefs was assessed with a structured questionnaire (Jewkes, Nduna, Levin, Jama, Dunkle, Khuzwayo, Koss, Puren, Wood, & Duvyury, 2006). The Stepping Stones program has among others been evaluated by the Medical Research Council in the Eastern Cape, the outcome was that the program is able to change the behaviour and reduce the acquisition of sexually transmitted infections (STI's) by young men and women (Jewkes et al, 2010). Research of Jewkes and colleagues (2008) shows that although Stepping Stones did not reduce the number of HIV cases, it did have an impact on several risk factors for HIV, namely Herpes Simplex Virus type-2 (HSV-2) and partner violence (Jewkes et al, 2008).

### **1.3 Research problem**

One of the channels that the CHAMP behaviour change program uses to transfer knowledge is peer influence. But there is a lack of knowledge about how peer influence can be used to the utmost in HIV prevention (Lefkowitz, Boone & Shearer, 2004). In the questionnaire that is used for the evaluation of the CHAMP behaviour change program, four questions are included about peer pressure. In a previous CHAMP behaviour change program study conducted by the Ndlovu Care Group in 2011 neither males nor females reported experienced peer pressure (results of this intervention are presented in annexure II). Results show that there was no significant difference in the experience of peer pressure between the baseline and the post evaluation for either sex. This information however is not sufficient to explain the role of peer influence on the adolescents during the intervention and moreover, it does not explain how it works.

One of the factors that could have influenced results in the previous year, is that the intervention was conducted in one big group of students, instead of small consistent groups which will be the situation during this study. This large group intervention could have influenced the results, because learners were in that setting less involved and less confirmed with their peers, hereby they could have experienced less peer influence. The fact that the students will operate in smaller – and steady - groups during this intervention, will probably increase the amount of peer influence from the beginning, because there will be more interaction and reflection in this setting, so the expectation is that peer influence will play a bigger role than last year.

It is important to understand the effect of peer influence because it could play a big role in the success of the implementation of the CHAMP behaviour change program. This research explores the influences that peers have on each other further, and explores how this influence can be used to improve the level of safe sexual behaviour. This research will firstly evaluate if there is a behaviour change after implementation of the program and secondly to what extent that change is caused by the influence of peers. This will be measured at the start of the intervention, and will be compared with results after the intervention.

#### **1.4 Social and scientific relevance**

HIV/AIDS is still a huge problem in rural South Africa. It follows, that appropriate successful interventions that contribute towards reducing sexual risk behaviour are very important to decrease the number of new HIV infections. Young adults are the future of South Africa, so it is important to reach and influence them at an early stage to ensure healthy and productive futures. Peers influence each other, so teaching adolescents and their peers, in time about safe sexual behaviour, hopefully helps them to make safe choices and influence their peers to do the same. The scientific relevance of this research lies in improved insight into the role of peer influence during the implementation of the CHAMP behaviour change program. The program in 2011 only measured whether peer influence existed before the intervention and whether this changed as a result of the intervention, and not the strength of peer influence. The outcome was that there was no significant difference between the experienced peer pressure between the baseline and post evaluation and that the respondents did not experience peer pressure beforehand. so additional research is necessary to determine the role of peer influence whether peer influence can be used to improve future CHAMP interventions to change behaviour.

#### **1.5 Interdisciplinary research**

Most social research crosses the boundaries of one particular discipline; similarly this research is a combination of diverse social discipline as well as educational sciences, medicine, and health. Psychology is used to explain peer influence and changes in behaviour, anthropology is necessary to describe the cultural aspects that play a role in the rural South African context, pedagogy because this research deals with young adults and sociology because the research focuses on how people influence each other and the meaning in the social context. The educational sciences are involved because the CHAMP program is an educational program to transfer knowledge. Medicine and health care are involved because the program is used for HIV/AIDS prevention. Together these different disciplines all influence the research outcomes and are necessary for a full understanding of the research problem.

## **2. Theoretical approach**

An important factor in HIV prevention in the age group of 14 to 18 years is peer influence, because peers play a prominent role in young adolescents lives during elementary and middle school (Molloy, Gest & Rulison, 2011). An adolescent's affiliation with friends, which engage in risky behaviour, is a strong predictor of an adolescent's own health-risk behaviour (Prinstein, Boergers & Spirito, 2001), it is therefore important to intervene at an early age, to prevent young adults from making wrong choices. Peer influence is the effect that others have on individual and group attitudes and behaviour (Simons-Mortons & Farhat, 2010). Peer influence forms part of social influence, which in turn is caused by social context, social network and group membership that operate mainly on social norms, whereas social norms are the patterns of acceptable beliefs, attitudes, and behaviours in a society. Social norms are not only influenced by, but also in itself influence social context, group membership, and social networks. Socialization and selection are processes of social influence, which facilitate reciprocal relationships between social norms and those social structures. In this context socialization is the tendency to conform your norms and behaviours to the norms and behaviours of another group and selection is the tendency of individuals to associate with peers who have similar norms and behaviours (Simons-Mortons & Farhat, 2010). Social context is the opportunity for interaction and the context within the individual interaction occurs. As such, social context shapes the interpretation of the social norms, because it contents the breadth, extent and nature of interpersonal interaction. The experiences and information people gain in these peer settings shape the understanding of what is acceptable behaviour and train people in social relations. It follows that social relations are important, because connected people share information. It is important who individuals know and how much time they spend together as this influences the amount of social influence on an individual. The nature of those relationships, the closeness, reciprocity, frequency of contact also contributes to the amount of social influence. Group membership, for example peer groups, is a powerful socializing experience. In peer groups people often change their perceptions, opinions and behaviour to be consistent with standards or expectations of the group. This so-called peer group affiliation becomes important and influential especially during adolescence (Simons-Mortons & Farhat, 2010). Peer group affiliation provides benefits of acceptance, friendship, and identity but can also demand conformity. Social influence and, in particular, peer influence will therefore play an important role in the success of the implementation of the CHAMP behaviour change program, as the program tries to

transfer knowledge to peer groups, aiming at changing the perceptions, opinions and behaviour they share as a group.

According to Steinberg and Monahan (2007), the sensitivity to peer influence forms an inverted U-shaped curve. This U-shape increases during early adolescence and peaks around the age of 14, after which it starts to decrease. The resistance to peer influence is more likely to grow between ages 14 until 18 than before and after that. This can be explained by the fact that children in the age group of 10 until 14 develop emotional autonomy from their parents; in this period the adolescents are not yet independent but dependent on peers. After that, they start to develop their own autonomy and that is why the influence of peers starts to decrease. Around the age of 18 this decrease stops again because the adolescents reached a form of autonomy caused by the development of a sense of identity. This phenomenon is visible in different ethnic and social classes and also in both genders, although the findings of Steinberg and Monahan (2007) suggest that girls and women are more likely than boys and men to stand up for their own beliefs instead of conforming their behaviour to the expectations of their peers. The CHAMP behaviour change program focuses on children in the age group of 12-18. Because children are very open to peer influence until the age of 14 it makes sense to start at this age with a behaviour change program.

Prinstein, Boergers and Spirito (2001) state that adolescents' affiliation with friends who engage in risky behaviour is a strong predictor of adolescents own health-risk behaviour. This can be explained by the experiment of Asch (1955), if the whole group acts in a certain way, a significant percentage of young adults will copy this behaviour, because they want to conform to the group. Examples of what can happen during peer influence are that disapproval of condom use by peers and peer pressure to be sexually active, resulting in reduced levels of condom use and increased levels of sexual activity. This applies for some adolescents and males in particular, in South Africa (Brook, Morojele, Zhang & Brook, 2006).

As mentioned before, relationships with close friends are particularly important and influential during emerging adulthood (Lefkowitz, Boone & Shearer, 2004). Accordingly, the young people in this study are vulnerable to peer pressure to have sex, which in turn makes them receptive to HIV infection (Selikow et al, 2009). High-risk sexual behaviour among young adolescents is an example of negative peer pressure, because high-risk sexual behaviour causes a higher risk of contracting HIV. If young adults start early with sexual intercourse, they increase their vulnerability to HIV through unsafe sexual behaviour such as

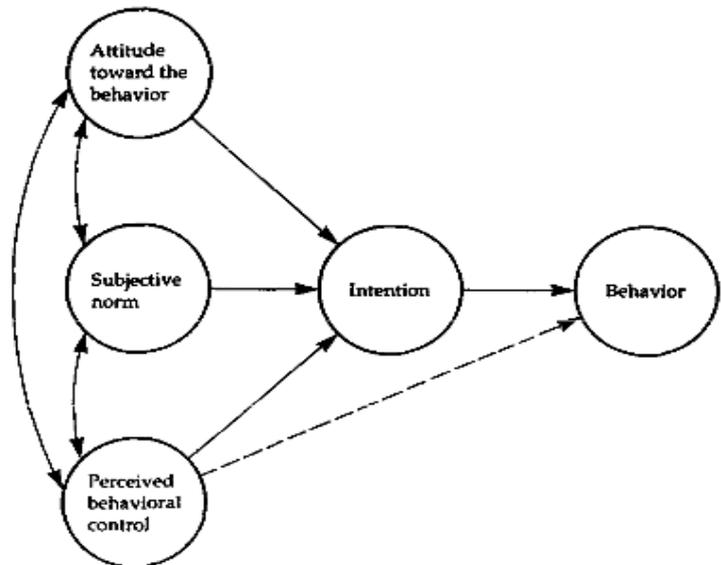
having multiple sexual partners and not using contraception, like condoms. The younger the adolescents start with sexual intercourse, the more they experiment and the higher the risk they take, because of a lack of responsibility (Selikow et al, 2009).

Young adults are sensitive to socially prescribed peer norms because they value the opinion of their peers higher than the opinion of adults. It follows that the implementation of reproductive health interventions could be successful during adolescence, because the adolescents are still in the process of forming their sexual identities (Selikow et al, 2009). According to Selikow et al (2009) HIV prevention projects should focus on changing harmful social norms into healthy norms. One way to achieve this is to let trained young adolescents role-model healthy social norms and to transfer this healthy behaviour to a peer culture that promotes high risk sexual behaviour, to cause lower risk behaviour (Selikow et al, 2009). The “Theory of Planned Behaviour” of Ajzen (1991) and the “Learning Theory” of Vygotsky (Doolittle, 1995) explain how behaviour change takes place. These two theories focus on the role of peer influence and how peer influence can be applied in a positive way to influence behaviour.

### **11.1 The Theory of Planned Behaviour**

The Theory of Planned Behaviour (Ajzen, 1991) is an elaboration of the Theory of Reasoned Behaviour. According to the theory, the best way to predict behaviour is to ask whether the participant actually wants to adopt a particular behaviour—this is called the behaviour intention. According to Ajzen (1991) the behaviour intention will be specified by three determinants, that predict the behaviour: one’s own opinion “ the attitude” , views of the others: “ the subjective norms” and estimation about one’s own competence to perform the behaviour: “perceived behaviour control” (Ajzen, 1991). In general, the more advantageous the attitude and the subjective norms on behaviour are and the greater the perceived behaviour control, the stronger the individual’s intention will be to consider the behaviour (Ajzen,1991). It seems therefore that this intent is important when influencing a young adult about the need for behaviour change. It is also important that his or her peers share the same opinion about the subject and the young adult must be confident enough about his or her own competence to adopt the safe sexual behaviour. This theory explains that the opinion of others is important when you want to change behaviour. It is therefore important to understand how peers

influence each other, because peer pressure program does this by providing knowledge to peers. The goal is to change attitudes toward knowledge will give the youth more self-confidence in their competence to adopt new behaviors. A group of peers changes the subjective norm (Ajzen, 1991) if the transfer of knowledge such as the same knowledge and opinion because



## 2.2 Vygotsky’s Learning Theory

According to Vygotsky’s (Doolittle, 1995) Theory of Cognitive Development, children develop lower mental functions, such as associative learning first. After that, the children will learn higher mental functions, such as problem solving skills because children learn through social interactions with more advanced peers and adults. Central in Vygotsky’s theory is his theoretical construct of the zone of proximal development (Doolittle, 1995). This zone is the region between the lower end of what a child can accomplish on his/her own and the upper end of what a child can accomplish with the help of a more knowledgeable other, such as a peer, teacher or other adult. This zone indicates the immediate potential for cognitive growth of a child. The less assistance a child needs to complete a task, the more its cognitive skills develops. Vygotsky states that it is important to include cooperative learning strategies in classical instructions (Doolittle, 1995). Relevant to the CHAMP program is that adolescents experience ideas, behaviours or attitudes in a peer group setting, facilitated by advanced peers. After that they start to internalize the experience and behaviour, and the experience becomes a part of the child’s mental functioning. This is the objective of the CHAMP program, the youth learn new information about safe sexual behaviour from peers, they internalize this information and then make it their own and act safely when they have sex.

There are three important aspects in understanding the zone of proximal development: 1) the use of the so called “whole activities”, 2) the need for social interaction and 3) change. Vygotsky states that there must be a need for development to occur, the skill which has to be transferred, in this case safe sexual behaviour, must be something the adolescent needs

(Doolittle, 1995). So, the way in which the new skills are taught must be presented in such a way that the adolescent feels a need to adapt to the new safe behaviour. Vygotsky states that if we want to learn higher mental functions, we should teach, study and learn in whole activities (Doolittle, 1995). It follows that an important part of the zone of proximal development is the social interaction between the adolescents with less experience and knowledge and the peer educators with more experience and knowledge. The third aspect is change and growth in the individual. The zone of proximal development is not static. If a child is able to master some tasks at the lower boundary of the zone, new tasks will appear at the upper boundary. Higher mental functions can now be accomplished with the help of another individual, a knowledgeable peer for example, which leads to a shift in the zone (Doolittle, 1995).

### **2.3 Conclusion theoretical approach**

Because the young adult has to believe that he is competent to practise the new behaviour, self-confidence of a young adult is very important in behaviour change. Another important factor is the social environment of the young adult, of which peer influence is a crucial part. Social influence is among others the tendency to conform own norms and behaviours to the norms and behaviours of others (Simons-Mortons & Farhat, 2010); an important factor in the success of the CHAMP behaviour change program. Peer groups can shape the understanding of what is acceptable behaviour, train people in social relations, and in sharing information as adolescents are willing to conform their behaviour to the group they fit in. Therefore if an intervention is able to install knowledge about safe sexual behaviour into a peer group it is plausible that its members will adopt this information as their new norms, which can provide a behaviour change. This process will be the most successful in the age category 14 to 18, because after that, the young adolescents will have developed their own identity (Steinberg & Monahan 2007) and will not be as open to peer influence anymore.

### **3. Research question, research design, and methods**

The main goal of this research is to examine the impact of the different aspects of the CHAMP behaviour change program as implemented by the Ndlovu Care Group. Results

of the research will demonstrate if and why the CHAMP behaviour change program is successful. The focus of this research is to establish whether there is a sexual behaviour change after the implementation of the CHAMP behaviour change program, the role of peer influence in that process, and how this can be used in future to improve safe sexual behaviour. According to the presented theories it is clear that peer influence might be crucial, but there is a lack of knowledge about how influence of peers can be used to the utmost in HIV prevention. Before the research question, which is based upon the theoretical framework, will be presented, the implementation of the CHAMP program will be explained.

### **3.1 Intervention CHAMP Behaviour change program.**

The CHAMP behaviour change program consists of seven sessions. The first session is about basic feelings, goals for life and assertiveness. The second session includes body mapping and “what’s on and what’s not on” in life and especially in relationships between men and women. The third session is about menstruation, conception and contraception, the fourth session is about unplanned pregnancy and condom use, the fifth session is about STI’s and HIV, the sixth session is about voluntary counselling and testing (VCT) and the seventh session is about abuse in relationships and gender roles. Each sessions takes around 1,5 hour. The sessions are interactive and demand for active participation of the students as the life skill facilitators (LSF) are trained not to teach, but to facilitate the information.

Several schools were contacted, at Tlou-Kwena it was possible to start with the program. In total 295 students participated in - a part of - the program. All of the participants filled out consent forms which states that their participation is on a voluntary base and that they can stop with the program at any moment. None of the participants participated in previous versions of the program.

Six life skill fascilitators (LSF), who have undergone several trainings to prepare them for the implementation of the program, conducted the sessions. Four of the six LSF received a two-day course in basic facilitation skills and knowledge improvement about STI/HIV/ AIDS. After that, all six of them received a two-day course on counselling skills, to deal with the reactions, which can emanate from the sensitive subjects. They also had a training day on the questionnaire to make sure that they fully understand its content. Finally, they received a training day before each session of the CHAMP program to prepare them for the

implementation of the actual sessions. A questionnaire was used to test behaviour changes after implementation of the CHAMP program and to find out what the role of peer influence was. Each student had to fill out the questionnaire twice, during the baseline and the post evaluation. Both the questionnaires are filled out anonymously, with a matching number on the baseline and the post-evaluation, to make it possible to match the results.

The baseline questionnaire was conducted in two rounds (one in the morning and one in the afternoon) at Tuesday 19 March 2013. Five of the LSF had their own classes with around 25 students in each class. In total 257 students participated. The baseline questionnaire is used to measure the students' knowledge of and behaviour concerning safe sex before the start of the intervention. Because of school holidays it took some time before the program could start. On Monday 15 April 2013 the first session took place, the second was on Friday 19 April 2013, the third on Monday 22 April 2013, the fourth on Friday 26 April 2013, the fifth on Monday 29 April, the sixth on Friday 3 May 2013 and the seventh on Monday 6 May 2013. All of the sessions were held in the afternoon, after their normal school day and took around 1,5-2 hours. The post evaluation was conducted in one round in the afternoon on Thursday 9 May 2013. Again five of the LSF had their own classes with around 25 students in each group. In total 117 students participated. The post evaluation is used to measure the students' knowledge of and behaviour on safe sex after the intervention. By comparing the results of both questionnaires, the change in behaviour and knowledge can be analysed. The learners followed the program as much as possible in their own classroom, male and female followed the program in mixed groups. Seventy-four participants followed the whole program and filled out the baseline and post evaluation, these students are included in this study.

