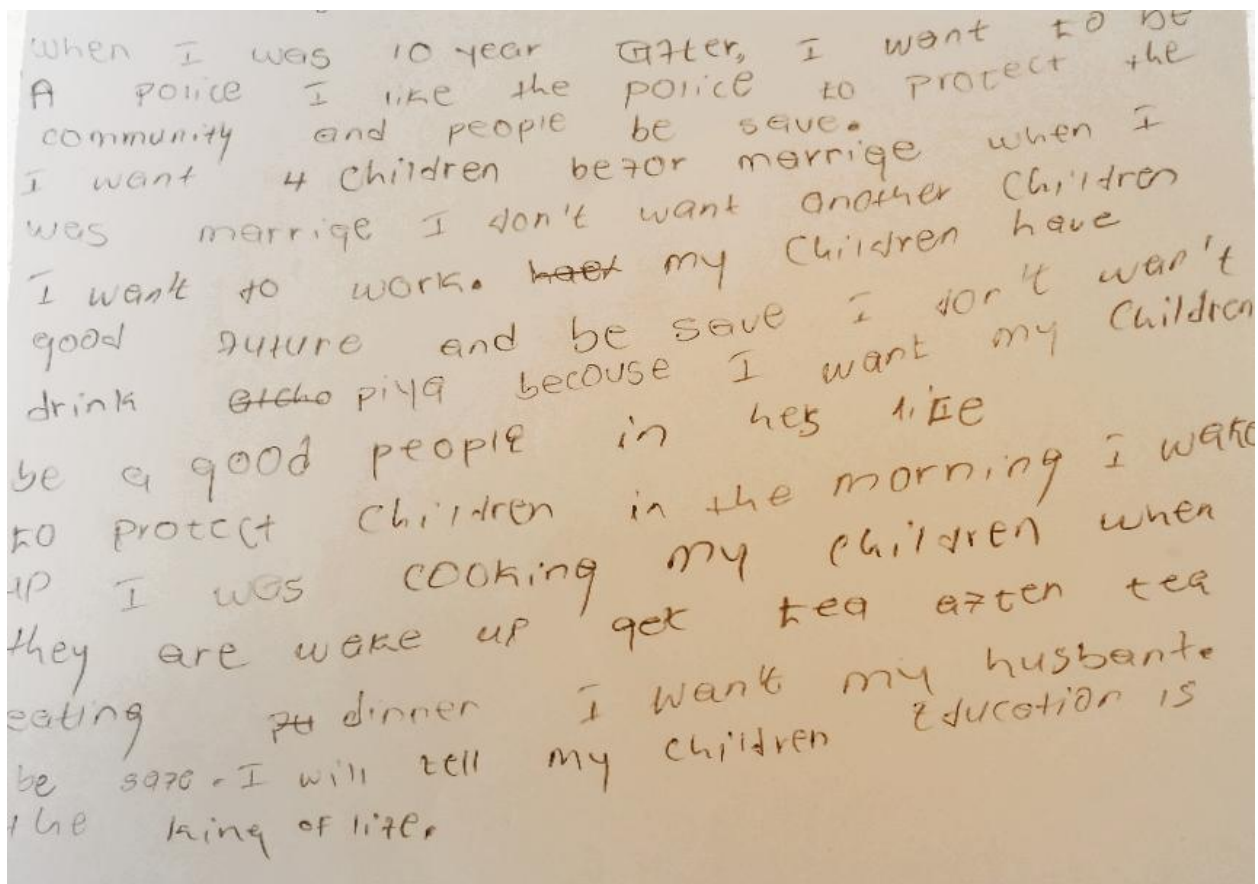


## A best possible self in the future: Does cued optimism predict greater attention to health information among adolescents in rural South Africa?



When I was 10 year after, I want to be  
A police I like the police to protect the  
community and people be save.  
I want 4 children befor marriage when I  
was marriage I don't want another children  
I want to work. ~~have~~ my children have  
good future and be save I don't want  
drink ~~etho piya~~ because I want my children  
be a good people in her life  
to protect children in the morning I wake  
up I was cooking my children when  
they are wake up get tea after tea  
eating dinner I want my husband  
be save - I will tell my children education is  
the king of life.

 Master research, Clinical- and Health psychology, November 2014 

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## ABSTRACT

*Introduction:* Empirical research in recent years has evidently demonstrated that optimism can foster attention to health threatening information. The most common conceptualization of optimism is dispositional optimism, which is defined as a generalized expectancy for positive future outcomes. Optimism can be increased by using the best possible self-manipulation (BPS) in that people have to write about their best possible self in the future. The present study has explored whether adolescents from rural South Africa, when cued in optimism, have greater attention to threatening health information about HIV and sexual risks. This can contribute to reduction of HIV, which is a severe problem among adolescents in South Africa. It is hypothesized that optimism cued by a best possible self will foster greater recall and increase reading time of health information. *Method:* This study was conducted as part of the CHAMP HIV-prevention program. A total of 99 adolescents (61 BPS, 37 controls) participated in this study and were recruited at two different secondary schools and assigned to either the best possible self-condition or the daily activities condition (control). Firstly participants had ten minutes to write about their best possible self in the future or about daily activities. A leaflet containing information about HIV and sexual risks followed. The duration of reading and a recall test served as dependent variables. Furthermore the optimism subscale of the Youth Life Orientation Test (Y-LOT) was filled in to examine dispositional optimism of the participants. *Results:* The BPS-condition did not have greater attention to threatening health information. Attention was examined by evaluating reading time and recall score. No significant between group differences were found across reading time and recall score. Other predictors of attention were explored. Grade and dispositional optimism (Y-LOT score) predicted a significant amount of variance within recall, and grade predicted a significant amount of variance within reading time. *Discussion:* This study indicates no greater attention to threatening health information when someone's optimism is cued by a best possible self. This is contrary to what was predicted. The cueing of optimism among rural South African adolescents seem to be the problem in this study. The control task was not understood well by some participants as they wrote down nostalgic stories instead of daily activities. Research shows that nostalgia increases optimism. Future research should replicate this study taking nostalgia and other limitations into consideration to draw more conclusive results.

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## **1. INTRODUCTION**

Optimism was coined by the Jesuits in 1737 to describe the world based on the argument that God, being all wise, chose to create the best possible world out of many other possibilities (Klein, 1967, as cited in Puskar; Sereika, Lamb, Tusaie-Mumford & McGuinness, 1999). Nowadays optimism is generally defined as ‘the tendency to believe that one will generally experience good outcomes in life’ (Peters, Flink, BoersmaBoersma, & Linton, 2010). Optimism has been consensually identified as a crucial factor associated with people’s greater well-being and adaptive adjustments to various kinds of difficulties in life (e.g., Aspinwall& Taylor, 1992; Rasmussen, Wrosch, Scheier, & Carver, 2006). Optimism and its potential benefits in terms ofHIV prevention will be investigated in the present study. In order to evaluate whether optimism is such a positive virtue and useful within the epicenter of the HIV pandemic (South Africa), it is valuable to primarily understand the background and the outset of studies into optimism.