### **3.2 Research question & hypotheses**

The research question is formulated as follows:

*“Is there a change in sexual behaviour in young adults aged 12-18 at Tlou-Kwena high school in Dennilton in the Limpopo province, South Africa, following participation in the CHAMP behaviour change program and to what extent has a potential change been mediated by peer influence?”*

To answer the main research question, the first step is to study the impact of the CHAMP behaviour change program.

### **Hypothesis 1:**

There is a (significant) behaviour change among the learners after participation in the CHAMP behaviour change program at four of the domains of the program: knowledge about STI's, openness about HIV, aspects of life and attitude towards condom use.

The next step will be to study the role of peer influence on changing knowledge and behaviour.

### **Hypothesis 2:**

Peer influence; peer pressure, peer conformity, and peer involvement, has a significant influence on the outcome of the CHAMP behaviour change program.

The aim of this research is to discover if there are any sexual behaviour changes after participation in the CHAMP behaviour change program and to what extent this potential change has been mediated by peer influence. In the next section the type of research, the research sample, the way of data collection and the type of the analysis method will be described. This research is testing a theory and hypotheses. Hence, this research has a deductive and explanatory character using quantitative research methods (Boeije, 2008).

## **3.3 Sample**

The target sample of this research consists of learners from a secondary schools in Dennilton, rural South Africa. Secondary schools are approached for the recruitment of the participants because schools give easy access to a representative sample for this research. After approaching several high schools, Tlou-Kwena was the first school who committed to participation in the CHAMP behaviour change program in 2013, and was selected for the recruitment of participants for this study. Tlou-Kwena is a combined school, which means that they have a primary and a secondary department. Using the learners of Tlou-Kwena lead to a convenience sample because the participants firstly all participated on a voluntary base, this influences the construction of the sample, because only the students who were willing participated. Secondly, the day and time of the program was selected by the school. In consequence, not all children could participate at that moment in time, because some of them had to leave school earlier because they had to go by public transport, or had other obligations, excluding them from participation. The entry criteria were that the participants are aged between 12-19 years and in grades 8 & 9 and have not participated in a previous version of the program. At the baseline, a total of

257 students participated, of which 142 were boys (55,3%) and 115 were girls (44,7%). From the students were in the age group 14-18, but from the students were in grade 8 and 121 were in grade 9 post evaluation, of which 38 were boys (32,5%) and 103 were girls (67,5%) and group 12-19 and 4,3% of the participants had a missing value. 51 (43,6%) of the students in grade 7, 51 (43,6%) of the students in grade 8 and 94 (37,8%) of the students in grade 9.

### 3.1 Socio-demographic characteristics

of the students in the baseline and post evaluation.

In total 295 participants participated in a part of the program; the participants who did not participate in the baseline and/or the post evaluation are excluded from this study.

Furthermore the participants who participated in less than 5 sessions are excluded. The same goes for the students of whom the age or grade was unknown. After excluding the participants who did not meet the entering criteria, there was a database left with 74 participants. These are included in the final sample.

Socio-demographic characteristics	Baseline Respondents % (N=257)	Post evaluation Respondents % (N=117)
<b>Gender</b>		
Male	55,3	32,5
Female	44,7	67,5
<b>Age</b>		
12	1,6	3,4
13	18,3	26,5
14	23,3	32,5
15	13,2	17,9
16	8,6	6,8
17	4,3	4,3
18	1,9	2,6
19	0,8	1,7
Missing	28	4,3
<b>Grade</b>		
7	0	2,6
8	52,9	43,6
9	47,1	53,8

The socio-demographic characteristics of the learners who are included in the final sample which has been used for this study. Of the learners, twenty-nine (39,2%) were male and forty-five (60,8%) were female. The most common age category is fourteen years old, twenty-five percent of the learners. thirty-two (43,2%) of the students were in grade 8, twenty-five percent were in grade 9. The division of students who are a member of clubs, groups or societies is about 50/50. Fifty-five of the students are active in church, twenty-five percent. This information is included in the socio-demographic characteristics because this study is about the role of peer influence societies or church could implicate that the students see their parents as role models. One (82,4%) of the students are not sexually active yet, of which twelve (16,2%) are boys and three (3,9%) are girls. Twelve (16,2%) students are sexually active, of which nine (59,4%) are boys and three (19,2%) are girls.

Socio-demographic characteristics	Respondents % (N=74)
<b>Gender</b>	
Male	39,2
Female	60,8
<b>Age</b>	
12	1,4
13	29,7
14	33,8
15	18,9
16	6,8
17	2,7
18	6,8
<b>Grade</b>	
8	43,2
9	56,8
<b>Member of clubs, groups or societies</b>	
Yes	48,6
No	47,3
Missing	4,1
<b>Active in church</b>	
Yes	74,3
No	18,9
Missing	6,8
<b>Sexually active</b>	
Yes	16,2
No	82,4
Missing	1,4

### 3.4 Measures

The original Stepping Stones questionnaire, which was developed by the Medical Research Council and has been tested reliable and valid for South Africa (Jewkes et al, 2010) is used as the base for an adapted version for the data collection of this quantitative research. This adapted version was also used as the evaluation tool in the previous study on young adults in Dennilton. The questionnaire contains nine sections namely: *background; knowledge of reproductive health and HIV and attitudes toward HIV, condom use and gender relations; pregnancy and children; (fe)male partner; relationships and violence; sexual behaviour; mental health status question – CES-D scale; you and your community*. For the subject of this research an extra section is added, namely: *the peer pressure inventory* scale of Bradford Brown and Clasen (1985), which is used to make the role of peer influence more clear (annexure V). The sections which are selected from this scale evaluate peer conformity and peer involvement. For each sex there is a sex specified questionnaire, there are some small differences between these two questionnaires but these are not relevant for this research. The most relevant parts of the final questionnaire used in this study are: *background, knowledge of reproductive health, ideas about condom use, aspects of life, if I had HIV, you and your peers, peer involvement and peer conformity*. The participants completed the questionnaire twice, during

the baseline and the post evaluation. Between the two questionnaires, the participants participated in the CHAMP behaviour change program.

### **3.4.1 Reliability**

A research has a high reliability if the outcome is the same when you repeat the measurement with the same entities measured under different conditions (Field, 2009). It shows whether you measure the same thing (Rossi, Freeman & Lipsey, 1999). To increase the reliability of this research three issues are crucial: Will the measurement yield the same results if they are repeated on another occasion? Will there be the same observations when conducted by another observer? And is there transparency in the way sense was made of the raw data? To obtain the same results it was important that the questionnaire stayed the same as the one which was used in the previous year and that it was conducted under the same circumstances. It was not possible to copy the situation of the previous year exactly, because this time the questionnaires are conducted in smaller groups in classrooms instead of in one big group in the Miracle theatre. Also there are some changes made to the questionnaire and some questions added, but the sections remained the same, so it is comparative to previous years. Another important issue was that the sample group had to be comparative to the ones of previous years, and that the current sample group was not influenced by the previous program. To guarantee this, entry criteria were formulated to make sure that the selected students did not participate in the program in the previous years, but that they are in the same age group and grades. Another risk that could influence the reliability is that the adolescents gave social desirable answers, this could occur because the questionnaires contain sensitive topics and some of the questions might be difficult to answer. To tackle this, the LSF emphasized emphatically that the questionnaires are totally anonymous and they explained the different topics, to make sure that every student understands the questions, they were also available for questions at any time. Besides that, the setting in which the questionnaire is filled in, is arranged in a way where the learners had enough space to be sure that nobody could see what they answered. To make sure another observer would obtain the same results, the way the research is conducted is described as detailed as possible. This counts for the way the data is analysed and interpreted as well.

### **3.4.2 Validity**

The validity of a research shows to what extent the measurement is influenced by systematic mistakes (Boeije, 2008). Does the questionnaire measure what it wants to measure? To increase validity, it is important to take the participant error out. This was done by including cultural aspects into the questionnaire. Some questions were stated in a Western way. To make sure they are understandable for South African children, the questionnaire is completed in the presence of the LSF. They clarified the questions to make it more understandable for participants. Another way to improve the validity of the questionnaire is to emphasize that the questionnaire is completed. Last year there was a lot of information missing in the final data, this could be because those were the sensitive topics, but also because the questionnaire was too long and/or confusing. The participants had to complete the questionnaire and finish at their own tempo, because of this some students skipped a lot of questions, to finish faster. This year the LSF explained every topic and gave time after that to finish the section before moving to the next topic. In this way, the learners were more in parallel and they could not leave before the whole group finished. The LSF also checked afterwards whether all the questions were filled in, to minimize the amount of missing data.

### **3.4.3 Analysis**

For the analysis of the data SPSS version 20 was used (Field, 2009). The several scales of the questionnaire will be assessed by a factor analysis, and a reliability analysis to evaluate what the quality is (Field, 2009). The factor analysis is done to check the validity of the scales, for this, the confirmative factor analysis is used, which is oblimin rotated. After that, Cronbach's alpha is used to determine the reliability of the various scales. In this study the scales are named reliable when Cronbach's alpha is 0.70 or higher, but 0.6 is also acceptable. Factor analysis tries to discover which variables cluster together in a meaningful way and to find a correlation between the latent variables, it combines variables that are collinear. The combined variables are called subsets; these subsets of variables suggest that those variables are probably measuring aspects of the same underlying dimension (Field, 2009). All the factor analyses in this research are oblimin rotated because it is assumed that the factors are related. The results of these tests will be presented in the sections below and the output of these tests is displayed in annexure VI. First all the response possibilities are coded to enter them into SPSS. Before the analysis of this data started, some of the questions were recoded, to make

sure they were all encoded in the same direction. The missing values are replaced, this has only been done with the items which had 20% or less missing data.

#### **3.4.4 Background variables**

The following background characteristics are included in this study: gender (score: 0=boy, 1=girl), age (score: 1=12-14, 2=15-17, 3=18-20), grade (score: 1=8, 2=9), are they a member of other groups (score: 1=yes, 0=no), if they are active in church (score: 1=yes, 0=no) and whether they are sexually active yet (score: 1=yes, 0=no).

#### **3.4.5 Independent variables**

The independent variables in this study are:

##### *Knowledge about STI's*

There was a lot of confusion about the way the items should be interpreted in the scale “knowledge of reproductive health”, not all the questions could be answered in a single way and not all the information which was asked for in the questions was covered in the program. The original scale consists of 21 items. But because of the aforementioned reasons they could not all be included. After conducting factor analysis and reliability analysis it was still not possible to conduct reliable scales. Finally it was decided select only the most relevant and reliable item and use it single in this study. This is the following item: “item 206: If a person has a STI there will always be a sign (there will always be symptoms to see it)”, from now on mentioned as “knowledge about STI's” the answer possibilities varied from 1=true, 2=probably true, 3=probably false and 4=false. During the baseline the sample size was 67, and during the post evaluation 68 students. After replacing the missing values both the samples were N=74.

##### *Aspects of life*

This variable was measured with a scale of seven items, examples of items of this scale are: “Stop drinking alcohol before it gets me into trouble”, “Reduce the number of people you have sex with”, answer possibilities varied from 1=not a problem, 2=thought about it, 3=want to change, till 4=recent change. There was decided to exclude this variable in this study because of these response possibilities. They did not give the students the change to give a clear answer, which might have biased the results.

### *Openness about HIV*

This variable was measured with the scale “ If I had HIV” which contains 4 items. Example of items of this scale are: “I would keep it secret from my family”, “I would be open about my status to help others know HIV is real”. Item 249 was recoded to make sure that all high values mean that the students are negative against their HIV status. The baseline started with a sample of 58 learners and the post evaluation with 65. After replacing all the missing values both the samples came to 74. A factor analysis was conducted and showed that there are two factors to identify with an Eigen value of at least 1.0. These two factors declare 61,9% of all variance. The scree plot showed that there is only one factor visible above the bend. This one factor declares 36,8% of all variance. Item 249 and 251 do not fit in this factor. From a statistical point of view there is one factor, and this corresponds with the theory. After doing a reliability test the Cronbach’s alpha was -0,097 with N of items = 4. This suggest that the wrong items are recoded, however this is not the case, all items are recoded in the same direction. After deleting “item 251” the Cronbach’s alpha would increase to 0,298. This was still a Cronbach’s alpha that did not fit COTAN’s criteria. It was however decided not to delete any of the items but to state that this scale is not reliable. Finally, it was decided to select the most relevant item and use it single in this study. This is the following item: “ item 249: I would keep it secret from my family and friends” from now on mentioned as “ openness about HIV”. The answer possibilities varied from 1=definitely yes, 2=probably yes, 3=probably no, till 4=definitely no.

### *Peer pressure*

This variable was measured with the scale “you and your peers” and contains 4 items, examples of items of this scale are: “I am left out if I do not have a boyfriend because all my friends have one”, “I have to have sex because all my friends are doing it”. Answer possibilities varied from 1=strongly agree 2=agree, 3= disagree, till 4=strongly disagree. All the missing values for the baseline and post evaluation could be replaced so there is a sample of 74. A factor analysis was conducted which showed only one factor to identify with an Eigen value of at least 1.00. This one factor declares 62,7% of all the variance. This is also the case according to the scree plot, there is only factor visible above the bend, all the items fit in this one factor. Statistically there is one factor and this one factor represents “peer pressure”. After doing a reliability test the Cronbach’s alpha was 0,79, with N of items =4, this fits COTAN’s criteria. Because all the needed conditions are correct this variable will be included in this study.

### *Peer involvement*

This variable was measured with a scale of 9 items, examples of items of this scale are: “Be social, do things with other people”, “Go out with friends on weekends. The items A2, A14, A17, A22 and A23 are recoded according to the peer pressure inventory. After this a high score means that the students do get involved with their peers. The baseline sample contains 32 students, after replacing the missing values for A2, A7, A17, A22 and A23 the sample came to 42. The post evaluation started with a sample of 57, but after replacing all the missing values it came to 74. After conducting a factor analysis there are four factors identified with an Eigen value of at least 1.0. These four factors declare 70,8% of all variance. Looking at the scree plot there is only one factor visible above the bend. This one factor declares 29,1% of all variance. All the items fit in this one factor except item A9 and A19. From a statistic point of view there is only one factor and theory agrees with that. This one factor represents peer involvement. After doing a reliability test the Cronbach’s alpha was 0,171 with N of items=9. After deleting item A2, the Cronbach’s alpha will increase to 0.309. This is still a Cronbach’s alpha that does not fit COTAN’s criteria it was decided not to delete any of the items but just to state that this scale is not reliable. Finally it was decided to select the most relevant item and use it single in this study. This is the following item: “ item A2: Be social, do things with other people” from now on mentioned as “peer involvement”. The answer possibilities varied from 1=negative, 2=neutral, till 3=positive.

### *Peer conformity*

This variable was measured with a scale of 9 items, examples of items of this scale are: “Have the same opinion about things as your friends do”, “Wear your hair (or makeup) different than your friends”. Answer possibilities varied from 1=positive, 2=neutral, till 3=negative. The items A5, A9, A19 and A20 are recoded according to the peer pressure inventory. After this a high score means that the students do conform to their peers. The baseline sample consists 45 learners, after replacing A1, A5, A12, A16, A19 and A20 it came to a sample of 50. The post evaluation had a sample of 62, all the missing values could be replaced so it ended at 74. After conducting a factor analysis there are three factors identified with an Eigen value of at least 1.0. These three factors together explain 64,9% of all variance. Looking at the scree plot there are two factors above the bend that explain 50,7% of all variance. All the items fit in these two factors except item A2 and item A17. From a statistic point of view there are two factors. But according to the theory this scale will be seen as one factor that represents

peer involvement. After doing a reliability test the Cronbach's alpha was -1,0 with N of items=9. Although this suggest that the wrong items are recoded, this is not the case, all the items are recoded according to the "peer pressure inventory scale". After deleting item A9 the Cronbach's alpha would increase to 0,115. This will still be a Cronbach's alpha that does not fit COTAN's criteria. It was decided not to delete any of the items but just to state that this scale is not reliable. Finally it was decided to select the most relevant item and use it single in this study. This is the following item: " item A19: Have the same opinion about things as your friends do" from now on mentioned as "peer conformity". The answer possibilities varied from 1=negative, 2=neutral, till 3=positive.

### **3.4.6 Dependent variables**

#### *Attitudes towards condom use*

This variable was measured with a scale of 9 items, examples of items of this scale are: "Using a condom for sex would be embarrassing", "If a person wants to use a condom you know they probably have HIV". Answer possibilities varied from 1=strongly agree, 2=agree, 3=disagree, till 4=strongly disagree. Item 227, 229 and 234 are recoded, to make sure that a higher score means that there is a positive attitude towards condom use for all items. For the baseline are all the missing values were replaced except the ones of item 228. This resulted in a sample of first 45 learners and afterwards 57 learners. The post evaluation started with a sample of 52 learners after replacing all the missing values it came to 74. After conducting a factor analysis there are four factors to identify with an Eigen value of at least 1.00. These four factors together explain 64,2% of all variance. Looking at the scree plot there is one factor above the bend, this factor declares 24,7% of all variance, and all the items can be placed within this factor except item 229 and item 234. Statistically there is one factor, and this factor represents ideas about condom use. After doing a reliability the Cronbach's alpha was 0,578, with N of items=10. After deleting "item 229: A male condom may come off in a woman's vagina but it is impossible to lose the condom in the vagina", the Cronbach's alpha is .63, with N of items=9. Although COTAN's criteria state that there must be a Cronbach alpha of at least 0.7, it is acceptable in experimental research to have a Cronbach's alpha around 0.6. The item does say something of ideas about condom use, but there are enough other items to build a solid factor with, so this item has been deleted. Because all the needed conditions are correct this variable will be included in this study.