### *1.1 Conceptualization of optimism*

As is often the case in emerging fields, the pendulum strikes one way, then the other and then settles in the middle. The first wave of research focused on defining optimism and creating measurement tools (e.g. Scheier& Carver, 1985). One can think of optimism as a generic personality trait - a predisposition to 'expect the best'. In other words, optimists expect things to go well and believe that future outcomes will be good rather than bad. This conceptualization called dispositional optimismhas been introduced by Scheier and Carver (1985). The focus in the present study will be upon dispositional optimism, which is captured well by Scheier and Carver’s (1994) Life Orientation Test (LOT). After criticism about the LOT, Scheier, Carver & Bridges (1994) responded with a revised scale of the LOT and developed the Life Orientation Test Revised (LOT-R). In addition, Ey and colleagues (2005) developed a similar measurement tool for adolescents, the Youth Life orientation test (Y-LOT) which was an adapted version of the LOT-R (Scheier& Carver, 1994).

### *1.2 Optimism and well-being*

The second wave of research focused on adaptive and beneficial effects of optimism on well-being. Early work by Tiger (1979) suggested that optimism is one of our most defining and adaptive characteristics. He highlighted optimism as being an important evolutionary part of survival. Tiger was just at the outset of the now burgeoning field of research in optimism. Based on a meta-analytic review of Rasmussen, Scheier& Greenhouse (2009), in which the strength of the association of optimism and physical health is systematically evaluated, it can be concluded that optimism is a significant predictor of physical health. Specifically, optimism is correlated with increased life expectancy, general health, better mental health,

increased success in sports and work, greater recovery rates from heart operations and better coping strategies when faced with adversity (e.g. Scheier& Carver, 1992; Solberg Nes&Segerstrom, 2006; Rasmussen, Scheier& Greenhouse, 2009; Seligman, 1991; Parashar, n.d.; Ruthig, Chipperfield, Newall& Perry, 2007). When it comes to engagement in health treatment programs, dispositional optimism has been proposed to influence treatment adherence(Geers, Wellman, Seligman, Wuyek& Neff, 2009).

### *1.3 Underlying mechanisms of optimism*

From the extensive literature on the positive effects of optimism, one important question needs to be considered. What are the underlying mechanisms that make dispositional optimism so beneficial? One possibility is that optimistic beliefs may shield people from the fear that may accompany objective perceptions of their risk of negative outcomes and interferes with effective action (Leventhal, 1970 as cited in Aspinwall&Brunhart, 1996). Optimists' tendency to expect success leads them to set on goals, which - in their estimation - will increase their chances of attaining positive outcomes and avoiding negative outcomes (Geers, Wellman, Seligman, Wuyek& Neff, 2009). Because failure is deemed unlikely, high priority goals are considered opportunities for maximum gains for individuals high in optimism. This willingness to invest in high priority over low priority goals should result in relatively greater goal interest, engagement, and even attainment (Geers et al., 2009).Optimism may also be related to attention and information processing and may thereforehave an influence at an already early level of self-regulation. People who are dispositional optimistic may pay attention to different aspects of a situation compared to more dispositional pessimistic persons, which in turn may lead to different adaptation processes (Abele &Gendolla's, 2007).

Supportive to this assumption is Aspinwall&Brunhart's (1996) study, in which they demonstrated that optimistic beliefs are positively related to reading time and recall for threatening health information. Their major finding was that if a person practiced a behavior for which the risk information was important (in this case information on the dangers of sun-tanning read by persons who practiced sun-tanning), dispositional optimism was correlated with reading time and recall. The more dispositionally optimistic, the better participants paid attention to the health threatening information. Aspinwall&Brunhart (1996) concluded that the threatening information has to be self-relevant, because people who did not practice the respective behavior optimism showed no relationship with these measures. This is also in line with the Valence-Enhancement Hypothesis, which posits that optimists are especially likely to elaborate on valenced information that is of high personal relevance (in this case information about HIV in an HIV risk population) and enhance attitude change following both self-relevant positive and negative messages (Geers, Handley, &McLarney, 2003). Pengchit (2010) examined the beneficial roles of optimism in facilitating cognitive elaboration and buffering unpleasant emotional

consequences of health-threatening messages, while increasing responsiveness to information about potential negative outcomes involving health. The findings of the studies by Pengchit (2010) provide support for the Valence-Enhancement Hypothesis (Geers et al., 2003) and suggest a broader explanation of optimism's role in the attitude change process. More specific, according to the valence of consequences of accepting persuasive messages (Pengchit, 2010), optimism may enhance attitude change (active coping). Another relevant study was conducted by Segerstrom (2001) in which optimism and unconscious information processing was analyzed in an emotional Stroop task (Macleod, 1991). In this study more pessimistic persons showed a strong attention bias towards negative words whereas optimistic persons showed an attention bias to both positive and negative words. These studies thus indicate a relationship between optimism and attention. Attention to health information seems to improve when optimism is increased. The present study continues the above line of reasoning in which the underlying mechanisms of optimism are considered.

### *1.5 HIV & prevalence in South-Africa*

With an estimated 6.1 million people infected with HIV, South Africa remains the epicenter of the Human Immunodeficiency Virus (HIV) pandemic. South Africa's epidemic is one of the largest in the world with an estimated prevalence of 17,9% among adults aged between 15 and 49. It is especially a severe problem among adolescents as about 3,9% of this percentage is younger than 24 years (UNAIDS, 2013). Early sexual debut is related to entry into sexual relationships and a consequent vulnerability to HIV infection (Tempelman, Slabbert, Gosling & Vermeer, 2010), therefore this high risk group has become an important target group in preventing this dreaded disease. *HIV* is a sexually transmitted disease, which targets the immune system and weakens people's immune and defense systems against infections. It can be transmitted through blood and other infected body fluids. The HIV-virus destroys and impairs the function of immune cells. The immune function in people with HIV is typically measured by the number of CD4 cells. The number of HIV cells in the body is measured by viral load. A higher viral load means the person is more infectious. The HIV-virus can cause the disease *Acquired Immunodeficiency Syndrome (AIDS)*, which is the most advanced stage of a HIV infection in which the immune system is seriously affected. AIDS is defined by the development of certain cancers, infections, or other severe clinical manifestations. Worldwide there is an estimated 35,3 million people infected with the HIV virus.

### *1.6 HIV-prevention program: CHAMP*

This study conducted as part of the Community, Health, Awareness, Mobilization & Prevention (CHAMP), an HIV-prevention program in which health information about HIV and sexual risks is the main purpose. CHAMP is developed by Ndlovu Care Group (NCG). NCG is an innovative, multi award

winning community development group that has been operating in rural areas in South Africa since 1994. Nowadays it is well-known for endeavoring to reduce HIV infections by improving sexual health. NCG provides the community with prevention, care, treatment, maintenance, and affords them the opportunity to fulfill their potential (Tempelman, Slabbert, Gosling & Vermeer, 2010). CHAMP is one of their developmental programs and aims to create awareness around HIV/AIDS and risky behaviors among the community and tries to destigmatize attitudes towards people living with HIV/AIDS and towards testing for disease. Through six training sessions, adolescents aged between 14 and 18 years are educated about HIV and sexual risk behavior (Ndlovu Care group, 2014).

### *1.7 Manipulation of optimism: 'a best possible self'*

In order to reduce the high prevalence of HIV it is important that the CHAMP program achieves its objectives. Knowing that optimism will foster greater attention to threatening health information (Aspinwall & Brunhart, 1996), optimism is expected to predict a better reception of health information offered during the CHAMP program when optimism is increased. It is encouraging that research shows, whilst optimism may be dispositional, it can be learned. King (2001) introduced an intervention to increase optimism. In this *best possible self in the future* (BPS) manipulation, optimism is cued by asking participants to write about a best possible self in the future. In the original version of this manipulation, participants wrote for 20 minutes on 4 consecutive days about the future in which they imagine themselves in the best possible condition and circumstances. Preliminary evidence for an effect on optimism was provided by King (2001). Peters, Flink, Boersma & Linton (2010) also demonstrated that writing about a positive future has the potential to increase optimistic future thinking by comparing the effects of BPS exercise with that of a control exercise (writing about a typical day). The BPS manipulation was, besides increasing optimism, found effective in increasing satisfaction with life (Boehm, Lyubomirsky & Sheldon, 2011), positive affect (King 2001; Peters et al., 2010; Sheldon & Lyubomirsky 2006) and overall well-being (Lyubomirsky, Dickerhoof, Boehm & Sheldon, 2011). An important issue however, is whether any effects of the BPS manipulation on positive future expectancies are independent from these mood effects. Peters et al. (2010) therefore measured positive and negative affect prior to and following the manipulation and found that the effect of the manipulation on future expectancies was not mediated by the effects on mood and did not seem to make a difference on future expectancies. To maximize the effectiveness of the BPS exercise, a mental imagery component of one minute is added to the original writing exercise as it has repeatedly been shown that mental imagery has stronger effects on emotions and cognition than verbal processing of the same material (Holmes, Lang, & Shah, 2009). The BPS manipulation is demonstrated to be effective in cueing optimism and will therefore be used in the present study.

### *1.8 Purpose and hypotheses*

For an HIV-prevention program like CHAMP to achieve its full potential one should be able to benefit from the positive effects of optimism regarding its greater attention to threatening health information. With the knowledge that people with an optimistic outlook on life pay more attention to health information (Aspinwall & Brunnett, 1996) and that it is possible to increase optimism (King, 2001), combined with all the other positive associations of optimism, this could provide exciting implications to improve the CHAMP HIV-prevention program. If positive effect of optimism regarding its attention to health information is demonstrated in this study, more optimistic elements should be included in the CHAMP program. The above line of reasoning leads to the following research question:

*'Does optimism, cued by a best possible self, predict greater attention to threatening health information among adolescents in rural South Africa?'*

Two hypotheses can be established based on the considered literature. First, it is hypothesized that optimism cued by a best possible self will foster greater recall of health information. Second, it is expected that optimism cued by a best possible self will increase reading time of health information. Additionally, it will be investigated whether dispositional optimism (Y-LOT score) and other socio-demographic variables predict recall.

## **2. METHOD**

### *2.1 Participants*

Participants who were already participating in CHAMP, were recruited for the present study at two secondary schools in grade 8, 9 and 10 in rural South Africa (Limpopo province). After the learners had filled in a baseline questionnaire as part of the CHAMP program, but before the actual training sessions of the program started, the present study was conducted. All classrooms were randomly assigned to be experimental condition or control condition. A total of 99 adolescents with an average age of  $M=15,84$  participated. More girls than boys participated, respectively  $N=61$  and  $N=38$ . All participants obtained parental consent before they started attending CHAMP.

### *2.2 Procedure*

The experiment was conducted during school hours with the assistance of a life skills facilitator, who also facilitated the training sessions of the CHAMP program. The life skills facilitator helped with translating



from English into isiZulu and was also familiar with the school, students, local language and culture. This was done to overcome issues with language and cultural barriers. He remained present during the entire procedure. The students sat on their own, next to each other and were not allowed to speak or leave the room. The experimenter and life skills facilitator informed the participants of the study procedure. Based on research done by Peters, Flink, Boersma & Linton (2010), they were told that they would participate in an experiment on the effects of a writing and imagery exercise about their thoughts and feelings, to conceal the real purpose of the study. Then, the participants went through the three following steps.

### *2.2.1 Step 1: Manipulation of optimism*

Participants were either part of the experimental condition (best possible self) or the control condition (a typical day). They were not told about the two different groups. Since earlier research suggests the positive effect of imagery on remembering things (Holmes, Lang, & Shah, 2009), imagery is added after the writing task to better implement the things they just concentrated on. Participants were requested to think one minute about a best possible self in the future, then write down their thoughts for about 10 minutes, followed by another minute of imagery on the story they just wrote. A blank sheet of paper and a pen was provided for the writing part. The respective instructions in the best possible self and typical day condition were based on Sheldon and Lyubormirsky's (2006) research and were verbally introduced as follows:

#### **Best possible self:**

*The exercise you will do is to think about your best possible self for one minute and then write down your thoughts. Thinking about your 'best possible self' means that you imagine yourself in the future (say in about ten years), after everything has gone as well as it possibly could. You have worked hard and succeeded at accomplishing all the goals in your life. Think of this as the realization of your dreams, and that you have reached your full potential. Thus, you identify the best possible way that things might turn out in your life. Please, start thinking of your best possible self. The instructor will tell you when it is time to start writing down your thoughts.*

#### **A typical day:**

*The exercise you will do is to think about a typical day in your life for one minute and then write down your thoughts. Thinking about your 'typical day' means that you take notice of ordinary details of your day that you usually don't think about. These might include particular classes or meetings you attend, people you meet, things you do, typical thoughts you have during the day. Think of this as moving through your typical day, hour after hour. Thus, you identify how a typical day looks like for you. Please, start thinking of your typical day. I will tell you when it is time to start writing down your thoughts.*

After a silence period of one minute, the instructions continued:

*Now, I will ask you to write about your best possible self/a typical day in your life for ten minutes. The only rule is that you write continuously for the entire time. If you run out of things to say, just repeat what you have already written. Don't worry about grammar, spelling or sentence structure. Don't worry about erasing or crossing things out. Just write. The things you write are only for yourself. If you need to repeat the instructions for the exercise, you can read them at the top of the paper in front of you. I will tell you when it is time to stop writing. Please start writing.*

After ten minutes of writing, the same instructions for both conditions for the imagery part were given: *Please, finish your sentences. The time for writing is over. Now, I want you to imagine as vividly as possible the things you have been writing about. Think about your best possible self/a typical day in your life for one minute. Imagine your ideal future life/your typical day with as much detail as you can. I will tell you when it is time to stop. Please, start thinking.*