For the analysis of the data a paired sample  $t$  test has been conducted. Before the  $t$ -test was conducted, the sample was checked for normal distribution with assumption checks (Field, 2009). It was evaluated whether the samples are equal, and whether they include at least 25 respondents and whether the observations have been done independently. The only obstruction is that the samples are conducted by a convenience sample, but this is acceptable for this type of research. The  $t$  test is used to determine whether there is a significant difference between the baseline and the post evaluation. The results are called significant at 95% confidence level. Finally a multi-level regression analysis was conducted to give insight in the coherence between the variables and to find which variable has the most influence on the potential behaviour change, or obstructs the behaviour change most. For the multi regression analysis, the assumptions were checked as well. There is no perfect multicollinearity, they are normally distributed, the variables are independent, there is homoscedasticity, they have variance in values, and the variables are quantitative.

## **4. Results**

In this chapter the results will be presented on the basis of the two hypotheses.

### **4.1 Is there a behaviour change after implementation of the CHAMP behaviour change program?**

To answer this question there has been a paired sample  $t$  test conducted for each factor which has been included in this study, to measure if there are significant differences between the baseline and the post evaluation. The included factors are: knowledge about STI's, openness

about HIV, peer pressure, peer involvement, peer conformity and attitudes towards condom use.

#### *Knowledge about STI's*

A paired sample  $t$  test with an  $\alpha$  of .05 is conducted to compare the means of the baseline with the post evaluation. Before participating in the CHAMP behavioural change program the students had a lower knowledge of STI's ( $M=1.96$ ,  $SD=1.175$ ) than after participating ( $M=2.16$ ,  $SD=1.178$ ). On average the students scored -.207 point, 95% CI [-.593, .180] lower on the baseline than during the post evaluation. Which means in this case that their knowledge about STI's increased. However this difference was statistically not significant  $t(73)=-1.065$ ,  $p=.290$ , and negligible,  $d=-0.17$ . Looking at the means we see that at both, the baseline and the post evaluation answer two "probably true" is the most given answer, so the students most often gave a wrong answer, although less so in the post evaluation.

#### *Openness about HIV*

A paired sample  $t$  test with an  $\alpha$  of .05 is conducted to compare the means of the baseline ( $M=3.22$ ,  $SD=.907$ ) with the post evaluation ( $M=3.13$ ,  $SD=1.047$ ) after participating in the CHAMP program. On average the students scored .097 point, 95% CI [-.260, .455] higher on the baseline than during the post evaluation. Which means in this case that they had more openness about HIV during the post evaluation. This difference was statistically not significant,  $t(71)=.542$ ,  $p=.589$ . Looking at the means of both we can see that both the means are around three "probably no", which implicate that the students are not that open about HIV, even less so at the post evaluation.

#### *Peer pressure*

A paired sample  $t$  test with an  $\alpha$  of .05 is conducted to compare the means of the baseline ( $M=3.17$ ,  $SD=.692$ ) with the post evaluation ( $M=3.07$ ,  $SD=.496$ ) after participating in the CHAMP program. On average the students scored .102 point, 95% CI [-.104, .308] higher on the baseline than during the post evaluation. Which means in this case that they felt less peer pressure during the post evaluation. This difference was statistically not significant,  $t(73)=.984$ ,  $p=.328$ . Looking at the means of both tests we can see that both the means are around three "disagree", which implicate that the students do not feel peer pressure during the baseline or at the post evaluation.

### *Peer involvement*

A paired sample  $t$  test with an  $\alpha$  of .05 is conducted to compare the means of the baseline ( $M=2.55$ ,  $SD=.743$ ) with the post evaluation ( $M=2.61$ ,  $SD=.699$ ) after participating in the CHAMP program. On average the students scored .054 point, 95% CI [-.299, .191] lower on the baseline than during the post evaluation. Which means in this case that they felt more involved with their peers. This difference was statistically not significant,  $t(73)=-.439$ ,  $p=.662$ . Looking at the means of both the tests we can see that both the means are the closest towards three “positive”, which implicates that the students feel involved with their peers.

### *Peer conformity*

A paired sample  $t$  test with an  $\alpha$  of .05 is conducted to compare the means of the baseline ( $M=2.49$ ,  $SD=.707$ ) with the post evaluation ( $M=2.32$ ,  $SD=.829$ ) after participating in the CHAMP program. On average the students scored .162 point, 95% CI [-.299, .191] higher on the baseline than during the post evaluation. Which means in this case that they felt less conformity with their peers. This difference was statistically not significant,  $t(73)=1.229$ ,  $p=.223$ . Looking at the means of both the test we can see that both the means are the closest towards two “neutral”, which implicates that the students do not feel negative nor positive about conformity.

### *Attitudes towards condom use*

A paired sample  $t$  test with an  $\alpha$  of .05 is conducted to compare the means of the baseline ( $M=2.83$ ,  $SD=.408$ ) with the post evaluation ( $M=3.02$ ,  $SD=.457$ ) after participating in the CHAMP program. On average the students scored -.195 point, 95% CI [-.333, .056] lower on the baseline than during the post evaluation. Which means in this case that their attitude towards condom use improved. This difference was statistically significant,  $t(73)=-2.797$ ,  $p=.007$ . Looking at the means we see that at both, the baseline and the post evaluation answer three “disagree” is the most given answer. So the students most often have a positive attitude towards condom use.

## **4.2 Which role did peer influence have in the CHAMP behaviour change program**

The differences between the baseline and the post evaluation are showed in the previous paragraph. The next step measures whether peer influence has a significant role on condom use, the dependent variable in this study. Here a multi regression analysis was conducted on three levels, first for the baseline, then for the post evaluation and then for the period between the baseline and the post evaluation. The correlations between the different variables are shown in a correlation matrix for each level. This has been done by using Pearson's  $r$ . The significant correlations are in bold and described, there is a larger copy of the correlation matrices in annex VI.

### *Baseline*

To predict the proportion of variance in attitudes towards condom use for the baseline a multiple regression analysis was performed, whereby attitudes towards condom use has been predicted by age, grade, gender, sexual activity, member of other groups, activity in church, knowledge about STI's, openness about HIV, peer pressure, peer involvement and peer conformity. In combination this accounted for a non-significant 35,7% of the variability in attitudes towards condom use,  $R^2=.357$ , adjusted  $R^2=.161$ ,  $F(11, 36)=1.818$ ,  $p=.087$ . Of the separated variables, sexual activity is the only variable in the model that is significant ( $p=.020$ ). Unstandardised ( $B$ ) and standardized ( $\beta$ ) regression coefficients, and squared semi-partial correlations ( $sr^2$ ) for each predictor in the regression model are reported in table 4.1. To assess the size and direction of the linear relationship between age, gender, grade, sexual activity, member of other groups, activity in church, knowledge about STI's, openness about HIV, peer pressure, peer involvement, peer conformity and attitude towards condom use, during the baseline, a bivariate Pearson's correlation coefficient ( $r$ ) was calculated. Table 4.2 shows that there is a significant negative bivariate correlation between age and grade  $r(56) = -.339$ ,  $p < .01$ .  $r^2 = .11$ , which means that there are a higher percentage boys in the higher grade

**Unstandardised (B) and Standardised ( $\beta$ ) Regression Coefficients, and Squared Semi-Partial Correlations ( $sr^2$ ) For Each Predictor in a Regression Model Predicting Ideas about Condom use during the baseline**

Variable	B	[95% CI]	$\beta$	$sr^2$
Age	-.196	[-.455, .054]	-.268	.045
Gender	-.126	[-.451, .199]	-.147	.011
Grade	.291	[.034, .548]	.341	.094
Sexual activity	.399	[.067, .731]*	.349	.106
Member of other groups	-.056	[-.319, .207]	-.064	.003
Activity in church	-.259	[-.668, .150]	-.214	.030
Knowledge about STI's	-.046	[-.157, .065]	-.131	.126
Openness about HIV	.019	[-.149, .187]	.036	.001
Peer pressure	.121	[-.052, .295]	.221	.036
Peer involvement	-.024	[-.179, .131]	-.046	.008
Peer conformity	-.114	[-.297, .068]	-.202	.029

Note. N=48. CI=confidence interval. \* $p < .05$ . \*\* $p < .01$ .

Table 4.1

than in the lower grade. There is a negative bivariate correlation between gender and sexual activity  $r(71) = -.320, p < .01, r^2 = .10$ , which means that girls are less sexually active than boys. There is a positive bivariate correlation between peer conformity and age  $r(56) = .227, p < .05, r^2 = .08$ , which means that the older the students, the more they conform to their peers. There is a positive bivariate correlation between peer pressure and gender  $r(72) = .280, p < .05, r^2 = .08$ , which means that there is less peer pressure under girls. There is a positive bivariate correlation between peer conformity and gender  $r(72) = -.311, p < .01, r^2 = .10$ , which means that the female students conform more to their peers. There is a negative bivariate correlation between openness about HIV and being a member of clubs  $r(62) = -.256, p < .05, r^2 = .07$ , which means that if students are not a member of other clubs, they are more open about HIV. There is a positive bivariate correlation between peer pressure and being a member of the church  $r(68) = -.352, p < .01, r^2 = .12$ , which means that if the students are a member of the church they experience less peer pressure. There is a negative bivariate correlation between attitude towards condom use and knowledge of STI's  $r(72) = -.240, p < .05, r^2 = .06$ , which means that if students had less knowledge about STI's, their attitude towards condom use gets better.

		Correlations											
		Age	Gender	Grade	Sexually active	Member of Clubs	Member of church	Knowledge STI's	Openness about HIV	Peer pressure	Peer involvement	Peer conformity	Attitude towards condom use
Age	Pearson Correlation	1	-.339**	.212	.121	-.073	-.199	.217	.144	.154	.125	.277*	-.180
	Sig.(2-tailed)		.009	.110	.365	.606	.145	.102	.286	.351	.351	.035	.176
	N	58	58	58	58	52	55	58	57	58	58	58	58
Gender	Pearson Correlation	-.339**	1	-.198	-.320**	-.168	-.012	-.168	.067	.280*	.115	-.311*	.022
	Sig.(2-tailed)	.009		.091	.006	.181	.923	.153	.572	.016	.329	.007	.851
	N	58	74	74	73	65	70	74	73	74	74	74	74
Grade	Pearson Correlation	.212	-.198	1	.019	.073	.047	.041	.124	-.022	.101	.216	.329*
	Sig.(2-tailed)	.110	.091		.871	.561	.699	.730	.297	.850	.392	.064	.004
	N	58	74	74	73	65	70	74	73	74	74	74	74
Sexually Active	Pearson Correlation	.121	-.320**	.019	1	.190	-.028	.047	-.077	-.186	-.046	.057	.155
	Sig.(2-tailed)	.365	.006	.871		.133	.817	.692	.521	.115	.697	.633	.189
	N	58	73	73	73	64	69	73	72	73	73	73	73
Member of Clubs	Pearson Correlation	-.073	-.168	.073	.190	1	.155	-.116	-.256*	-.046	.054	-.105	.057
	Sig.(2-tailed)	.606	.181	.561	.133		.228	.358	.042	.716	.670	.407	.652
	N	52	65	65	64	65	62	65	64	65	65	65	65
Member of Church	Pearson Correlation	-.199	.047	.047	-.028	.155	1	.124	.189	.352**	-.078	-.177	.046
	Sig.(2-tailed)	.145	.699	.699	.817	.228		.307	.119	.003	.522	.143	.707
	N	55	70	70	.69	62	70	70	69	70	70	70	70
Knowledge STI's	Pearson Correlation	.217	.041	.041	.047	-.116	.124	1	-.038	-.119	-.146	-.010	-.240*
	Sig.(2-tailed)	.102	.730	.730	.692	.358	.307		.748	.313	.215	.932	.040
	N	58	74	74	73	65	70	74	73	74	74	74	74
Openness About HIV	Pearson Correlation	-.144	.067	.124	-.077	-.256*	.189	-.038	1	.239*	.005	-.058	.173
	Sig.(2-tailed)	.286	.572	.297	.521	.042	.119	.748		.042	.968	.626	.143
	N	57	73	73	72	64	69	73	73	73	73	73	73
Peer pressure	Pearson Correlation	-.154	.280*	-.022	-.186	-.046	.352**	-.119	.239*	1	.059	-.112	.239*
	Sig.(2-tailed)	.249	.016	.850	.115	.716	.003	.313	.042		.620	.342	.041
	N	58	74	74	73	65	70	74	74	74	74	74	74
Peer involvement	Pearson Correlation	.125	.115	.101	-.046	.054	-.078	-.146	.005	.059	1	.080	.035
	Sig.(2-tailed)	.351	.329	.392	.697	.670	.522	.215	.968	.620		.500	.765
	N	58	74	74	73	65	70	74	73	74	74	74	74
Peer Conformity	Pearson Correlation	.277*	-.311**	.216	.057	-.105	-.177	-.010	-.058	-.112	.080	1	.007
	Sig.(2-tailed)	.035	.007	.064	.633	.407	.143	.932	.626	.342	.500		.955
	N	58	74	73	73	65	70	74	73	74	74	74	74
Attitude towards condom use	Pearson Correlation	-.180	.022	.329**	.155	.057	.046	-.240*	.173	.239*	.035	.007	1
	Sig.(2-tailed)	.176	.851	.004	.189	.652	.707	.040	.143	.041	.765	.955	
	N	58	74	74	73	65	70	74	73	74	74	74	74

Table 4.2

There is a positive bivariate correlation between peer pressure and openness about HIV  $r(71) = -.239, p < .05$ .  $r^2 = .08$ , which means that the less peer pressure the students experience the less open they are about HIV. And finally there is a positive bivariate correlation between attitude towards condom use and peer pressure  $r(72) = .239, p < .05$ .  $r^2 = .08$ , which means that the less peer pressure the students experience the more positive their attitude towards condom use becomes.

### Post evaluation

To predict the proportion of variance in attitudes towards condom use for the post evaluation a multiple regression analysis was performed, whereby attitudes towards condom use was predicted by age, grade, gender, sexual activity, member of other groups, activity in church, knowledge about STI's, openness about HIV, peer pressure, peer involvement and peer conformity. In combination this accounted for a significant 95,9% of the variability in attitudes towards condom use,  $R^2 = .959$ , adjusted  $R^2 = .950$ ,  $F(11, 54) = 114.058, p < .001$ . Of the separated variables, is peer pressure is the only one that is significant ( $p < .001$ ). Unstandardised ( $B$ ) and standardised ( $\beta$ ) regression coefficients, and squared semi-partial

correlations ( $sr^2$ ) for each predictor in the regression model are reported in table 4.3.