### *2.2.2 Step 2: Health information*

Based on information included in the CHAMP program protocol (Ndlovu Care Group, 2014), a leaflet containing information about HIV and sexual risks (see appendix C) was developed and presented to all the participants. The health information has to be self-relevant to enhance attention paid to it (Aspinwall & Brunhart, 1996). It is difficult to track whether the participants consider the information on the leaflet to be self-relevant. It is risky to assume the information will be self-relevant solely based on the fact that all participants have had sex or will have sex in the future. To increase the credibility and personal relevance of the information, the leaflet displays a picture of an adolescent, which is based on research done by Pengchit (2010). This to underline that it is possible to get infected by HIV even at a young age. The information was written in simple English, to increase the probability that they would understand it. If a participant did not understand, the life skills facilitator assisted with translating and clarification. The reading time duration was recorded with a timer and encoded, based on research done by Aspinwall and Brunhart (1996). The split lap feature of the timer was used to assess the reading time of all participants at the same time (20 participants on average per class). A drawing was made of all tables in the classroom. When learners were finished reading, they gave a sign to the instructor who then pushed the button to take lap time (while the timer was still continuing). The given number by the timer was written on the participants table in the drawing. It would cost too much time to write down the reading time as the reading time of all participants had to be assessed at the same time. The numbers in the drawing were afterwards encoded back into reading time and were written down on the recall tests for each participant.

### *2.2.3 Step 3: Recall test*

A recall test was developed to examine knowledge about the health information the participants had just read and to investigate in what way the Best Possible Self manipulation attention to health

information affects. The self-constructed questions were based on the information about sexual risks and HIV obtained from the CHAMP program protocol (Ndlovu Care Group, 2014). The recall test was introduced shortly after reading, because it was not practically possible to return to the schools at a later stage. Reeder and Logue (1995) observed a significant relationship between processing and recall performance suggesting that memory processes depend on active processing of information. It was decided to keep the short delay of five minutes between the reading and retrieval of information the same for all groups to overcome this effect of processing time. The complete recall test was filled in per class and read out loud by the life skills facilitator. By doing this, all participants started and ended the recall test at the same time and the language barrier was overcome.

The three different sections each fulfilled its own purpose. Section one includes four multiple-choice questions and one open-ended question about HIV and sexual risks, based on the information the adolescents just read, like *'Which of the following answers is correct about AIDS?'*. Section two includes six statements about the just presented health information that has to be answered by true or false. Each answer was advocated by choosing one of the following: *'I chose this answer based on the just read information'*, *'I chose this answer because I knew it before'* or *'This answer was just a guess'*. This additional question is included to find out whether the participants based their answer truly on the just read threatening health information or whether there was another reason for answering correctly. In section three, dispositional optimism was measured using the optimism subscale of the Youth Life Orientation Test (Y-LOT; Ey et al., 2005). It was decided to measure dispositional optimism at the end of the experiment as it could possibly affect the BPS manipulation in a way that optimism is triggered.

The Y-LOT is well established with good internal consistency (Cronbach's alpha .83) and was validated within a mixed-race group of elementary and junior high aged students (Ey et al., 2005). The Y-LOT as measurement tool has furthermore been found effective among somewhat older adolescents up until 18 years old (Williams, Davis, Hancock & Phipps, 2010). It includes an optimism subscale, a pessimism subscale and a few filler items. Only the optimism subscale and the associated filler items were administered in this study, for example; *'I'm always hopeful about my future and 'I usually expect to have a good day. All ten statements are rated along a 4-point continuum (0: not true for me - 1 sort of not true for me - 2: sort of true for me - 3: true for me). A total score can be obtained by summation of the scores on the 6 positively phrased items (no filler items are summated). Higher scores reflect higher levels of dispositional optimism. The total Y-LOT score was taken into account as a possible predictor of recall. See appendix D for the complete recall test.*

### 2.3 Design

All class groups of grade 8, 9 and 10 of two different schools were selected to participate in this study. All classrooms were randomly assigned to either the experimental condition or control condition, respectively the best possible self and or daily activities task. All observations were independent, as the participants were not allowed to interact with each other. Accordingly, the experiment used a between-groups design (experimental vs. control).

### 2.4 Data preparation

Question 1, 2 and 3 of the first section of the recall test (see appendix D) were answered badly. Only a small percentage of the participants answered these questions correctly. Despite of this low percentage it was decided to use these questions to obtain the total recall score because especially these questions are indicators of attention to the just read information. An example to clarify this:

1. Which of the following answers is correct about AIDS?

- a. Not everyone who has HIV develops AIDS
- b. Antiretroviral therapy prevents a person with HIV from getting AIDS
- c. A small number of people who are infected with HIV have it for many years without developing AIDS
- d. All of the above**
- e. None of the above

Options a, b and c were correct, but the required correct answer was 'all of the above'. This refine distinction made the question difficult, but notably an indicator of attention. That is why all questions of the recall test were included in the total recall score. Additionally, outliers detected by the Statistical Package for the Social Sciences (SPSS, version 22.0) were excluded before further analyses were performed.

### 2.5 Statistical analyses

SPSS was used to analyze the quantitative data. To investigate the research question: 'Does optimism, cued by a best possible self, foster a greater recall of self-relevant threatening health information among adolescents in rural South Africa?' different scores on the recall test and the reading time of the participants were used. Descriptive statistics were described and correlational analyses were computed to explore the dataset and to determine which variables needed to be included in the main analysis. Socio-demographic differences between the best possible self-condition and control condition were explored and the scores on the recall test were further investigated.

Primary interest was whether the best possible self-group differed from the control group regarding attention to threatening health information (measured by recall score and reading time), so a check of the best possible self-manipulation was done before the main analyses were performed. Preliminary analyses were executed to explore whether the basic assumptions of the data were held. Linear regression analyses were conducted. At first recall was analyzed with gender, grade, age, whether participants had had sex before and condition (BPS or control) dispositional optimism and reading time as predicting variables. Next, reading time was predicted with gender, age, whether someone had had sex before, dispositional optimism, condition (BPS or control) and grade included as predicting variables.

### **3. RESULTS**

#### ***3.1. Descriptive statistics***

Correlations, means and standard deviations among the outcome measures, condition and the other individual difference measures, are presented in Table 1. Means and standard deviations of condition, grade and whether participants had had sex before are not included as these are categorical variables.

Participants scored 7.45 (SD = 2.18) on the recall test and had an average reading time of 10 minutes and 23 seconds (SD = 3.65). 33% of all 99 participants had had sex before and students in grade 8, 9 and 10 participated (see table 2). The average score on the Youth Life Orientation test was 14.60 (SD=2.63), this is a high on dispositional optimism score (range 0-18).