<b>Unstandardised (B) and Standardised (<math>\beta</math>) Regression Coefficients, and Squared Semi-Partial Correlations (<math>sr^2</math>) For Each Predictor in a Regression Model Predicting Ideas about Condom use during the post evaluation</b>				
<b>Variable</b>	<b>B</b>	<b>[95% CI]</b>	<b><math>\beta</math></b>	<b><math>sr^2</math></b>
<b>Age</b>	-.002	[-.050, .047]	-.002	.000
<b>Gender</b>	.015	[-.045, .075]	.016	.000
<b>Grade</b>	.019	[-.040, .079]	.020	.000
<b>Sexual activity</b>	-.020	[-.085, .045]	-.020	.000
<b>Member of other groups</b>	-.005	[-.060, .049]	-.006	.000
<b>Activity in church</b>	-.019	[-.091, .053]	-.016	.000
<b>Knowledge about STI's</b>	-.015	[-.040, .011]	-.036	.001
<b>Openness about HIV</b>	-.019	[-.047, .009]	-.042	.001
<b>Peer pressure</b>	.925	[.866, .984]**	1.002	.753
<b>Peer involvement</b>	.003	[-.039, .045]	.004	.000
<b>Peer conformity</b>	.007	[-.032, .046]	.012	.000

**Note. N=66. CI=confidence interval. \* $p < .05$ . \*\* $p < .01$ .**

Table 4.3

To assess the size and direction of the linear relationship between age, gender, grade, sexual activity, member of other groups, activity in church, knowledge about STI's, openness about HIV, peer pressure, peer involvement, peer conformity and attitude towards condom use, during the post evaluation, a bivariate Pearson's correlation coefficient ( $r$ ) was calculated. Table 4.2 shows that there is a negative bivariate correlation between gender and age  $r(72) = -.023, p < .05, r^2 = .07$ , which means that there is a higher percentage boys in the higher grade than in the lower grade. There is also a negative bivariate correlation between sexually activity and gender  $r(72) = -.358, p < .01, r^2 = .13$ , which means that boys are more sexually active than girls. There is a negative bivariate correlation between being a member of the church and grade  $r(77) = -.284, p < .05, r^2 = .08$ , which means that if the students are in a higher grade they go less often to the church. There is a positive bivariate correlation between peer pressure and sexual activity  $r(72) = -.358, p < .01, r^2 = .13$ , which means that the less peer pressure they experience the more sexual active they are. There is a positive bivariate

correlation between peer pressure and openness about HIV  $r(71)=.248, p<.05. r^2=.06$ , which means that the less peer pressure they experience the more open they are about HIV. There is a negative bivariate correlation between peer conformity and age  $r(72)=-.259, p<.05. r^2=.07$ , which means that they conform more to their peers at a younger age. There is a negative bivariate correlation between peer conformity and openness about HIV  $r(71)=-.282, p<.05. r^2=.08$ , which means that the more they conform to their peers, the less open they are about

		Correlations											
		Age	Gender	Grade	Sexually active	Member of Clubs	Member of church	Knowledge STI's	Openness about HIV	Peer pressure	Peer involvement	Peer conformity	Attitude towards condom use
Age	Pearson Correlation	1	-.263*	.195	.065	.149	-.076	-.195	.041	.141	.068	-.295*	.139
	Sig.(2-tailed)		.023	.095	.584	.216	.532	.096	.734	.229	.565	.011	.237
	N	74	74	74	74	71	69	74	73	74	74	74	74
Gender	Pearson Correlation	-.263*	1	-.198	-.358**	-.017	.097	-.015	-.086	-.059	-.015	.081	-.042
	Sig.(2-tailed)	.023		.091	.002	.888	.429	.899	.470	.615	.902	.494	.724
	N	74	74	74	74	71	69	74	73	74	74	74	74
Grade	Pearson Correlation	.195	-.198	1	-.003	.040	-.284*	.199	-.020	.046	-.021	-.054	.057
	Sig.(2-tailed)	.095	.091		.979	.738	.018	.089	.866	.695	.857	.650	.628
	N	74	74	74	74	71	69	74	73	74	74	74	74
Sexually Active	Pearson Correlation	.065	-.358**	-.003	1	.020	-.119	-.010	.230	.275*	-.042	-.194	.249*
	Sig.(2-tailed)	.584	.002	.979		.866	.331	.933	.051	.018	.725	.099	.032
	N	74	74	74	74	71	69	74	73	74	74	74	74
Member of Clubs	Pearson Correlation	.149	-.017	.040	.020	1	.008	.007	-.014	-.026	-.054	-.233	-.035
	Sig.(2-tailed)	.216	.888	.738	.866		.951	.957	.911	.832	.653	.050	.772
	N	71	71	71	71	71	67	71	70	71	71	71	71
Member of Church	Pearson Correlation	-.076	.097	-.284*	-.119	.008	1	-.234	-.005	.133	.091	.074	.123
	Sig.(2-tailed)	.532	.429	.018	.331	.951		.053	.966	.278	.457	.545	.312
	N	69	69	69	69	67	69	69	68	69	69	69	69
Knowledge STI's	Pearson Correlation	-.195	-.015	.199	-.010	.007	-.231	1	.003	.152	-.069	.065	.123
	Sig.(2-tailed)	.096	.899	.089	.933	.957	.053		.983	.197	.562	.585	.297
	N	74	74	74	74	71	69	74	73	74	74	74	74
Openness About HIV	Pearson Correlation	.041	.086	-.086	.230	-.014	-.005	.003	1	.248*	.168	-.282*	.198
	Sig.(2-tailed)	.734	.470	.470	.051	.911	.966	.983		.034	.156	.016	.094
	N	73	73	73	73	70	68	73	73	73	73	73	73
Peer pressure	Pearson Correlation	.141	-.059	.046	.275*	-.026	.133	.152	.248*	1	.151	-.183	.976**
	Sig.(2-tailed)	.229	.615	.695	.018	.832	.278	.197	.034		.199	.119	.000
	N	74	74	74	74	71	69	74	73	74	74	74	74
Peer involvement	Pearson Correlation	.068	-.015	-.021	-.042	-.054	.091	-.069	.168	.151	1	.151	.157
	Sig.(2-tailed)	.565	.902	.857	.725	.653	.457	.562	.156	.199		.198	.181
	N	74	74	74	74	71	69	74	73	74	74	74	74
Peer Conformity	Pearson Correlation	-.295*	.081	-.054	-.194	-.233	.074	.065	-.282*	-.183	.151	1	-.146
	Sig.(2-tailed)	.011	.494	.650	.099	.050	.545	.585	.016	.119	.198		.215
	N	74	74	74	74	71	69	74	73	74	74	74	74
Attitude towards condom use	Pearson Correlation	.139	-.042	.057	.249*	-.035	.123	.123	.198	.976**	.157	-.146	1
	Sig.(2-tailed)	.237	.724	.628	.032	.772	.312	.297	.094	.000	.181	.215	
	N	74	74	74	74	71	69	74	73	74	74	74	74

Table 4.4

HIV. There is a positive bivariate correlation between attitude towards condom use and sexual activity  $r(72)=-.249, p<.05. r^2=.06$ , which means that the more sexual active they are the more positive their attitude against condom use is. And there is a positive bivariate correlation between attitude towards condom use and peer pressure  $r(72)=.976, p=.001. r^2=.95$ , which means that the less peer pressure they experience the more positive their attitude towards condom use is.

### Differences

To predict the proportion of variance in attitudes towards condom use for the differences between the baseline and the post evaluation a multiple regression analysis was performed, whereby attitudes towards condom use was predicted by age, grade, gender, sexual activity, member of other groups, activity in church, knowledge about STI's, openness about HIV, peer pressure, peer involvement and peer conformity. In combination this accounted for a

significant 47% of the variability in attitudes towards condom use,  $R^2=.470$ , adjusted  $R^2=.282$ ,  $F(11, 31)=2.500$ ,  $p=.022$ . Of the separated variables, again peer pressure is the only variable that is significant in the model ( $p>.001$ ). Unstandardised ( $B$ ) and standardised ( $\beta$ ) regression coefficients, and squared semi-partial correlations ( $sr^2$ ) for each predictor in the regression model are reported in table 4.5.

<b>Unstandardised (B) and Standardised (<math>\beta</math>) Regression Coefficients, and Squared Semi-Partial Correlations (<math>sr^2</math>) For Each Predictor in a Regression Model Predicting Ideas about Condom use during the differences</b>				
<b>Variable</b>	<b>B</b>	<b>[95% CI]</b>	<b><math>\beta</math></b>	<b><math>sr^2</math></b>
<b>Age</b>	-.042	[-.445, .381]	-.039	.028
<b>Gender</b>	-.291	[-.731, .149]	-.222	.177
<b>Grade</b>	.336	[-.059, .730]	.256	.227
<b>Sexual activity</b>	.205	[-.319, .728]	.123	.104
<b>Member of other groups</b>	-.205	[-.739, .330]	-.111	.102
<b>Activity in church</b>	.402	[-.499, 1.303]	.146	.119
<b>Knowledge about STI's</b>	.005	[-.124, .135]	.013	.011
<b>Openness about HIV</b>	-.018	[-.145, .110]	-.042	.037
<b>Peer pressure</b>	.412	[.209, .616]**	.622	.540
<b>Peer involvement</b>	.142	[-.040, .324]	.239	.208
<b>Peer conformity</b>	-.113	[-.307, .081]	-.198	.156

**Note. N=43. CI=confidence interval. \* $p<.05$ . \*\* $p<.01$ .**

Table 4.5

To assess the size and direction of the linear relationship between age, gender, grade, sexual activity, member of other groups, activity in church, knowledge about STI's, openness about HIV, peer pressure, peer involvement, peer conformity and attitude towards condom use, during the post evaluation, a bivariate Pearson's correlation coefficient ( $r$ ) was calculated. Table 4.6 shows that there is a negative bivariate correlation between gender and age  $r(56)=-.339$ ,  $p<.01$ .  $r^2=.11$ , which means that there are more boys in the higher grade. There is a negative bivariate correlation between sexual activity and gender  $r(71)=-.387$ ,  $p<.01$ .  $r^2=.15$ , which means that boys are more sexual active than girls. There is a negative bivariate correlation between being a member of the church and age  $r(49)=-.283$ ,  $p<.05$ .  $r^2=.08$ , which means that the older the students get, the less often they go to church. There is a positive

		Correlations												
		Age	Gender	Grade	Sexually active	Member of Clubs	Member of church	Knowledge STI's	Openness about HIV	Peer pressure	Peer involvement	Peer conformity	Attitude towards condom use	
Age	Pearson Correlation	1	-.339**	.212	.048	-.008	-.283*	.341**	-.109	-.072	.085	.406**	-.060	
	Sig.(2-tailed)		.009	.110	.721	.955	.044	.009	.419	.594	.528	.002	.657	
	N	58	58	58	58	49	51	58	57	58	58	58	58	
Gender	Pearson Correlation	-.339**	1	-.198	-.387**	-.166	.080	-.108	.088	.250*	.090	-.253*	.047	
	Sig.(2-tailed)	.009		.091	.001	.198	.523	.361	.463	.031	.444	.030	.691	
	N	58	74	74	73	62	66	74	72	74	.74	74	74	
Grade	Pearson Correlation	.212	.198	1	-.003	.079	-.242	-.112	.093	-.043	.085	.174	.181	
	Sig.(2-tailed)	.110	.091		.977	.543	.051	.343	.437	.715	.472	.138	.123	
	N	58	74	74	73	62	66	74	72	74	74	74	74	
Sexually Active	Pearson Correlation	.048	-.387**	-.003	1	.036	-.095	.075	-.232	-.234**	-.001	.223	-.094	
	Sig.(2-tailed)	.721	.001	.977		.786	.452	.531	.052	.005	.992	.058	.431	
	N	58	73	73	73	61	65	73	71	73	73	73	73	
Member of Clubs	Pearson Correlation	-.008	.166	.079	.036	1	.297*	-.104	-.075	.062	-.038	.014	.008	
	Sig.(2-tailed)	.995	.198	.543	.786		.025	.422	.568	.634	.770	.917	.951	
	N	49	62	62	61	62	57	62	60	62	62	62	62	
Member of Church	Pearson Correlation	-.283*	.080	-.242	-.095	.297*	1	.130	-.027	.077	.261*	-.176	.005	
	Sig.(2-tailed)	.044	.523	.051	.452	.025		.297	.832	.541	.034	.158	.969	
	N	51	66	66	65	57	66	66	64	66	66	66	66	
Knowledge STI's	Pearson Correlation	.341**	-.108	-.112	.075	-.104	.130	1	-.002	-.033	-.174	.105	-.115	
	Sig.(2-tailed)	.009	.361	.343	.531	.422	.297		.986	.783	.139	.375	.331	
	N	58	74	74	73	62	66	74	72	74	74	74	74	
Openness About HIV	Pearson Correlation	-.109	.088	.093	-.232	-.075	-.027	-.002	1	.290*	.178	-.170	.172	
	Sig.(2-tailed)	.419	.463	.437	.052	.568	.832	.986		.013	.135	.153	.148	
	N	57	72	72	71	60	64	72	72	72	72	72	72	
Peer pressure	Pearson Correlation	-.072	.250*	-.043	-.324**	.062	.077	-.033	.290*	1	.103	-.236*	.611**	
	Sig.(2-tailed)	.594	.031	.715	.005	.634	.541	.783	.013		.383	.043	.000	
	N	58	74	74	73	62	66	74	72	74	74	74	74	
Peer involvement	Pearson Correlation	.085	.090	.085	-.001	-.038	-.261*	-.174	.178	.103	1	.133	.232*	
	Sig.(2-tailed)	.528	.444	.472	.992	.770	.034	.139	.135	.383		.259	.047	
	N	58	74	74	73	62	66	74	72	74	74	74	74	
Peer Conformity	Pearson Correlation	.406**	-.253*	.174	.223	.014	-.176	.105	-.170	-.236*	.133	1	-.172	
	Sig.(2-tailed)	.002	.030	.138	.058	.917	.158	.375	.153	.043	.259		.143	
	N	58	74	74	73	62	66	74	72	74	74	74	74	
Attitude towards condom use	Pearson Correlation	-.060	.047	.181	-.094	.008	.005	-.115	.172	.611**	.232*	-.172	1	
	Sig.(2-tailed)	.657	.691	.123	.431	.951	.969	.331	.148	.000	.047	.143		
	N	58	74	74	73	62	66	74	72	74	74	74	74	

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
 \* . Correlation is significant at the 0.05 level (2-tailed).

Table 4.6

bivariate correlation between being a member of the church and being a member of clubs  $r(55)=-.297, p<.05. r^2=.09$ , which means that if the students are a member of other clubs, they go to church more often. There is a positive bivariate correlation between knowledge about STI's and age  $r(56)=-.341, p<.01. r^2=.12$ , which means that they know more about STI's if they are older. There is a positive bivariate correlation between peer pressure and gender  $r(72)=.250, p<.05. r^2=.06$ , which means that the older they get the less peer pressure they experience. There is a negative bivariate correlation between peer pressure and sexual activity  $r(71)=-.234, p<.01. r^2=.05$ , which means that the more peer pressure they experience the more sexual active they are. There is a positive bivariate correlation between peer pressure and openness about HIV  $r(70)=.290, p<.05. r^2=.08$ , which means that the less peer pressure they experience the more open they are about HIV. There is a positive bivariate correlation between peer involvement and being a member of the church  $r(64)=.261, p<.05. r^2=.07$ , which means that they are more involved with their peers if they are a member of a church. There is a positive bivariate correlation between peer conformity and age  $r(56) =.406, p<.01. r^2=.16$ , which means that they conform stronger to their peers if they are older. There is a negative bivariate correlation between peer conformity and gender  $r(72)=-.253,$

$p < .05$ .  $r^2 = .06$ , which means that they conform more to their peers if they are boys. There is a negative bivariate correlation between peer conformity and peer pressure  $r(72) = -.236$ ,  $p < .05$ .  $r^2 = .06$ , which means that the more peer pressure they experience the more they conform to their peers. There is a positive bivariate correlation between attitudes towards condom use and peer pressure  $r(72) = .611$ ,  $p < .001$ .  $r^2 = .037$ , which means that the less peer pressure they experience the more positive their attitude towards condom use is. There is a positive bivariate correlation between attitudes towards condom use and peer involvement  $r(72) = .232$ ,  $p < .05$ .  $r^2 = .05$ , which means that the more they get involved with their peers the more positive their attitude towards condom use is.

## **5. Conclusion and discussion**

In the previous chapter the results of the data analysis are presented. This chapter seeks to interpret these results by providing relevant consequences and valuable insights. This by looking at the underlying meanings which are attached to these results. First the results will be shortly summarised, after that the results will be discussed in relation to the research questions and the literature on which this study was based. After that there will be reflected on the limitations of this research and recommendations for future research will be done.

### **5.1 Summary of the results**

When testing hypothesis 1, the study tried to discover whether there was a behaviour change after participation in the CHAMP behaviour change program. This was evaluated with knowledge about STI's which has not been found significant. On average the students knowledge increased due to the CHAMP program, but the most students still gave a wrong answer. Openness about HIV was not significant. On average the students openness increased due to the CHAMP program, but still the most students are not that open about HIV, both of these results might occur because of stigmatisation, the students might have an "attitude" who is not convinced by the new information, hereby they might not adopt it (Ajzen, 1991). The three variables who are used to measure peer influence where all three not significant, the note has to be made that changing the amount of peer influence was also not the aim of the program. But for this study it was interesting to see if the program did had influence on the amount of peer influence. As stated peer pressure was not significant. On average the students scored higher during the post evaluation, which means they felt less peer pressure due to the programme. Also overall it could be stated that most of the students did not feel peer pressure, not during the baseline and not during the post evaluation. That there was a small change could be because the students felt stronger after participating in the program, they had more knowledge, here for they might be able to take more informed decisions for their selves, which occurs when people get more self-confidence (Ajzen, 1991). Peer involvement was not significant. On average the students peer involvement increased due to the CHAMP programme, and most of the students feel involved with their peers, which can be declared by the fact peer involvement is very important for adolescents who are in

the age of the adolescents in this study (Steinberg & Monahan, 2007). Peer conformity was also not found significant, due to the programme they felt less conformity, overall it could be stated that most of the students are in the middle, they do not feel negative nor positive about conformity. Finally there is a significant result for attitude towards condom use. The students already had a positive attitude towards condom use, but this has increased significantly due to the program, which points at a behaviour change. This increase could have been caused by a movement in the zone of proximal development (Doolittle, 1995). The increase of knowledge and/or the increase of resilience, made the learners able to adapt new behaviour.

Hypotheses 2 tested what the role of peer influence was on the behaviour change conducted by the CHAMP behaviour change program. This was measured at three levels, the baseline, the post evaluation and the differences between those two. Peer conformity and age had a discrepancy in the results and are for that reason left out in this summary. For the baseline, the independent variables did not influence the dependent variable significantly. Looking at the individual variables, sexual activity was the only variable that scored significant, however this does not influence the model strongly enough for the whole model to become significant. There is a significant negative correlation between openness about HIV and being a member of clubs, which might mean that being a member of clubs has a negative influence on the openness about HIV of the learners, which implies that they might experience negative peer influence in clubs. There is a positive correlation between peer conformity and gender and peer pressure and gender. This could be declared by the fact that girls are less sensitive for negative peer pressure, but that they do conform more to their peers (Steinberg and Monahan, 2007). There is a positive correlation between peer pressure and being a member of the church, means that students who go to church experience less peer pressure.

In the post evaluation, the independent variables did influence the dependent variable significantly. Looking at the individual variables, peer pressure is the variable that is significant. Which implies that a lack of peer pressure has a significant positive influence on the attitude towards condom use. There is a negative correlation between, being a member of the church and grade, which says that younger learners go more often to the church. There is a negative correlation between peer conformity and openness about HIV, so the more they conform to their peers the less open they are, which might have to do with stigmatization as mentioned before. There is a negative correlation between peer pressure and sexual activity,

so more peer pressure leads to more sexual activity, this can be declared by the fact that under the influence of negative peer pressure young adults, and especially men can get sexually active just because their peers do as well (Brook, et al, 2006). There is a positive correlation between attitude towards condom use and sexual activity, which is a positive result cause it means that the more sexually active the students are the more positive their attitude towards condom use is, which is important for safe sexual behaviour. According to the theory of Ajzen (1991) will the learners adapt the information about condom use earlier if they see the importance of it. Assuming that condom use gets more important at the moment you are sexually active, could explain why a positive attitude against condom use is significant correlated with sexual activity. The more sexual active, the more important is safe condom use.

For the differences, the independent variables did influence the dependent variable significant. Looking at the individual variables, again peer pressure is the variable that scores significant. There is a negative correlation between, age and being a member of the church, which means that the younger the students are the more often they go to the church. There is a negative correlation between peer conformity and gender, peer pressure and gender, peer conformity and peer pressure and peer pressure and sexual activity. So girls conform less to their peers than boys, at the moment they conform more, they experience more peer pressure, and more peer pressure leads to more sexual activity. This can declare why boys are more sexual active than the girls and is in accordance to the theory of Steinberg and Monahan (2007) and Brook, Morojele, Zhang and Brook (2006). There is a positive correlation between being a member of the church and being a member of clubs and also between peer involvement and being a member of the church, so the more they go to church, the more often they go to other clubs and the more involved they are with each other, which could be declared by the fact that they see their peers more often, if they have several places where they meet. There is a positive correlation between knowledge about STI's and age, this could be declared by the fact that if the learners get older, they have more knowledge and are better informed. There is a positive correlation between peer involvement and attitudes towards condom use, which means that peer involvement has a positive influence at attitudes towards condom use, which implies that this attitudes are accepted as the new group norms (Ajzen, 1991).

The following three results are founded at all three levels: there is a negative correlation between gender and sexual activity, which means that girls are less sexual active than boys, this could be because girls are less vulnerable towards peer influence and here for start more aware with sex (Steinberg and Monahan 2007). And there is a positive correlation between peer pressure and openness about HIV, and peer pressure and attitude towards condom use, which means that the less peer pressure the students experience the less open they are about HIV. This implies that if the learners experience less peer pressure, this influence their perceptions in a positive way, which might occur because they have more self confidence which makes it easier to adapt new information (Ajzen, 1991).

## **5.2 Discussion of the results in relation to the research question**

The aim of this study was to answer the following question:

*“Is there a change in sexual behaviour in young adults aged 12-18 at Tlou-Kwena high school in Dennilton in the Limpopo area in South Africa, following participation in the CHAMP behaviour change program and to what extent a potential change has been mediated by peer influence?”*

To answer this question two hypothesis were formulated, of which the results are presented in the previous paragraph. Looking at these results in combination with the research question it could be stated that the CHAMP behaviour change program resulted in a significant change in attitude towards condom use under learners of Tlou-Kwena school in the age category 12-18 years. On basis of the collected data is it difficult to state if this change in attitude towards condom use is actually a behaviour change, for this additional research is necessary. The change in attitude towards condom use could have been partially mediated by the lack of negative peer pressure. During the whole study a lack of negative peer pressure has been measured. At the moment the attitude towards condom use started to change significant it started to correlate with the lack of peer pressure. This implies that the change in attitude towards condom use is at least partly caused by the lack of negative peer pressure, which is a part of peer influence.

## **5.3 Discussion of the results in relation to the literature used in the thesis**

Looking back at the theoretical approach it was stated that people in peer groups often change their perceptions, opinions and behaviour to be consistent with standards or expectations of the group, so called peer group affiliation (Simons-Mortons & Farhat, 2010). For the CHAMP program, social influence and in particular, peer influence could have an important role in the success of the implementation of the program if the program can change peer influence positively. This because the program tries to transfer knowledge to peer groups, aiming at changing the perceptions, opinions and behaviour they share as a group. The target group of this study is vulnerable to negative and positive peer influence (Selikow et al, 2009). The fact that the results showed that there was a lack of negative peer pressure before, during and after the implementation of the CHAMP program may have caused that the positive attitude towards condom use increased. Because they did not experience negative peer pressure, there might have been enough space to adapt to the new safe norms. This is in line with the “theory of planned behaviour” and “the learning theory”. The theory of planned behaviour stated that it is firstly important that the students see the need for the new behaviour, in this case the need for a positive attitude towards condom use. Secondly that their peers have the same opinion, about a subject, assuming this is the case in this study otherwise the sample would not change significant. And finally the student must be confident enough to adopt the new information/behaviour, the program focuses among others at an increase in self confidence by for example letting the students formulate goals for life and making them aware about what is acceptable and what not, to make them feel stronger and more resilient. Finally it imparts information in a group of peers. So the CHAMP program points to all these factors, the fact that all these factors are included might have resulted in a positive increase in the students attitude towards condom use. According to Vygotsky’s learning theory, the children learn through social interactions with more advanced peers and adults and it is important to include cooperative learning strategies in classical instructions. This is also included in the CHAMP program, the students are facilitated by older and more advanced peers and they are facilitated in a participative way. Both these theories state that the social environment of the young adult is a very important factor, in negative and positive way, in behaviour change because peers play a prominent role in young adolescents lives during elementary and middle school. Even if they do not think there is peer pressure, they might be unaware of it (Molloy, Gest & Rulison, 2011). The fact that the attitude towards condom use has changed implies according to the theories that the information from the program is adopted as the new norms of the peer group (Ajzen, 1991).

#### **5.4 Reflection on the limitations of the research**

This study contains several limitations, they will be described by subject in the subsections below, acknowledge them is important in order to interpret the findings in a right way.

##### Type of research limitations

The fact that this has been a quantitative research could be a limitation. A combination of quantitative and qualitative research would have answered the research question more extensively. Additional qualitative research could have given the opportunity for a deeper understanding of the topics and to fill the occurred knowledge gaps. Unfortunately this was not possible because of a lack of time.

##### Population limitations

According to the results many students are not sexually active yet. This might bias the results, because if the students are not sexually active yet they might not be that interested or informed about some of the subjects. They have no reason to think about their opinion towards condom use for example.

##### Data collection limitations

Not all the scales of the used instrument has been founded reliable, according to COTAN's criteria. There could be several reasons for this, it could just be that the building of the topics is not done in a correct way or because the questionnaire is too long, that could have influenced the filled in results. During the data capturing it became clear that there were many missing values or that students miss interpreted the questions because there was a lot of discrepancy between their responses. Therefore not all the scales could be included in this study, this could have biased the results. It is also not certain that an English version of the questionnaire is the best way to gather the data, during the take down it became obvious that many of the children had problems with the questions.

##### Procedure limitations

The baseline and post evaluation are both taken down on different days than the day the program has been run because the school routine had to be accommodated resulting in the exclusion of some of the children in the final sample. Although they did follow the whole program, they had missed the baseline or post evaluation. This is a shame for the gathered data, because the sample could have been larger. Other procedure limitations were the lack of time. This program should probably have a more longitudinal character to gather the best results. Now the students had to follow two sessions a week, this might disturb the process of the information, because they had to absorb so much in a short time. Also to measure a behaviour change this period is really short. The results might be more trustworthy if they were evaluated after a longer period and at more than one moment. Another limitation was that not all the LSF were at the same knowledge level and that they gave the sessions in their own native language. This made it impossible to control if they provided the right information, however the assumption was that not all of them possessed the right information.

### **5.5 Recommendation for future research**

This research study has given grounding for further research in the future. This further research should seek for a deeper insight, into the impact of the program. This can be conducted by making use of focus groups. It would be positive for the program if there were less time limitations, for a study with a more longitudinal character. This requires a longer implementation period for the program, but also a longer period after the program before the post evaluation will be conducted. Or conduct more measurement moments, because then the results will give more insight into whether or not there is really a behaviour change. Finally the current questionnaire should be evaluated. At this moment there are too many questions, which is asking a lot of the students this might cause biased results because of boredom. Further not all the questions are clear enough formulated, some of them are doubtful, which makes it hard to measure. Others are formulated in a way which is not understandable enough for the students. Also the response possibilities are not always clear and some of the questions that are relevant for the Stepping Stones program are less relevant for the CHAMP program. The recommendation would be to total review the questionnaire with pilots before using it. It is clear that this can have big consequences for comparative research, because new results might no longer be comparable with the previous results. But if the current questionnaire will be used, the same problems will probably occur each year.

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## **7. Annexure**

### **1. List off abbreviations**

**AIDS:** Acquired Immune Deficiency Syndrome

**ARS:** Acute Retroviral Syndrome

**ART:** Anti Retroviral Therapy

**CHAMP behavioural change program:** Community Health Awareness Mobilisation & Prevention behavioural change program

**CI:** Confidence Interval

**HCT campaign:** HIV and AIDS Counselling and Testing campaign

**HIV:** Human Immunodeficiency Virus

**HSV-2:** Herpes Simplex Virus type-2

**LSF:** Life Skill Facilitator

**NGO:** Non Governmental Organisation

**PHC:** Primary healthcare

**PMTCT:** Early prevention of mother-to-child transmission

**SA:** South Africa

**SCT:** Social Cognitive Theory of Bandura

**SIV:** Simian Immunodeficiency Virus

**SLT:** Social Learning Theory of Bandura

**STI:** Sexual Transmittal Infection

**TB:** Tuberculoses

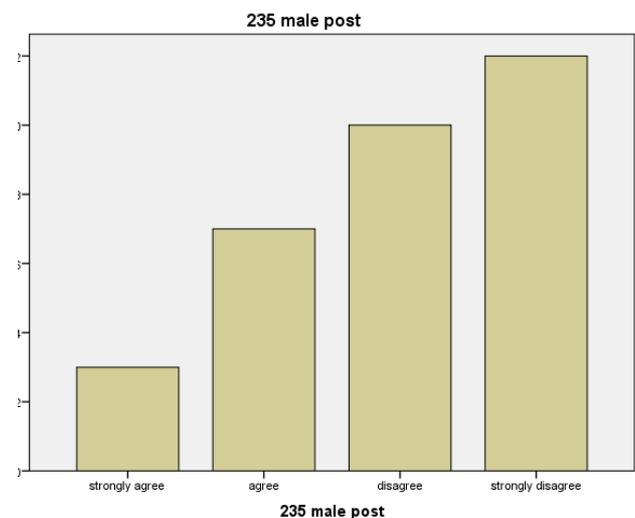
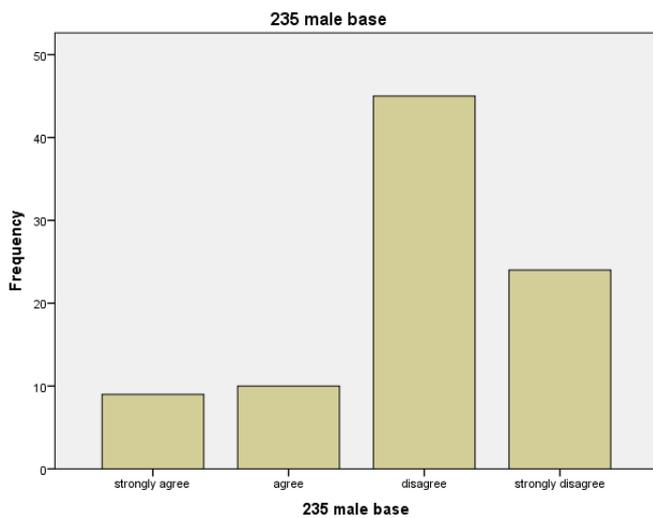
## II. Frequency bars male and female & t-test

In this appendix the frequency bars about peer pressure from the male baseline and post evaluation and the female baseline and post evaluation of the Ndlovu CHAMP behavioural change program 2011 are visible.

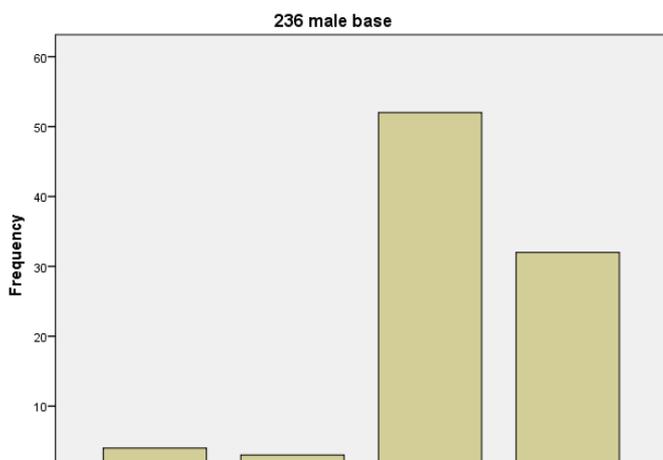
### YOU AND YOUR PEERS

Now I would like to read out some statements, can you tell me if you strongly agree, agree, disagree or strongly disagree:

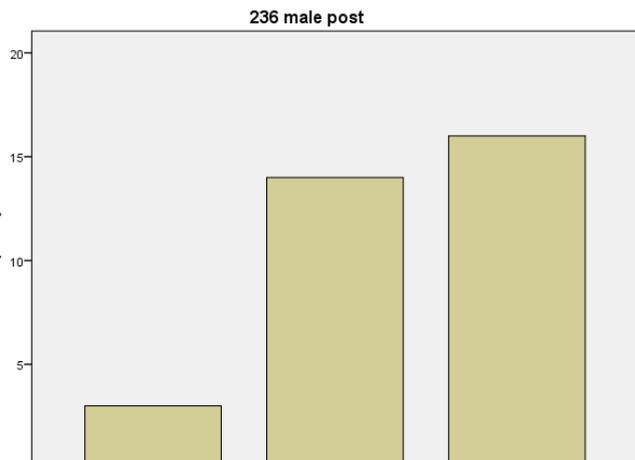
**Item 235: I am left out if I do not have a girlfriend because all my friends have one**



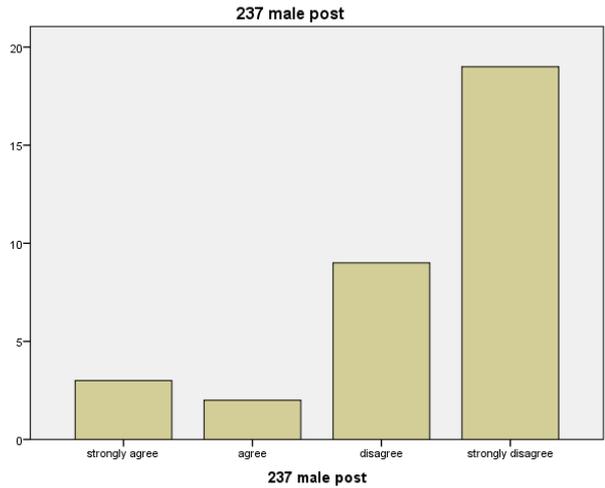
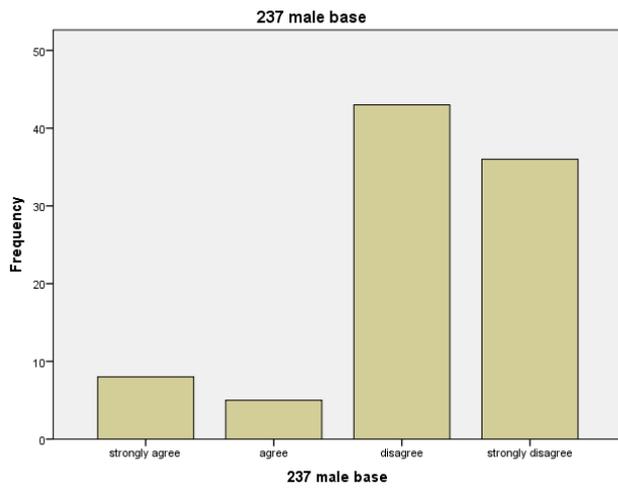
**Item 236: I have to have sex because all my friends are doing it**



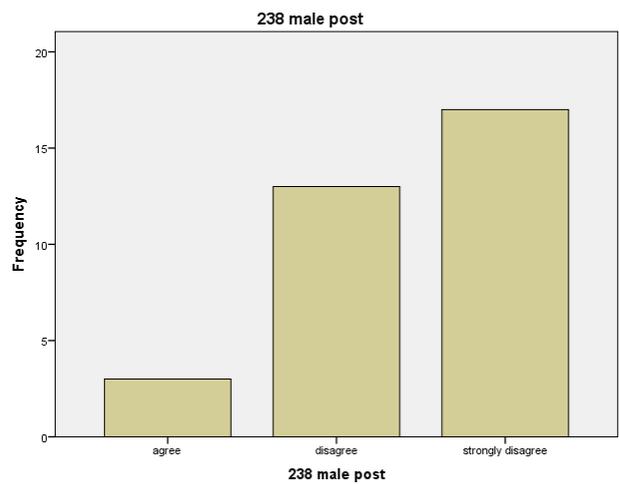
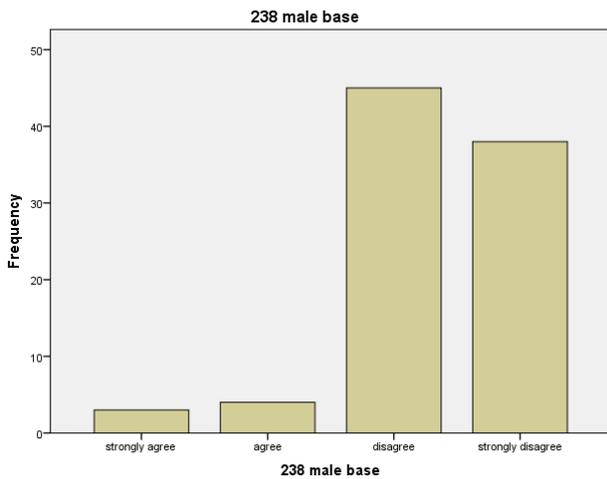
44