To determine which factors are correlated, a Spearman's rank-order correlation was run to determine the relationship between all variables including dependent variables under study, recall and reading time. There is a weak negative correlation between recall and reading time, a moderate positive correlation between recall and grade, a very weak positive correlation between recall and age and a positive weak correlation between recall and dispositional optimism, which were all statistically significant. Negative correlations are found for reading time with a moderate correlation between reading time and grade and a weak correlation between reading time and age. A strong positive relationship was found for grade and age. Between the variable measuring whether someone had had sex before and grade consisted a weak positive relationship and a moderate correlation consisted between age and whether someone had had sex before. No variables are correlated with a Spearman's correlation coefficient greater than .75 and most variables seem in one or another way to be correlated. Therefore, all variables will be included in the next analyses. The Spearman correlation coefficients are shown in table 1.

**Table 1.** Spearman correlations, means and standard deviations of outcome variables, condition and other individual difference measures.

	1.	2.	3.	4.	5.	6.	7.
1. Recall	--	-.385**	.155	.468**	.204*	.065	.295**
2. Reading time		--	-.106	-.536**	-.329**	-.056	-.151
3. Had had sex before			--	.382**	.458**	-.226*	.046
4. Grade				--	.676**	-.090	.144
5. Age					--	.025	.135
6. Gender						--	.147
7. Dispositional Optimism							--
<i>M</i>	7.45	10.23	.36	9.04	15.84	.62	14.60
<i>SD</i>	2.18	3.65	.050	.081	2.11	.049	2.63
<i>Range</i>	0-13	0-22	0-1	8-10	13-24	0-1	0-18

\* Correlation is significant at the .05 level.

\*\* Correlation is significant at the .01 level.

### **3.2 Randomization: best possible self-condition vs. control condition**

Socio-demographic variables by condition are shown in table 2. Gender and grade are split to demonstrate the frequencies of means into different categories per variable. Preliminary analyses were performed before groups were compared. These analyses indicated violation of the assumption of normality. Kruskal-Wallis tests were therefore conducted and demonstrated no significant differences in age and dispositional optimism between groups. A chi-square test showed no significant difference of grade between the best possible self-group and the control group. As expected because of unequal distribution of participants of the two different schools across both conditions, school type was excluded from further

analyses. Dummy variables were created for grade, as there are more than two categories. Between-group differences of gender were subsequently found through a chi-square test,  $\chi^2 (1, N = 99) = 5.34, p < .05$ . Males and females were unequally divided between both conditions.

**Table 2.** Means (SD), frequencies (%) of the socio-demographic variables by condition, total values and *p*-values.

	BPS (experimental) (N=52)	DA (controls) (N=47)	Total (N=99)	<i>p</i> (N=99)
Age in years	15.50 (1.95)	16.22 (2.23)	15.84 (2.11)	.095
Had had sex before	18 (34.6%)	15 (31.9%)	33 (33.3%)	.737
Dispositional optimism	14.46 (2.96)	14.74 (2.22)	14.60 (2.63)	.595
Female	29 (29.3%)	32 (32.3%)	61 (61.6%)	.212
Male	23 (23.2%)	15 (15.2%)	38 (38.4%)	
Grade 8	16 (16.1%)	14 (14.1%)	30 (30.3%)	.002*
Grade 9	30 (30.3%)	5 (5.1%)	35 (35.4%)	
Grade 10	6 (6.1%)	28 (28.3%)	34 (34.3%)	

\* $p < 0.05$

### 3.3 Dependent variable: recall score

The results of the recall test are shown in table 3. Either 0 or 1 point for multiple-choice questions and statements or 0, 1 or 2 points were allocated to the open-ended question. A total recall score can be obtained by summation of the scores on correctly answered questions of the recall test. A low percentage of multiple choice question 1, 2 and 3 is answered correctly. Despite this result it is decided to use the questions to obtain the total recall score because those questions are specifically focused on measuring attention (as discussed in method). No significant results for the additional questions ‘I chose this answer because of the just read information’ were found.

**Table 3.** Frequencies and percentages (%) of the correctly answered questions of the recall test.

	Correct answer (N=99)		Correct answer (%)	
<i>Multiple Choice Questions</i>				
1.	17/99		17.2%	
2.	37/99		37.4%	
3.	58/99		58.6%	
4.	96/99		97.0%	
<i>Statements (yes/no)</i>				
5.	89/99		89.9%	
6.	74/99		74.7%	
7.	96/99		97.0%	
8.	68/99		68.7%	
9.	79/99		79.8%	
10.	52/99		52.5%	
<i>Open ended question</i>	<i>1 point</i>	<i>2 points</i>	<i>1 point (%)</i>	<i>2 points (%)</i>
	<i>(partly correct)</i>	<i>(correctly answered)</i>	<i>partly correct)</i>	<i>correctly answered)</i>
11.	10/99	14/99	10.1%	14.1%

### 3.4 Best possible self-manipulation

To investigate whether the best possible self-manipulation actually worked compared to no manipulation (control group) a one-way analysis of variance was conducted. This ANOVA demonstrated a significant difference in recall score between conditions,  $F(1,94)= 5.05, p<.05$ . However, the control group scored significantly higher ( $M = 7.91, SD = 1.99$ ) than the BPS group ( $M = 7.04, SD = 2.28$ ). This was contrary to the predictions and does not indicate the best possible self-manipulation to be effective regarding recall. Another ANOVA was performed to investigate whether reading time is affected by the best possible self-manipulation. The BPS group scored higher on average ( $M=10.44, SD=3.55$ ) than the controls ( $M=9.99, SD=3.78$ ), however the ANOVA did not reveal a significant difference between the two conditions regarding reading time. Again, the best possible self-manipulation does not seem to be effective. This indicates that the best possible self-manipulation did not work the way it was expected to work, so in the next session, condition as a predictor of attention will be excluded. Other predictors of attention will be explored through linear regression analyses.

ANOVAs' were performed with the additional information about the participant's explanation of their answer to statements included. The analysis revealed a significant effect of the BPS



manipulation regarding the first statement; *A female condom can be used to protect against sexual transmission of infections*,  $F(1,97)= 5.76$ ,  $p=.02$ . A significant percentage (46.5%) of the participants answered correctly due to the just read information. However, this result is only found for one question out of six, so is too little to strengthen that the best possible self-manipulation had worked.

### **3.5 Predicting attention**

#### *3.5.1 Checking assumptions*

In order to conduct a linear regression analysis the data has to “pass” several assumptions that are required for a linear regression analysis to give a valid result. Investigation of scatterplots and partial regression plots indicate the relationship between the independent variables and dependent variable to be linear. The assumption of independence of observations is met as a Durbin-Watson test showed residuals to be independent. There is no generally considered cause of concern for violation of the assumption of multicollinearity as all tolerance statistics are above .20 and VIF statistics are less than 5. All residuals cluster around the line in the normal P-P plot, which indicates a consistently normal distribution of the residuals. A total of 10 outliers are identified. These extreme data are removed, so that there are no significant outliers, high leverage points or highly influential points used in the linear regression analysis. There is a consistent relationship between the residuals and the predictive values, which means that the assumption of homoscedasticity has been met. The assumptions were considered for both dependent variables and no significant violations of assumptions have been found for either recall score or reading time.