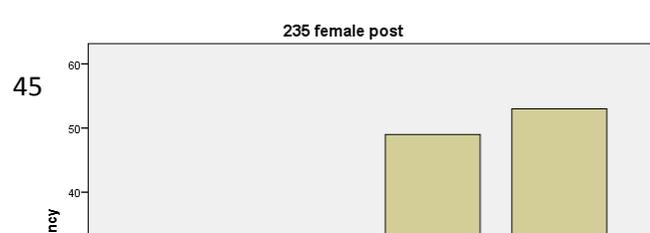
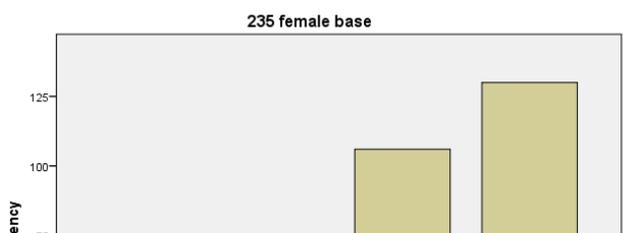
**Item 237: I am under pressure to have a makhwapheni because all my friends do**



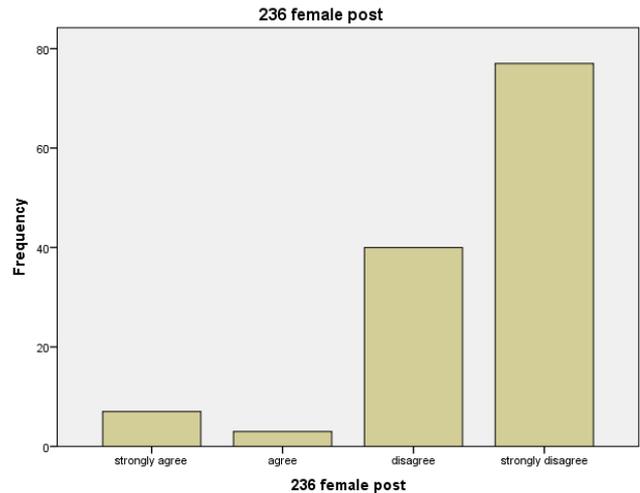
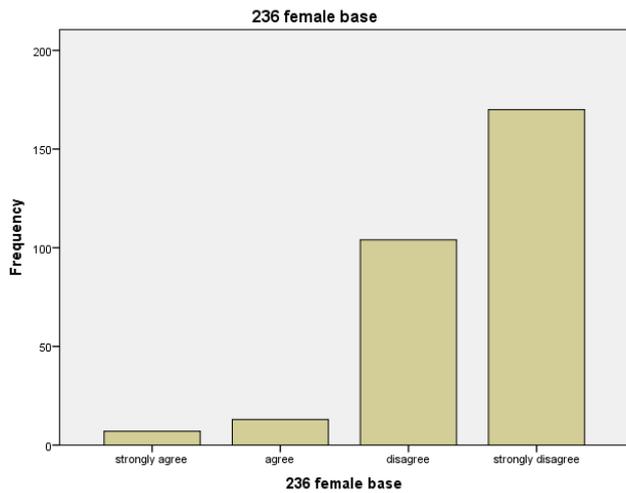
**Item 238: I am under pressure to get something (e.g. money, cell phone, clothes, etc.) from my boyfriend for my friends**



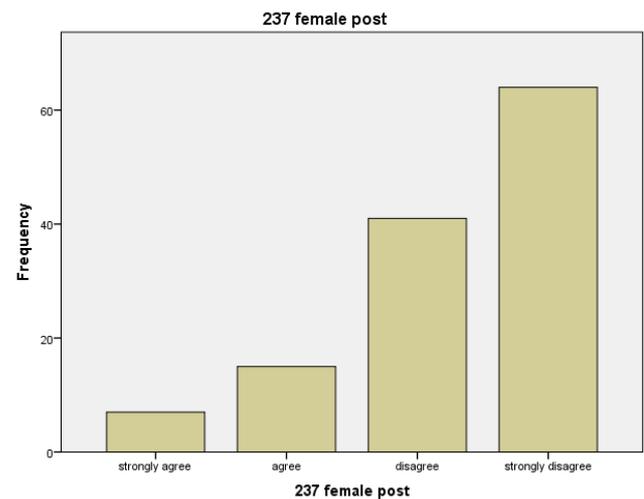
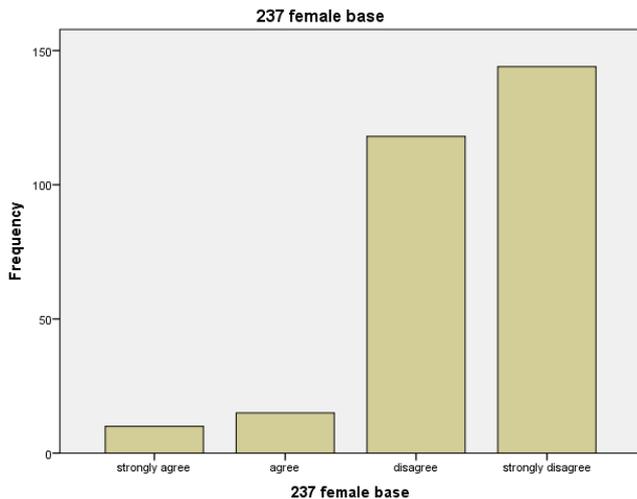
**Item 235: I am left out if I do not have a boyfriend because all my friends have one**



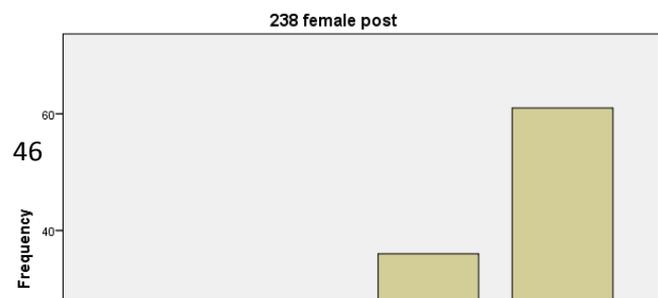
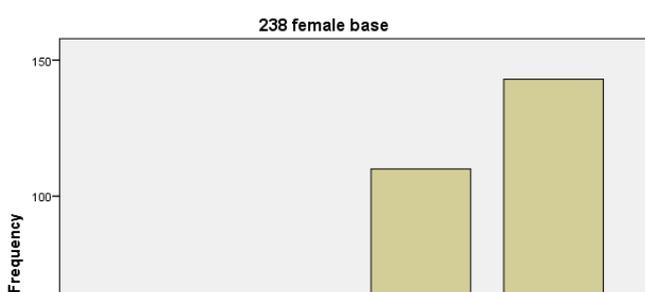
**Item 236: I have to have sex because all my friends are doing it**



**Item 237: I am under pressure to have a makhwapheni because all my friends do**



**Item 238: I am under pressure to get something (e.g. money, cell phone, clothes, etc.) from my boyfriend for my friends**



**Paired Samples Test**

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	235 male base - 235 male post	,129	1,310	,235	-,351	,610	,548	30	,587
Pair 2	236 male base - 236 male post	-,125	1,040	,184	-,500	,250	-,680	31	,501
Pair 3	237 male base - 237 male post	-,219	1,237	,219	-,665	,227	-1,000	31	,325
Pair 4	238 male base - 238 male post	-,242	,867	,151	-,550	,065	-1,606	32	,118
Pair 5	235 female base - 235 female post	,018	1,253	,118	-,216	,251	,150	112	,881
Pair 6	236 female base - 236 female post	-,043	1,012	,094	-,228	,143	-,457	116	,649
Pair 7	237 female base - 237 female post	,110	1,076	,099	-,086	,306	1,112	117	,269
Pair 8	238 female base - 238 female post	,153	1,138	,108	-,061	,367	1,418	110	,159

Figure 1: Paired Samples T-test (male baseline & male post evaluation and female baseline & female postevaluation CHAMP program 2011)

Item 235: I am left out if I do not have a boyfriend because all my friends have one

Item 236: I have to have sex because all my friends are doing it

Item 237: I am under pressure to have a makhwapheni because all my friends do

Item 238: I am under pressure to get something (e.g. money, cell phone, clothes, etc.) from my boyfriend for my friends

### III. Peer Pressure Inventory

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Here are some *PAIRS of STATEMENTS* describing *PEER PRESSURE* which is when your friends encourage you *to do* something or to *not do* something else. For each pair, *READ* both statements and decide whether friends mostly encourage you to do the one on the *LEFT* or the one on the *RIGHT*.

Then, *MARK AN "X"* in one of the boxes on the side toward the statement you choose, depending on *HOW MUCH* your friends encourage you to do that ("*A Little,*" "*Somewhat*" or "*A Lot*"). If you think there's *no* pressure from friends to do *either* statement, mark the middle ("*No Pressure*") box. Remember, mark *just ONE "X"* for *each* pair of statements.

HOW STRONG is the pressure from your FRIENDS to: . . . .	Lo t	Somewha t	Littl e	No pressur e	Littl e	Somewha t	Lo t	
Take DIFFERENT classes than your friends take				<b>C23</b>				Take the SAME classes that your friends take
Be social, do things with other people				<b>B30</b>				NOT be social, do things by yourself

		Paired Differences						t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference					
					Lower	Upper				
Pair 1	235 male base - 235 male post	,129	1,310	,235	-,351	,610	,548	30	,587	
Pair 2	236 male base - 236 male post	-,125	1,040	,184	-,500	,250	-,680	31	,501	
Pair 3	237 male base - 237 male post	-,219	1,237	,219	-,665	,227	-,1000	31	,325	
Pair 4	238 male base - 238 male post	-,242	,867	,151	-,550	,065	-,1606	32	,118	
Pair 5	235 female base - 235 female post	,018	1,253	,118	-,216	,251	,150	112	,881	
Pair 6	236 female base - 236 female post	-,043	1,012	,094	-,228	,143	-,457	116	,649	
Pair 7	237 female base - 237 female post	,110	1,076	,099	-,086	,306	1,112	117	,269	
Pair 8	238 female base - 238 female post	,153	1,138	,108	-,061	,367	1,418	110	,159	

Figure 1: Paired Samples T test (male baseline & male post evaluation and female baseline & female post evaluation CHAMP program 2011)

Have a steady boyfriend or girlfriend (opposite sex)								NOT just go out with one guy or girl
NOT go to school dances or mixers 3				<b>P21</b>				Go to school dances or mixers
Be part of one (or more) of the “crowds” at school				<b>C35</b>				NOT be part of any of the “crowds” at school
NOT have a parttime Job								Have a parttime job
Excel, be really good at something (sports, grades, slamming beers, whatever)								NOT be better than any of your friends at something
NOT go to parties				<b>P53</b>				Go to parties
Try NOT to be friends with the popular kids				<b>C30</b>				Try to be friends with the “popular” kids
Wear the SAME types of clothes your friends wear				<b>C36</b>				Wear styles of clothes DIFFERENT than your friends
“Make out” (kissing or petting)								NOT “make out” (kissing or petting)
Try to look or act older								Try to look or act your

than you are								own age
Be in religious activities (church, Young Life, etc.)								NOT get involved with religious activities
Talk or act DIFFERENTLY than your friends do				<b>C41</b>				Talk or act the SAME way your friends do
Spend your free time alone or with your family				<b>P34</b>				Spend your free time with your friends
Go out with boys/girls (opposite sex)				<b>P52</b>				NOT go out with boys/girls (opposite sex)
Wear your hair (or makeup) DIFFERENT than your friends'				<b>C43</b>				Wear your hair (or makeup) like your friends do
NOT ask your friends who you should go out with				<b>C17</b>				Go out only with someone your friends say is okay to date
Go to the games at school (football, basketball, etc.)				<b>P26</b>				NOT go to school games
NOT go to concerts				<b>P31</b>				Go to concerts
Have the SAME opinion about things as your friends do				<b>C33</b>				Have DIFFERENT opinions than your friends do
Listen to the music, groups				<b>C36</b>				Listen to music and

your friends think are good								groups that no one else likes
“Party” (be rowdy)				<b>P47</b>				NOT “party” (not be rowdy)
Go out with friends on Weekends				<b>P61</b>				Stay home on weekends
Do things to impress members of the opposite sex				<b>P46</b>				Try NOT to impress members of the opposite sex

**SCORING:**

Each item is scored from 3 to +3, with the «No Pressure» option scored as zero. Subscale scores are derived by taking the mean of item scores.

In the 'No Pressure' box above, in place of the zero score is a letter indicating the subscale with which

the item is associated, and a figure indicating the corrected item to scale correlation.

Items with nothing in this box are not associated with any of the 5 subscales. C = peer conformity; F = family involvement; P = peer involvement; S = school involvement; M = misconduct.

#### **IV. Explanation HIV/AIDS**

HIV was first recognized in 1981 (CDC, 2012). Scientists think that the chimpanzee version of HIV, called the Simian Immunodeficiency Virus (SIV) has transmitted to humans and mutated into HIV (AIDS.gov, 2009). HIV was found in human body fluids. The following body fluids can contain high levels of HIV: blood, semen, pre-seminal fluid, breast milk, vaginal fluids and rectal mucous. If infected fluids of someone else enter your body, you can get infected with HIV as well (AIDS.gov, 2009).

HIV can be spread by unsafe sexual behaviour for example. HIV can lead to Acquired Immune Deficiency Syndrome (AIDS). There are two types of HIV detected, HIV-1 and HIV-2. If we speak of HIV, we normally refer to HIV-1. Both types of HIV destroy specific blood cells, which are called CD4+ T cells, those cells are indispensable in helping the body to fight against diseases. If those cells get destroyed this will damage a person's body (CDC, 2012)

There is no cure for HIV infection yet, but there are medicines called, antiretroviral treatment (ART), that can limit or slow down the destruction of the immune system. This results in a slower progression from HIV infection into AIDS (CDC, 2012). Many people can benefit from ART, even if they still feel healthy. ART improves the health of people who are living with HIV and it also reduces the chances of transmitting HIV. If early HIV infections are not treated the chances of an infected person developing other diseases like cardiovascular disease, kidney disease, liver disease, and cancer increases. This is why it is important that all people with HIV should receive proper health care for treating HIV infection (CDC, 2012).

Within 2-4 weeks after being infected with HIV, some people get symptoms that look like "the worst flu ever" they last for about two weeks. But this does not happen necessarily, some people have no symptoms at all, and it is not always after 2-4 weeks it can also appear up to 3 months. They call this phenomenon Acute Retroviral Syndrome (ARS) or primary HIV infection, it is the body's natural response to the HIV infection. This happens during the acute infection. It happens a lot that people with HIV may appear and feel healthy for several years.

This does not mean that they are actually healthy, HIV is already affecting their bodies (CDC, 2012). This is the first stage of HIV. During the first stage, there are large amounts of virus produced in the body. The virus makes use of CD4 cells to replicate itself and during this process it destroys the CD4 cells. This can cause that the count of CD4 cells fall rapidly. The immune response can stable or increase the level, but it will not be as good as it was during the pre-infection levels. The next stage is the clinical latency, in this stage HIV reproduces at a very low level, but it is still active. This period can last up for 8 years and even longer, towards the middle and end of this period the load of virus begins to rise and the amount of CD4 cells are starting to decrease. The final stage is AIDS, they speak of AIDS when the number of CD4 cells is below 200 cells per cubic millimetre of blood (200cells/mm<sup>3</sup>). In this stage is the immune system badly damaged and the person will become vulnerable to infections. If the person will not get treatment, they will only survive for about 3 years, only 1 year if somebody gets infected with a dangerous infection (AIDS.gov, 2013).