#### *3.5.2 Predictors of recall*

A linear regression analysis was run to predict recall from gender, age, whether participants had had sex before, dispositional optimism, reading time, condition and grade and these variables statistically significantly predicted recall,  $F(8,80)= 4.687$ ,  $p <.05$ ,  $R^2 = .319$ . The explained variance ( $R^2$ ) was .319, indicating that approximately 31.9% of the variance of recall in the sample can be accounted for by the linear combination of included independent variables. Dispositional optimism and grade explained a significant amount of variance within recall, respectively  $p<.01$  and  $p<.05$ . Reading time was included because it may affect recall. Results of the linear regression analysis are shown in table 4.

#### *3.5.3 Predictors of reading time*

Another linear regression analysis was conducted, this time to predict reading time from gender, age, whether participants had had sex before, dispositional optimism, condition and reading time. These variables together statistically significantly predicted reading time,  $F(7,81)= 10.523$ ,  $p <.05$ ,  $R^2 = .476$ .

The explained variance ( $R^2$ ) was .476 indicating that approximately 47.6% of the variance of reading time in the sample can be explained by the linear combination of included independent variables. Grade added statistically significance to the prediction,  $p < .001$ . Results of the linear regression analysis are shown in table 5.

**Table 4.** Unstandardized beta coefficient (B), Standard Errors (SD) and standardized beta coefficients ( $\beta$ ) of the linear regression analyses of predictors of recall.

	<i>B</i>	<i>SE B</i>	$\beta$
Gender	.584	.433	.134
Age	-.211	.134	-.199
Had had sex before / virgin	.586	.499	.134
Dispositional optimism	.221	.075	.280**
Reading time	-.108	.072	-.190
Condition	-.212	.493	-.051
Grade8	-1.713	.773	-.381*
Grade9	-.654	.606	-.150

Note  $R^2 = .319$ . \*  $p < .05$ , \*\*  $p < .01$

**Table 5.** Unstandardized beta coefficient (B), Standard Errors (SD) and standardized beta coefficients ( $\beta$ ) of the linear regression analyses of predictors of reading time.

	<i>B</i>	<i>SE B</i>	$\beta$
Gender	-.639	.660	-.084
Age	.005	.205	.003
Had had sex before / virgin	.237	.764	.031
Dispositional optimism	.119	.115	.086
Condition	-.038	.755	-.005
Grade8	5.979	.982	.756*
Grade9	.667	.926	.087

Note  $R^2 = .476$ . \*  $p < .001$

## **4. DISCUSSION**

This study set out to explore the influence of dispositional optimism, cued by a best possible self, on attention to threatening health information among adolescents in rural South Africa. A more indirect aim of this study is HIV/AIDS reduction. An important first step in achieving this is to increase people's awareness of sexual risks, so they improve their knowledge about sexual risks. More knowledge and attention to health information could change sexual behavior and contribute to reduction of HIV/AIDS (Tempelman, Slabbert, Gosling & Vermeer, 2010). Dispositional optimism seems to predict attention to health threats (Aspinwall & Brunhart, 1996). This study endeavored to increase optimism, so attention to health threats can be increased as well. Research demonstrated that dispositional optimism could be cued by the best possible self-manipulation (King, 2001). The present study investigated the potential positive effects of optimism regarding attention to threatening health information .

### ***4.1 Hypotheses and research question***

The primary hypothesis that adolescents, cued in optimism by a best possible self, would have greater attention to health information by demonstrating greater recall was not confirmed. The recall score, that provides an indication of attention to health threatening information, did differ between participants cued by a best possible self and controls not cued by a best possible self, but in the opposite direction of what was initially expected. The control group had a greater average recall score compared to the participants in the BPS group. The cueing of optimism seem to be the problem, as will be discussed more elaborately in the next session (see 4.2.2). The second hypothesis, namely that adolescents cued in optimism by a best possible self would show a greater reading time compared to the control group, was not confirmed either. The results showed that reading time between groups differed in that the BPS group had a greater average reading time. Reading time seem to be more an indicator of distraction than of attention (see 4.2). Additionally, in order to predict recall, potential other predictors were investigated, including dispositional optimism (Y-LOT score). Interestingly, all included variables accumulated predicted a significant amount of attention, measured by recall. More specifically, dispositional optimism and grade are significant predictors of recall compared to the other variables. Grade is not a surprising result, as students from a higher grade are expected to achieve a greater recall score than their lower grade peers. Grade as a predictor of attention outperforms age because presumably age varies too much across classes. In some cases learners of 15 years old and of 22 years old were in the same grade. Grade seems to be a better indicator of attention compared to age.

Optimism cued by a best possible self did not foster greater attention to threatening health information when it came to recall of the given information and duration of reading. These results are not in line with Aspinwall and Brunhart's study (1996) as they found that optimistic beliefs were positively

related to recall and reading time and the present study did not find a significant result for optimism regarding recall and reading time. In Aspinwall and Brunhart's study they administered the 'Life Orientation test' (Scheier & Carver, 1994) to measure the level of the participant's dispositional optimism. Dispositional optimism predicts a significant amount of recall and reading time. Does optimism, cued by a best possible self, foster greater attention to threatening health information among adolescents in rural South Africa? The answer to the research question is 'no'.

#### ***4.2. Limitations and broader considerations***

Some limitations of this study deserve to be mentioned and could clarify the results. The way reading time was measured, by a timer, was not optimal. As mentioned before, the instrument used in this study was a self-constructed recall questionnaire. The multiple-choice questions had five answer options in some cases, what may have been an overload of information for the participants. The recall test might therefore not have been worked in its full potential. This can affect the way recall was measured. The dependent variables were therefore not optimally examined. The average age in the control group was higher than in the BPS group. The older the students the better they perform, so age definitely influences the performance of students including the results on this recall test. Then, during the experiment it seemed that reading time was more an indicator of distraction instead of an indicator of attention. Participants were distracted, confused by the language and it was hot during the experiment what also may have contributed to the duration of reading next to attention. Again this is not in line with Aspinwall & Brunhart's study, because they found dispositional optimism to be positively related to reading time. Lastly, the language barrier as a more general limitation was continuously evident during the entire experiment. The language barrier can partially explain why no effect of condition was found for recall and reading time and that higher age could reflect better second language. More specific limitations considering the best possible self, the daily activities writings (control), health information and the recall test will be discussed in the following sections.

##### ***4.2.1 Best possible self-manipulation***

King's best possible self-manipulation (2001) was used to cue dispositional optimism. It seems to be that the manipulation was not successfully performed. Based on the experience with the adolescents, it is decided to lower the amount of time set for the writing about their best possible self in the future to keep them focused for the entire procedure. In this study the time set for thinking about a best possible self in the future was ten minutes and the imagining part was one minute. This might have been too short to cue optimism, because in other acknowledged research (e.g. Peters, Klink, Boersma & Linton, 2010) the time for writing about the BPS and Daily Activities (DA) (control) was set to fifteen minutes and the imagery

part was five minutes. The BPS-manipulation was successfully performed in Peters, Klink, Boersma & Linton's research (2010) as the best possible self-manipulation increased positive future expectancies. The best possible self-manipulation is broadly used, but was validated among western populations (Ey et al., 2005). It might work differently among collective South-African adolescents. Next time a pilot should be conducted to investigate whether the manipulation works the way it should be.

#### 4.2.2 Daily activities (control)

It seems that the writing task about daily activities was not understood well by some adolescents. Some writings were handed in, even though they were not requested to do so. This made it possible to get a closer look into some of the writings. The best possible self-manipulation was well understood by the participants. However, several writings of the control group showed that they did not always write about their daily activities the way as requested. In the official instructions (King, 2001) the word 'typical' is used. The adolescents did not know the meaning of typical so the life skills facilitator translated it to IsiZulu and described a typical day as a 'normal' day. Participants misinterpreted the words 'normal' and 'typical'. This might have negatively influenced the purpose of the task. The following examples will demonstrate the misunderstanding of the task, which was *no* manipulation.

*" I once had an opportunity to meet new, extraordinary and incredible people in my life. People who would stop at nothing to achieve their goals in life. That really touched me to see other people who really want to progress in life. I told myself, I want to be like those people. I want to achieve my goals and reach my dream which is filled with possibilities and ambition...."*

*"Since we started the morning till midnight, we didn't sleep because of happiness. It was my first time to be happy you know. When you look at the people everybody was normal to me. That's why I call it normal day. My heart was opened to every single person, even my enemies were normal to me"*

*"When I say I had a normal day is when I go through a day without my granny telling to wash dishes or cook... A normal day is when I can spend maybe 2 hours with my boyfriend and never fight about anything. I feel so happy and loved..."*

The daily activities writing task is supposed *not* to activate optimism, but the way people write about their daily activities may actually have cued optimism. Several participants wrote about a special day for them including emotional feelings. These special days or occasions apparently came to mind when they were asked to write about their typical/normal day. This, again, confirms the misunderstanding of the task. One

story is a typical example: ‘the day I started to know my father’ (see appendix E). This story can be seen as nostalgia, a past-oriented emotion in which the present self derives positivity from one’s past, (Hepper, Ritchie, Sedikides, & Wildschut, 2012). According to Cheung and colleagues (2013) nostalgia is not simply a past-oriented emotion, but its scope extends into the future, and, in particular, a positive future. The nostalgic experience is inherently optimistic and paints a subjectively rosier future. This research demonstrated that nostalgia actually boosts optimism (Cheung et al., 2013). Further, past experiences predict optimism in judgment or decision making (Albarracín & Wyer, 2000). The participants’ nostalgic writings or stories about the past may have elicited optimism or may have influenced the way they read the health threatening information or the way the participants filled in the recall test. Taking these findings into consideration, it is difficult to draw thorough conclusions.

#### *4.2.3 Optimism as a ‘state’ or as a ‘trait’*

The present study compared to Aspinwall & Brunhart’s study (1996) differed in that not only the ‘baseline’ dispositional optimism, but also cued dispositional optimism was investigated as a predictor of attention. These two ‘variants’ of optimism cannot be taken apart. Tussie & Patterson (2006) describe different variants of optimism including optimism as a generic personality trait and the *state* of optimism. Optimism as a *trait* (dispositional optimism) could affect someone’s *state* of optimism (manipulation of optimism). The other way around, the state of optimism (cued optimism) could affect the way someone scores on dispositional optimism. This could have affected someone’s dispositional optimism score, as it was assessed after the cueing of optimism by the best possible self-manipulation. (as a trait) in optimism.

Is it possible to increase optimism even more in people who are already more optimistic (high on dispositional optimism)? Is it easier to increase optimism in people who are more optimistic (high on dispositional optimism)? These questions deserve to be answered before the influence of dispositional optimism as a trait across conditions can be explained more elaborately. Screening the level of dispositional optimism first and then assigning participants based on this score may help to overcome possible unequal distribution of dispositional optimism in future research.

#### **4.3 Conclusions and future directions**

The present study demonstrated no effect of cued dispositional optimism regarding attention. Increase of attention to threatening health information cannot be explained by optimism that is cued by a best possible self-manipulation based on the results of the present study. It is not demonstrated that the reading time of participants who were cued in optimism significantly differed in that they spend greater time reading the health threatening information compared to the controls. Participants cued in optimism did not have a greater recall score, the opposite of what was expected was found: participants who had to think

about daily activities had a slightly better recall score compared to the optimistic group. Grade and dispositional optimism as 'baseline' optimism significantly predicted recall and therefore seem to affect attention to threatening health information. With the discussed limitations in mind it is hard to draw definite conclusions. If thoughts about nostalgia within the control group are excluded, it might still be quite possible to find significant results for cued optimism in the way it positively affects attention. This study should be replicated with excluding nostalgia as part of the control condition, so more clear conclusions can be drawn. Future research can possibly take nostalgia and its potential effects on optimism into consideration as well. The best possible self-manipulation compared to writings about nostalgia and a control group should be further explored to find out what would affect attention to health threatening information. Once the positive effects of optimism are found, writings about a best possible self or nostalgia can be implemented within the CHAMP program, to increase attention to knowledge offered during the prevention program. Optimism regarding its influence in increasing attention could contribute to HIV reduction in the long term.

## 5. APPENDICES

### APPENDIX A

#### BEST POSSIBLE SELF-MANIPULATION

I will ask you to write about your best possible self in your life for 10 minutes. 'Write about your best possible self' means that you describe yourself in the **future** (say in about 10 years), after everything has gone as well as it possibly could. You have worked hard and succeeded at accomplishing all the goals of your life. Think of this as the realization of your dreams, and that you have reached your full potential. Thus, you identify the best possible way that things might turn out in your life. The only rule we have about writing is that you **write continuously** for the entire time. **If you run out of things to say, just repeat** what you have already written. **Just write.** Don't worry about grammar, spelling or sentence structure. Don't worry about erasing or crossing things out. I will tell you when it is time to stop writing.

*Please start writing.*

[room to write down things]

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### APPENDIX B

#### DAILY ACTIVITIES CONDITION (CONTROL)

I will ask you to write about a typical day in your life for 10 minutes. 'Think about your typical day' means that you take notice of ordinary details of your day that you usually don't think about. These might include particular classes or meetings you attend to, people you meet, things you do, typical thoughts you have during the day. Write of this as moving through your typical day, hour after hour. Thus, you identify how a typical day looks like for you. The only rule there is about writing is that you **write continuously for the entire time.** If you run out of things to say, just repeat what you have already written. Don't worry about grammar, spelling or sentence structure. Don't worry about erasing or crossing things out. **Just write.** I will tell you when it is time to stop writing.