## **v. Items**

The *italic* items are included in the study

### **Dependent variables**

#### **ITEMS: Attitudes towards condom use**

*Item 225: using a condom for sex would be embarrassing*

*Item 226: if I was going to have sex, I would not use a condom because I want it 'flesh to flesh'*

*Item 227: I know how to use a condom*

*Item 228: if you have been using condoms but miss them one or two times there is no point using them any more with that partner*

Item 229: a male condom may come off in a woman's vagina but it is impossible to lose the condom in the vagina

*Item 230: if a man and woman trust each other they do not need to use a condom*

*Item 231: if a person wants to use a condom you know they probably have HIV*

*Item 232: if my partner suggested we used a condom I would think she was having sex with other people*

*Item 233: if I asked my partner to use a condom, he would think I am having sex with other people*

*Item 234: I could definitely ask my current (boy/girl)friend to use a condom*

### **Independent variables**

#### **ITEMS: Aspects of life**

Item 240: Stop drinking alcohol before it gets me into trouble

Item 241: Always carry a condom

Item 242: Always use a condom

Item 243: Speak out how you feel when your friend upsets you

Item 244: Always use a condom with casual partners

Item 245: Reduce the number of people you have sex with

Item 246: Learning to understand that others are different from me

*(whole scale is excluded)*

### **ITEMS: Knowledge about STI's**

Item 201: the most common cause of infertility is a sexually transmitted disease

Item 202: a woman who is not using contraception and has sex during her period will probably get pregnant

Item 203: a woman can become infertile if she uses Nuristerate (contraceptive)

Item 204: if a woman does not menstruate the dirt will build up in her body and make her ill

Item 205: abortion is allowed by law (in South Africa) up to 5 months of pregnancy

*Item 206: if a person has a STD there will always be a sign*

Item 207: a woman who takes contraceptive pills after she discovers she is pregnant will have an abortion

Item 208: a man who has sex with a menstruating woman will get ill

Item 209: most women get pregnant right in the middle of their menstrual cycle

Item 210: if a woman has not got pregnant within 4 months after she stops contraception the couple are probably infertile

Item 211: a condom does not benefit the health of a person who already has HIV

Item 212: there are several ways a person can get idrop (gonorrhoea)

Item 213: people can protect themselves from HIV by not mixing with people who look like they have HIV or do have HIV

Item 214: people can protect themselves from HIV by choosing their partners well

Item 215: people can protect themselves from HIV by using a condom until you trust or are comfortable with a partner

Item 216: people can protect themselves from HIV by choosing partners who look chubby and healthy

Item 217: people can protect themselves from HIV by always using a condom

Item 218: people can protect themselves from HIV by not sharing razor blades or toothbrushes

Item 219: people can protect themselves from HIV by not eating food cooked by someone who looks as if they may have HIV or is known to have HIV

Item 220: people can protect themselves from HIV by wearing plastic gloves or bags on your hands when they help someone who is bleeding

Item 221: people can protect themselves from HIV by not dating someone who has been sick recently

### **ITEMS: Openness about HIV**

*Item 249: I would keep it secret from my family and friends*

*Item 251: I would spread it to as many people as I could*

*Item 255: I would educate others to help them protect themselves*

*Item 256: I would be open about my status to help others know HIV is real*

### **ITEMS: Peer pressure**

*Item 235: I am left out if I do not have a boyfriend because all my friends have one*

*Item 236: I have to have sex because all my friends are doing it*

*Item 237: I am under pressure to have a makhwapheni because all my friends do*

*Item 238: I am under pressure to get something (e.g. money, cell phone, clothes, etc.) from my boyfriend for my friends*

### **ITEMS: Peer involvement**

*P39: A2: Be social, do things with other people*

- P21: A4: Go to school dances  
P53: A7: NOT go to parties  
P34: A13: Spend your free time alone or with family  
P52: A14: Go out with boys  
P26: A17: Go to the games at school (football, basketball, etc.)  
P31: A18: NOT go to concerts  
P61 A22: Go out with friends on weekends  
P46 A23: Do things to impress members of the opposite sex

**ITEMS: Peer conformity**

- C23: A1: Take different classes than your friends take  
C35: A5: Be part of one (or more) of the "crowds" at school  
C30: A8: Try NOT to be friends with the popular kids  
C36: A9: Try to look or act older than you are  
C41: A12: Talk or act DIFFERENTLY than your friends do  
C43: A15: Wear your hair (or makeup) DIFFERENT than your friends  
C17: A16: NOT ask your friends who you should go out with  
C33: A19: *Have the SAME opinion about things as your friends do*  
C36: A20: Listen to the music, groups your friends think are good

## **VI. SPSS output**

### **1. Factor analyses & reliability analyses**

- a. Attitudes towards condom use
- b. Knowledge about STI's
- c. Openness about HIV
- d. Peer pressure
- e. Peer involvement
- f. Peer conformity

### **2. Paired sample t-test**

### **3. Regression analyses**

- a. Baseline
- b. Post evaluation
- c. Differences

### **4. Correlation matrix**

- a. Baseline
- b. Post evaluation
- c. Differences

## 1. Factor analyses & reliability analyses

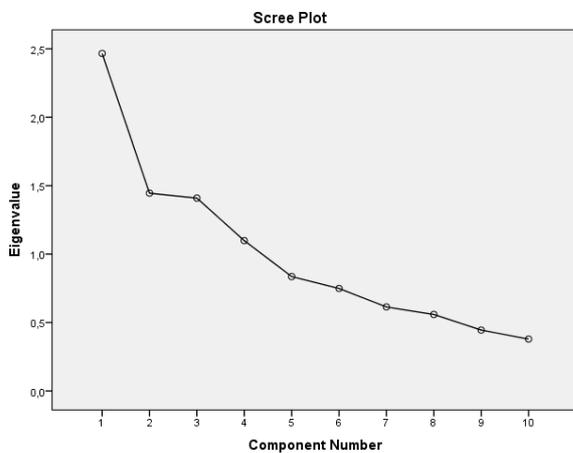
### A. Attitudes towards condom use

#### FACTORANALYSES

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2,466	24,659	24,659	2,466	24,659	24,659	2,139
2	1,445	14,454	39,113	1,445	14,454	39,113	1,430
3	1,409	14,092	53,205	1,409	14,092	53,205	1,449
4	1,098	10,984	64,189	1,098	10,984	64,189	1,800
5	,836	8,359	72,548				
6	,749	7,488	80,036				
7	,614	6,137	86,173				
8	,559	5,589	91,762				
9	,445	4,448	96,210				
10	,379	3,790	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



**Pattern Matrix<sup>a</sup>**

	Component			
	1	2	3	4
Item 225: feelings	,022	,031	-,232	<b>,697</b>
Item 226: preference	,145	<b>,483</b>	<b>,629</b>	,046
Item 227: knowledge about use	,122	<b>-,847</b>	-,048	,139
Item 228: knowledge about use	,135	<b>,474</b>	-,076	<b>,499</b>
Item 229: knowledge about use	-,176	-,050	<b>,787</b>	-,112
Item 230: feelings	,301	-,034	<b>,490</b>	,189
Item 231: HIV	<b>,631</b>	,219	-,160	,253
Item 232: relation	<b>,769</b>	-,365	,102	-,032
Item 233: relation	<b>,877</b>	,054	-,004	-,141
Item 234: relation	-,110	-,201	,287	<b>,826</b>

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 11 iterations.

## RELIABILITY ANALYSES

**Case Processing Summary**

		N	%
Cases	Valid	57	77,0
	Excluded <sup>a</sup>	17	23,0
	Total	74	100,0

a. Listwise deletion based on all variables in the procedure.

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,630	,624	9

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 225:	22,75	14,714	,267	,195	,612
Item 226:	22,66	15,435	,203	,153	,624
Item 227:	23,06	16,268	,000	,174	,675
Item 228:	22,77	14,133	,294	,229	,606
Item 230:	22,99	14,215	,307	,177	,602
Item 231:	23,03	12,755	,484	,347	,554
Item 232:	23,14	12,863	,441	,334	,565
Item 233:	23,12	12,633	,461	,375	,558
Item 234:	22,49	14,634	,352	,190	,595

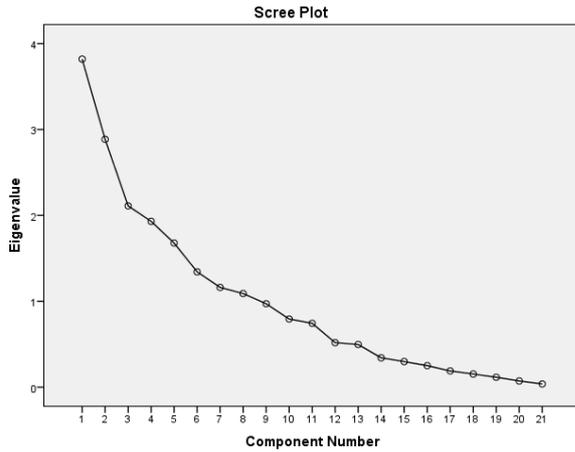
**B. Knowledge about STI's**

**FACTOR ANALYSIS**

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,820	18,189	18,189	3,820	18,189	18,189
2	2,885	13,740	31,929	2,885	13,740	31,929
3	2,111	10,052	41,981	2,111	10,052	41,981
4	1,931	9,194	51,175	1,931	9,194	51,175
5	1,678	7,990	59,165	1,678	7,990	59,165
6	1,343	6,394	65,559	1,343	6,394	65,559
7	1,161	5,530	71,089	1,161	5,530	71,089
8	1,090	5,191	76,280	1,090	5,191	76,280
9	,971	4,624	80,904			
10	,794	3,779	84,684			
11	,743	3,540	88,223			
12	,518	2,467	90,690			
13	,497	2,365	93,055			
14	,342	1,627	94,682			
15	,298	1,419	96,101			
16	,251	1,194	97,296			
17	,189	,900	98,196			
18	,153	,728	98,924			
19	,115	,549	99,473			
20	,073	,346	99,819			
21	,038	,181	100,000			

Extraction Method: Principal Component Analysis.



**Component Matrix<sup>a</sup>**

	Component							
	1	2	3	4	5	6	7	8
Item 201: infertility	<b>,705</b>	,128	-,160	-,126	-,062	,229	,133	,471
Item 202: contraception	-,021	<b>,679</b>	,327	,117	,159	-,362	-,186	-,239
Item 203: infertility	,171	-,228	<b>,438</b>	-,349	-,238	<b>,487</b>	,076	-,087
Item 204: menstruation	<b>,636</b>	,020	-,294	,241	,340	,218	-,163	-,091
Item 205: pregnancy	<b>,532</b>	-,068	-,006	,319	<b>-,432</b>	-,360	-,021	,030
Item 206: STI	,192	<b>,564</b>	,139	-,038	-,059	-,115	<b>-,482</b>	<b>,473</b>
Item 207: contraception	,351	<b>,607</b>	-,080	-,163	-,378	-,131	,190	-,313
Item 208: menstruation	-,143	,315	<b>,613</b>	<b>,429</b>	,138	,060	,296	-,118
Item 209: pregnancy	,311	<b>,519</b>	,190	<b>-,404</b>	,140	,192	,351	-,153
Item 210: pregnancy	,231	,149	<b>,508</b>	,310	<b>-,427</b>	,385	-,045	,117
Item 211: HIV	-,330	,296	-,023	,291	,267	,346	,004	-,096
Item 212: STI	<b>,573</b>	<b>-,405</b>	-,097	,201	,200	-,109	,259	,081
Item 213: protection	-,175	-,319	<b>,565</b>	-,091	,345	-,068	,106	<b>,478</b>
Item 214: protection	,002	-,140	,211	<b>-,722</b>	,271	,053	-,069	-,132
Item 215: protection	<b>,807</b>	-,159	-,134	,010	,338	,194	-,089	-,177
Item 216: protection	-,281	<b>,581</b>	-,075	,049	<b>,549</b>	,132	-,194	,102
Item 217: protection	<b>,579</b>	<b>,451</b>	-,187	,266	,125	,107	,225	,118
Item 218: protection	,138	-,415	<b>,504</b>	<b>,523</b>	,221	-,113	,075	-,126
Item 219: protection	<b>-,493</b>	-,109	<b>-,508</b>	,214	,165	,047	,295	,031
Item 220: protection	<b>,637</b>	-,350	,216	-,092	,235	-,171	-,385	-,249
Item 221: protection	,268	,169	,116	-,304	,237	<b>-,526</b>	<b>,418</b>	,162

Extraction Method: Principal Component Analysis.

a. 8 components extracted

## RELIABILITY ANALYSIS

**Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,720	,726	16

**Scale Statistics**

Mean	Variance	Std. Deviation	N of Items
32,00	58,562	7,653	16

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 201: infertility	30,03	49,593	,499	,553	,687
Item 202: contraception	30,33	54,917	,192	,451	,718
Item 203: infertility	29,85	53,945	,159	,588	,726
Item 204: menstruation	30,39	53,746	,249	,626	,713
Item 205: pregnancy	29,30	49,655	,411	,569	,695
Item 206: STI	30,03	54,280	,158	,391	,725
Item 207: contraception	29,24	50,002	,407	,522	,696
Item 208: menstruation	30,24	54,689	,175	,443	,721
Item 209: pregnancy	29,73	48,705	,447	,552	,691
Item 210: pregnancy	29,79	51,735	,363	,444	,702
Item 212: STI	30,36	54,176	,232	,623	,715
Item 215: protection	30,15	49,008	,546	,744	,682
Item 217: protection	30,48	53,133	,414	,608	,701
Item 218: protection	30,45	55,881	,160	,656	,720
Item 220: protection	30,48	52,945	,431	,706	,699
Item 221: protection	29,12	52,485	,260	,383	,713

### C. Openness about HIV

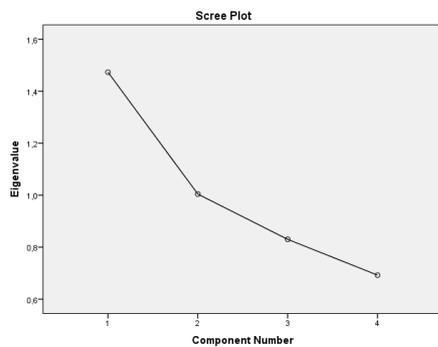
#### FACTORANALYSIS

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	1,473	36,832	36,832	1,473	36,832	36,832	1,290
2	1,004	25,107	61,938	1,004	25,107	61,938	1,275
3	,830	20,751	82,689				
4	,692	17,311	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



**Pattern Matrix<sup>a</sup>**

	Component	
	1	2
Item 249Rmb: keep it secret	-,114	-,846
Item 251mb: spread it	-,135	,717
Item 255mb: educate others	,804	,013
Item 256mb: open status	,753	-,017

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 6 iterations.

#### RELIABILITY ANALYSIS

**Reliability Statistics**

Cronbach's Alpha <sup>a</sup>	Cronbach's Alpha Based on Standardized Items <sup>a</sup>	N of Items
-,097	-,077	4

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 249Rmb: keep it secret	6,31	1,423	-,037	,064	-,081 <sup>a</sup>
Item 251mb: spread it	4,82	2,172	-,266	,085	,298
Item 255mb: educate others	6,71	1,779	,082	,080	-,224 <sup>a</sup>
Item 256mb: open status	6,44	1,220	,134	,069	-,491 <sup>a</sup>

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

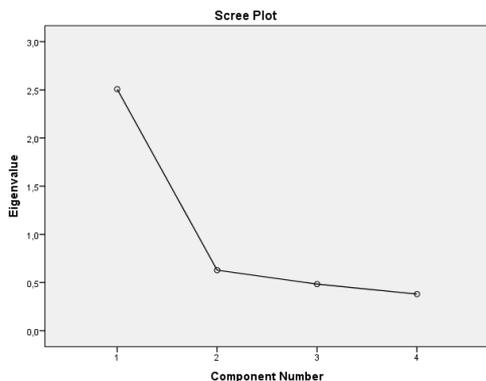
**D. Peer pressure**

**FACTORANALYSES**

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,508	62,692	62,692	2,508	62,692	62,692
2	,628	15,710	78,402			
3	,484	12,093	90,496			
4	,380	9,504	100,000			

Extraction Method: Principal Component Analysis.



**Component Matrix<sup>a</sup>**

	Component
--	-----------

	1
Item 235: boyfriend because friends	,727
Item 236: sex because friends	,782
Item 237: makhwapeni because friends	,849
Item 238: get something from boyfriend	,804

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

## RELIABILITY ANALYSES

### Case Processing Summary

	N	%
Valid	74	100,0
Cases Excluded <sup>a</sup>	0	,0
Total	74	100,0

a. Listwise deletion based on all variables in the procedure.

### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,790	,800	4

### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item 235: boyfriend because friends	9,82	4,255	,537	,299	,785
Item 236: sex because friends	9,37	4,997	,586	,391	,747
Item 237: makhwapeni because friends	9,39	4,660	,686	,488	,701
Item 238: get something from boyfriend	9,50	4,542	,626	,400	,725

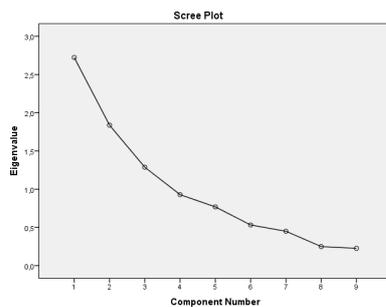
## E. Peer involvement

## FACTORANALYSIS

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,723	30,255	30,255	2,723	30,255	30,255
2	1,838	20,418	50,672	1,838	20,418	50,672
3	1,287	14,302	64,975	1,287	14,302	64,975
4	,928	10,316	75,291			
5	,768	8,533	83,823			
6	,532	5,909	89,732			
7	,449	4,993	94,725			
8	,249	2,767	97,492			
9	,226	2,508	100,000			

Extraction Method: Principal Component Analysis.



**Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Item A2Rmb: P39	-,199	-,806	,233
Item A4: P21	,432	,097	,527
Item A7mb: P53	,722	,034	,281
Item A13: P34	,505	,691	,186
Item A14Rb: P52	-,705	,419	,193
Item A17Rmb: P26	-,044	-,472	,745
Item A18: P31	,752	,158	,090
Item A22Rmb: P61	-,564	,427	,433
Item A23Rmb: P46	-,582	,308	,230

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

## RELIABILITY ANALYSIS

### Case Processing Summary

	N	%
Valid	38	51,4
Cases Excluded <sup>a</sup>	36	48,6
Total	74	100,0

a. Listwise deletion based on all variables in the procedure.

#### Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,171	,152	9

#### Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item A2Rmb: P39	32,74	35,579	-,227	,387	,309
Item A4: P21	34,03	27,716	,143	,344	,098
Item A7mb: P53	34,25	28,281	,124	,538	,112
Item A13: P34	35,35	27,564	,128	,531	,106
Item A14Rb: P52	33,77	30,346	,008	,546	,188
Item A17Rmb: P26	32,37	27,930	,188	,285	,078
Item A18: P31	34,51	31,009	,004	,538	,186
Item A22Rmb: P61	33,62	26,510	,138	,464	,093
Item A23Rmb: P46	33,61	30,597	,034	,351	,169

## F. Peer conformity

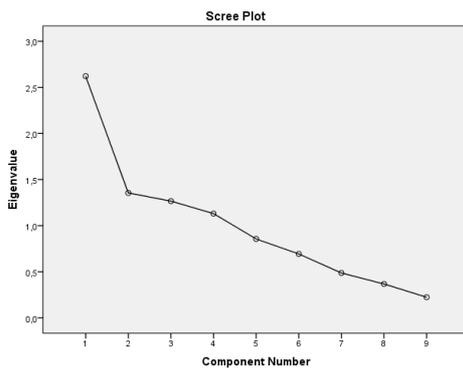
### FACTORANALYSIS

**Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings <sup>a</sup>
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2,621	29,126	29,126	2,621	29,126	29,126	2,025
2	1,355	15,055	44,181	1,355	15,055	44,181	1,761
3	1,266	14,067	58,248	1,266	14,067	58,248	1,325
4	1,131	12,565	70,813	1,131	12,565	70,813	1,672
5	,856	9,506	80,319				
6	,693	7,702	88,021				
7	,487	5,407	93,428				
8	,368	4,086	97,514				
9	,224	2,486	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



**Pattern Matrix<sup>a</sup>**

	Component			
	1	2	3	4
Item A1: C23	,474	,205	-,514	,025
Item A5: C35	,077	-,184	-,038	,800
Item A8: C30	,842	,098	,228	-,093
Item A9: C36	-,781	,391	,141	-,117
Item A12: C41	,049	-,276	-,116	-,724
Item A15: C43	,463	-,109	,345	-,470
Item A16: C47	,182	,060	,842	,016
Item A19: C33	-,055	,808	,214	,223
Item A20: C36	,001	,801	-,278	-,172

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 20 iterations.

## RELIABILITY ANALYSE

**Reliability Statistics**

Cronbach's Alpha <sup>a</sup>	Cronbach's Alpha Based on Standardized Items <sup>a</sup>	N of Items
-,100	-,078	9

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Item A1mb: C23	32,20	22,194	-,025	,115	-,092 <sup>a</sup>
Item A5Rmb: C35	30,40	25,869	-,269	,137	,098
Item A8: C30	32,15	19,974	,004	,501	-,127 <sup>a</sup>
Item A9Rb: C36	31,11	24,743	-,235	,587	,115
Item A12mb: C41	32,31	22,071	-,054	,286	-,067 <sup>a</sup>
Item A15: C43	32,09	20,560	,046	,472	-,158 <sup>a</sup>
Item A16mb: C47	32,14	20,293	,125	,319	-,213 <sup>a</sup>
Item A19Rmb: C33	30,73	19,629	,089	,368	-,205 <sup>a</sup>
Item A20Rmb: C36	30,14	19,169	,145	,370	-,254 <sup>a</sup>

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

## 2. Paired sample t-test

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	baseknowledgeSTI	1,96	74	1,175	,137
	postknowledgeSTI	2,16	74	1,178	,137
Pair 2	baseopenessaboutHIV	3,22	72	,907	,107
	postopenessaboutHIV	3,13	72	1,047	,123
Pair 3	Basepeerpressure	3,17	74	,692	,080
	Postpeerpressure	3,07	74	,496	,058
Pair 4	basepeerinvolvement	2,55	74	,743	,086
	postpeerinvolvement	2,61	74	,699	,081
Pair 5	basepeerconformity	2,49	74	,707	,082
	postpeerconformity	2,32	74	,829	,096
Pair 6	Basecondom	2,83	74	,408	,047
	Postcondom	3,02	74	,457	,053

		N	Correlation	Sig.
Pair 1	baseknowledgeSTI & postknowledgeSTI	74	-,005	,968
Pair 2	baseopenessaboutHIV & postopenessaboutHIV	72	-,208	,080
Pair 3	basepeerpressure & postpeerpressure	74	-,100	,396
Pair 4	basepeerinvolvement & postpeerinvolvement	74	-,077	,512
Pair 5	basepeerconformity & postpeerconformity	74	-,086	,467
Pair 6	basecondom & postcondom	74	,047	,693

		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
Pair 1	baseknowledgeSTI – postknowledgeSTI	-,207	1,668	,194	-,593	,180	-1,065	73	,290
Pair 2	baseopenessaboutHIV - postopenessaboutHIV	,097	1,521	,179	-,260	,455	,542	71	,589
Pair 3	basepeerpressure – postpeerpressure	,102	,891	,104	-,104	,308	,984	73	,328
Pair 4	basepeerinvolvement – postpeerinvolvement	-,054	1,058	,123	-,299	,191	-,439	73	,662
Pair 5	basepeerconformity – postpeerconformity	,162	1,135	,132	-,101	,425	1,229	73	,223
Pair 6	basecondom – postcondom	-,195	,599	,070	-,333	-,056	-2,797	73	,007

## 3. Regression analyses

## A. Baseline

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Lower Bound	Upper Bound	Zero-order	Partial	Partial	Tolerance
(Constant)	2,832	,518		5,467	,000	1,781	3,883					
Baseage	-,196	,123	-,268	-1,590	,121	-,445	,054	-,143	-,256	-,212	,631	1,586
Basegender	-,126	,160	-,147	-,787	,436	-,451	,199	-,041	-,130	-,105	,514	1,945
Basegrade	,291	,127	,341	2,294	,028	,034	,548	,291	,357	,307	,810	1,234
Basosexuallyactive	,399	,164	,349	2,435	,020	,067	,731	,314	,376	,325	,871	1,148
Baseclubs	-,056	,130	-,064	-,431	,669	-,319	,207	,032	-,072	-,058	,806	1,241
1 Basechurch	-,259	,201	-,214	-1,285	,207	-,668	,150	-,061	-,209	-,172	,642	1,558
baseknowledgeSTI	-,046	,055	-,131	-,836	,409	-,157	,065	-,241	-,138	-,112	,724	1,382
Baseopeness	,019	,083	,036	,227	,821	-,149	,187	,115	,038	,030	,702	1,425
Basepeerpressure	,121	,086	,221	1,416	,166	-,052	,295	,174	,230	,189	,734	1,362
Basepeerinvolvement	-,024	,076	-,046	-,314	,755	-,179	,131	-,038	-,052	-,042	,843	1,186
Basepeerconformity	-,114	,090	-,202	-1,269	,212	-,297	,068	-,087	-,207	-,170	,703	1,422

a. Dependent Variable: basecondom

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,598 <sup>a</sup>	,357	,161	,395

a. Predictors: (Constant), basepeerconformity, baseclubs, basepeerinvolvement, basepeerpressure, baseknowledgeSTI, basosexuallyactive, basegrade, baseage, baseopenessaboutHIV, basechurch, basegender

b. Dependent Variable: basecondom

**ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
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	Regression	3,116	11	,283	1,818	,087 <sup>b</sup>
1	Residual	5,610	36	,156		
	Total	8,726	47			

a. Dependent Variable: diffcondom

b. Predictors: (Constant), diffconform, diffknowledge, diffopenness, diffclubs, diffinvolve, diffgrade, diffpeers, diffsexually, diffchurch, diffgender, diffage

## B. Post evaluation

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	,237	,129		1,841	,071	-,021	,496					
Postage	-,002	,024	-,002	-,065	,948	-,050	,047	,136	-,009	-,002	,755	1,324
postgender	,015	,030	,016	,509	,613	-,045	,075	-,065	,069	,014	,797	1,254
Postgrade	,019	,030	,020	,655	,515	-,040	,079	,084	,089	,018	,820	1,219
postsexuallyactive	-,020	,032	-,020	-,616	,541	-,085	,045	,235	-,083	-,017	,755	1,324
Postclubs	-,005	,027	-,006	-,196	,845	-,060	,049	-,069	-,027	-,005	,934	1,071
Postchurch	-,019	,036	-,016	-,533	,596	-,091	,053	,120	-,072	-,015	,806	1,241
postknowledgeSTI	-,015	,013	-,036	-,140	,259	-,040	,011	,134	-,153	-,032	,777	1,288
Postopennes	-,019	,014	-,042	-,1374	,175	-,047	,009	,194	-,184	-,038	,815	1,226
postpeerpressure	,925	,029	1,001	31,387	,000	,866	,984	,977	,974	,868	,752	1,331
postpeerinvolvement	,003	,021	,004	,148	,883	-,039	,045	,212	,020	,004	,878	1,139
postpeerconformity	,007	,019	,012	,369	,713	-,032	,046	-,104	,050	,010	,765	1,308

a. Dependent Variable: postcondom

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,979 <sup>a</sup>	,959	,950	,106

a. Predictors: (Constant), postpeerconformity, postpeerinvolvement, postknowledgeSTI, postgender, postclubs, postchurch, postopennesaboutHIV, postgrade, postpeerpressure, postsexuallyactive, postage

b. Dependent Variable: postcondom

**ANOVA<sup>a</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	14,222	11	1,293	114,058	,000 <sup>b</sup>
Residual	,612	54	,011		
Total	14,834	65			

a. Dependent Variable: postcondom

b. Predictors: (Constant), postpeerconformity, postpeerinvolvement, postknowledgeSTI, postgender, postclubs, postchurch, postopennessaboutHIV, postgrade, postpeerpressure, postsexuallyactive, postage

**C. Differences**

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95,0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error				Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	-.808	,652		-1,239	,224	-2,138	,522					
1 diffage	-.042	,198	-.039	-.213	,833	-.445	,361	-.098	-.038	-.028	,512	1,953
diffgender	-.291	,216	-.222	-1,351	,187	-.731	,149	,056	-.236	-.177	,631	1,586
diffgrade	,336	,193	,256	1,735	,093	-.059	,730	,177	,297	,227	,788	1,269
diffsexually	,205	,257	,123	,798	,431	-.319	,728	-.067	,142	,104	,715	1,398
diffclubs	-.205	,262	-.111	-.780	,441	-.739	,330	-.047	-.139	-.102	,839	1,192
diffchurch	,402	,442	,146	,910	,370	-.499	1,303	,048	,161	,119	,661	1,512
diffknowledge	,005	,063	,013	,083	,935	-.124	,135	-.154	,015	,011	,666	1,502
diffopenness	-.018	,063	-.042	-.279	,782	-.145	,110	,174	-.050	-.037	,758	1,319
diffpeers	,412	,100	,622	4,132	,000	,209	,616	,559	,596	,540	,755	1,325
diffinvolve	,142	,089	,239	1,592	,122	-.040	,324	,256	,275	,208	,760	1,316
diffconform	-.113	,095	-.198	-1,190	,243	-.307	,081	-.150	-.209	-.156	,614	1,628

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,686 <sup>a</sup>	,470	,282	,561

a. Predictors: (Constant), diffconform, diffknowledge, diffopenness, diffclubs, diffinvolve, diffgrade, diffpeers, diffsexually, diffchurch, diffgender, diffage

**ANOVA<sup>a</sup>**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	8,670	11	,788	2,500	,022 <sup>b</sup>
	Residual	9,772	31	,315		
	Total	18,442	42			

a. Dependent Variable: diffcondom

b. Predictors: (Constant), diffconform, diffknowledge, diffopenness, diffclubs, diffinvolve, diffgrade, diffpeers, diffsexually, diffchurch, diffgender, diffage

#### 4. Correlation matrix

##### A. Baseline

Correlations												
	Age	Gender	Grade	Sexually active	Member of Clubs	Member of church	Knowledge STI's	Openness about HIV	Peer pressure	Peer involvement	Peer conformity	Attitude towards condom use
Age												
Gender												
Grade												
Sexually Active												
Member of Clubs												
Member of Church												
Knowledge STI's												
Openness About HIV												
Peer pressure												
Peer involvement												
Peer Conformity												
Attitude towards condom use												

## B. Post evaluation

	Correlations												
	Age	Gender	Grade	Sexually active	Member of Clubs	Member of church	Knowledge SII's	Openness about HIV	Peer pressure	Peer involvement	Peer conformity	Attitude towards condom use	
Age													
	Pearson Correlation	1											
	Sig.(2-tailed)												
Gender													
	Pearson Correlation												
	Sig.(2-tailed)												
Grade													
	Pearson Correlation												
	Sig.(2-tailed)												
Sexually Active													
	Pearson Correlation												
	Sig.(2-tailed)												
Member of Clubs													
	Pearson Correlation												
	Sig.(2-tailed)												
Member of Church													
	Pearson Correlation												
	Sig.(2-tailed)												
Knowledge SII's													
	Pearson Correlation												
	Sig.(2-tailed)												
Openness About HIV													
	Pearson Correlation												
	Sig.(2-tailed)												
Peer pressure													
	Pearson Correlation												
	Sig.(2-tailed)												
Peer involvement													
	Pearson Correlation												
	Sig.(2-tailed)												
Peer Conformity													
	Pearson Correlation												
	Sig.(2-tailed)												
Attitude towards condom use													
	Pearson Correlation												
	Sig.(2-tailed)												
	N												

\*\*, Correlation is significant at the 0.01 level (2-tailed).

\*, Correlation is significant at the 0.05 level (2-tailed).

## D. Differences

**Correlations**

	Age	Gender	Grade	Sexually active	Member of Clubs	Member of church	Knowledge SII's	Openness about HIV	Peer pressure	Peer involvement	Peer conformity	Attitude towards condom use
<b>Age</b>	1											
Pearson Correlation		-.339**	.212	.048	-.008	-.283*	.341**	-.109	-.072	.085	.406**	-.060
Sig.(2-tailed)		.009	.110	.721	.955	.044	.009	.419	.594	.528	.002	.657
N	58	58	58	58	49	51	58	57	58	58	58	58
<b>Gender</b>		1										
Pearson Correlation	-.339**		-.198	-.387**	-.166	.080	-.108	.088	.240*	.090	-.253*	.047
Sig.(2-tailed)	.009		.091	.001	.198	.523	.361	.463	.031	.444	.030	.691
N	58	74	74	73	62	66	74	74	74	74	74	74
<b>Grade</b>			1									
Pearson Correlation	.212	.198		-.003	-.079	-.242	-.112	.093	-.043	.085	.174	.181
Sig.(2-tailed)	.110	.091		.977	.543	.051	.343	.437	.715	.472	.138	.123
N	58	74	74	73	62	66	74	74	74	74	74	74
<b>Sexually Active</b>				1								
Pearson Correlation	.048	-.387**	-.003		-.036	-.095	.075	-.232	-.234**	-.001	.223	-.094
Sig.(2-tailed)	.721	.001	.977		.786	.452	.531	.052	.005	.992	.058	.431
N	58	73	73	73	61	65	73	71	73	73	73	73
<b>Member of Clubs</b>					1							
Pearson Correlation	-.008	.166	.079	.036		.297*	-.104	-.075	.062	-.038	.014	.008
Sig.(2-tailed)	.955	.198	.543	.786		.075	.422	.568	.634	.770	.917	.951
N	49	62	62	61	62	57	62	60	62	62	62	62
<b>Member of Church</b>						1						
Pearson Correlation	-.283*	.080	-.242	-.095	.297*		.130	-.027	.077	.261*	-.176	.005
Sig.(2-tailed)	.044	.523	.051	.452	.025		.297	.832	.541	.034	.158	.969
N	51	66	66	65	57	66	66	64	66	66	66	66
<b>Knowledge SII's</b>							1					
Pearson Correlation	.341**	-.108	-.112	.075	-.104	.130		-.002	-.033	-.174	.105	-.115
Sig.(2-tailed)	.009	.361	.343	.531	.422	.297		.986	.783	.139	.375	.331
N	58	74	74	73	62	66	74	74	74	74	74	74
<b>Openness About HIV</b>								1				
Pearson Correlation	-.109	.088	.093	-.232	-.075	-.027	-.002		.290*	.178	-.170	.172
Sig.(2-tailed)	.419	.463	.437	.052	.568	.832	.986		.013	.135	.153	.148
N	57	72	72	71	60	64	72	72	72	72	72	72
<b>Peer pressure</b>									1			
Pearson Correlation	-.072	.250*	-.043	-.324**	.062	-.033	-.062	.290*		.103	-.236*	.611**
Sig.(2-tailed)	.594	.031	.715	.005	.634	.541	.783	.013		.383	.043	.000
N	58	74	74	73	62	66	74	74	74	74	74	74
<b>Peer involvement</b>										1		
Pearson Correlation	.085	.090	.085	-.001	-.038	-.261*	-.174	.178	.103		.133	.232*
Sig.(2-tailed)	.528	.444	.472	.992	.770	.034	.139	.135	.383		.259	.047
N	58	74	74	73	62	66	74	74	74	74	74	74
<b>Peer Conformity</b>											1	
Pearson Correlation	.406**	-.253*	.174	.223	.014	-.176	.105	-.170	-.236*	.133		-.172
Sig.(2-tailed)	.002	.030	.138	.058	.917	.158	.375	.153	.043	.259		.143
N	58	74	74	73	62	66	74	74	74	74	74	74
<b>Attitude towards condom use</b>												1
Pearson Correlation	-.060	.047	.181	-.094	.008	.005	-.115	.172	.611**	.232*	-.172	
Sig.(2-tailed)	.657	.691	.123	.431	.951	.969	.331	.148	.000	.047	.143	
N	58	74	74	73	62	66	74	74	74	74	74	74

\*\* , Correlation is significant at the 0.01 level (2-tailed).

\* , Correlation is significant at the 0.05 level (2-tailed).