*Please start writing.*

[room to write down things]



## APPENDIX C

### SELF-RELEVANT HEALTH INFORMATION

#### Sexual transmitted diseases

Sexually transmitted infections (STI's) are infections (diseases) that are spread through sexual contact from person to person by various types of sexual behavior, through secretions or blood contact. Most are transmitted through unprotected penetrative sex, but some of them are transmitted through oral sex and mutual masturbation. Examples of STI's are herpes, chlamydia and HIV. The only way to be sure you do not catch STI's is to use a condom when having sex. It is very important that we get treatment as soon as we think we may have a STI or if a sexual partner tells us that he or she has a STI. It is not possible to treat yourself. Some people believe that it is good to go to a traditional healer to clean the blood when they have a STI. If people are going to get treatment from a traditional healer it is important to go to the hospital or clinic and take all the treatment from there first. In order to be properly treated we must make sure that our sexual partners are treated too. Otherwise we will catch the STI from them again. Some people have ideas about causes of STIs which are not correct. Common ones are that you can get STIs from sitting on a toilet seat or that STIs are caused by having sex with someone who has not mourned properly after having a miscarriage or abortion.



**HIV** stands for the Human Immunodeficiency Virus. People with HIV in their body go on to become sick with AIDS unless they have treatment. AIDS only develops after HIV has stayed in the body for a long time (usually years). AIDS stands for acquired immune deficiency syndrome. The immune system is the body's defense against infection. Immune deficiency means that the immune system is weakened and so cannot defend properly. The body's defenses are no longer able to fight the disease and the person becomes sick. Not everyone who has HIV develops AIDS. Antiretroviral therapy prevents a person from getting AIDS, but also a small number of people who are infected with HIV have it for many years without developing AIDS. You can't tell if a person has HIV just by looking at them, there are plenty of people who are fat and healthy but have HIV. The only way to be sure if a person has HIV is to do a blood test. We need to test often and practice safe sex to be sure we remain uninfected. That is why we need to take responsibility to protect ourselves and others from the virus: it is not just the responsibility of those who know they HIV-positive to make sure they do not spread it.

HIV only survives in body fluids such as semen, vaginal fluids, blood and saliva so we can only catch it if we have contact with body fluids. Most HIV infections in the world are caused by sex either between a man and woman, or sex between two men. Vaginal and anal penetration have both a high risk of HIV transmission, because those regions contain a high amount of vulnerable immune cells. Partners can use a male or female condom to protect against sexual transmission. Infections can also be caused by HIV positive mothers transmitting the virus to their babies either during childbirth or through breastfeeding. It's important that pregnant women test for HIV. Those who are HIV positive should take anti-retroviral medicines to protect their unborn babies. A person can get HIV from any contact with HIV infected blood, and it's important to remember this is a risk if helping someone who has been stabbed or injured and is bleeding. It is also a risk if there is a car accident. Other body fluids such as vomit, sweat and urine are quite harmless, so you cannot get HIV from cleaning up or bathing a person who has HIV and their bedding so long as there is not bleeding as well. Mosquitos, bed bugs and fleas cannot transmit HIV.

**APPENDIX D**

RECALL TEST

<p><b>Name of school:</b></p> <p><b>Study Identification Number:</b> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p><b>Gender:</b>        <input type="checkbox"/> Male        <input type="checkbox"/> Female</p> <p><b>Grade:</b> <input type="checkbox"/> Gr 8        <input type="checkbox"/> Gr 9        <input type="checkbox"/> Gr 10</p> <p><b>Age:</b></p> <p><b>Reading time:</b></p>
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SECTION ONE: Multiple Choice Questions. Please **circle** the right answer

**1. Which of the following answers is correct about AIDS?**

- a. Not everyone who has HIV develops AIDS
- b. Antiretroviral therapy prevents a person with HIV from getting AIDS
- c. A small number of people who are infected with HIV have it for many years without developing AIDS
- d. All of the above
- e. None of the above

**2. The route with the highest risk of HIV infection is:**

- a. Anal penetration, this is also the only transmission route for HIV
- b. Oral sex, because the saliva contains a lot of virus
- c. Vaginal/anal penetration, because those regions contain a high amount of vulnerable immune cells

**3. HIV survives in:**

- a. Vaginal fluids
- b. Vomit
- c. Sweat
- d. Bed bugs
- e. All of the above
- f. None of the above

**4. HIV stands for:**

- a. Human Immunodeficiency Virus
- b. High Immunodeficiency Virus
- c. Highly Infectious Virus

**5. What is incorrect (a myth) about causes of STI's (based on the just read information)?**

.....

.....

**SECTION TWO:** Here are some questions about various topics. Read each statement, then decide if you think whether the statement is true or false. Then, choose one of the following by checking boxes: ‘I chose the answer because of the just read information’, ‘I chose this answer because I knew it before’, or ‘This answer was just a guess’.

So for **each** statement you check **two** boxes with a cross.

Statement	True	False
A <i>female</i> condom can be used to protect against sexual transmission of infections.		
Testing is not necessary when a person does not have any symptoms		
The only way to be sure if a person has HIV is to do a blood test.		
HIV (when untreated) can be transmitted through breastfeeding.		
It is possible to get infected by HIV if you have skin-to-skin contact with someone who has been stabbed or injured and is bleeding.		
STI's can be treated by cleaning the blood by a traditional healer.		

I chose the answer because of the just read information	I chose this answer because I knew it before	This answer was just a guess

SECTION THREE: Please answer the following questions about yourself by putting how true or not true each statement is for you. Please check the box that seems to describe you the best. There are no right or wrong answers. *Just describe yourself as best as you can.*

		True for me	Sort of true for me	Sort of not true for me	Not true for me
1.	It is easy for me to have fun.				
2.	I like to be active.				
3.	When I am not sure what will happen next, I usually expect it to be something good.				
4.	Usually, I don't expect things to go my way.				
5.	I am a lucky person.				
6.	Each day I look forward to having a lot of fun.				
7.	When things are bad, I expect them to get better.				
8.	If some illness is going around, I am sure to get it.				
9.	I usually expect to have a good day.				
10.	Overall, I expect more good things to happen to me than bad things.				

**Please check if you answered every question.**

*Everything you told me is confidential and will be kept secret. If there are any questions, please let me know. Thank you very much for participating!*

## APPENDIX E

Please start writing.

The day I start know my father

The day I start to know my father it was a mirical for me because always I ask my mom where is daddy and she don't know him. So I decided to ask my aunt to tell me where is my father she tell me that he still alive. So I tell her to show me where he stays she take me to his house and I met he, and I was so happy to know my father and he introduce me to her daughter and her wife to reliazed that I want to know my father at school there was a trip to go at Joz when I tell my mom she tell me that she don't money so that is why I decide to want my father I tell he that at school she is a trip so I need money to go there and he gave me and I feel so proud of me and my father because I want he. I don't knew to be what was hard to want me but I don't want 2 say anything because I get what I want in my life and I'm so happy about that.

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