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# Attacking the 21<sup>st</sup> Century's Evil

## Metaphors in HIV/Aids Communication

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## PREFACE

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*"Two roads diverged in a wood, and I... I took the one less travelled by, and that has made all the difference."* Robert Frost (1915)

Handing in this thesis means that my biggest academic challenge so far has been completed. Finishing the last obligation of my studies was not an easy task, but every bit of energy that was put into this thesis was worth it and I have deeply enjoyed practically everything that came with it.

The first time I heard about participating in a project about HIV/AIDS communication, I knew instantly that that was what I wanted to do for my final research paper. Fortunately, I was given the chance to enrol in the course on health education lectured by Professor de Stadler and Professor Jansen. After having taken the course with great pleasure, I was even more sure that I wanted to go to South Africa. After some random guessing games, destiny had decided who of the students were to go to the University of Stellenbosch and who were to go to the University of Limpopo. I was thrilled when I was one of the three that could go to Stellenbosch.

Once in South Africa, Kim, Marloes, and I were a team. Many of the study related tasks we did together. We often started early in the morning and we did not mind working long nights. I will never forget the first time we had to drive our completely trashed Fox through Kayamandi and Idas Valley to visit the high schools, the euphoria when all the surveys were entered in SPSS, and the feeling of desperation when we walked on the Academia premises for the last time in December. Our dedicated work spirit resulted in enough spare time for travelling. I was able to see much of what South Africa and her neighbouring countries have to offer.

I would like to give a special thanks to the people that have made this experience possible. Professor Jansen: I must say that this project was one of the biggest challenges of my Business Communication studies, and I could never have done it without your guidance. Professor de Stadler: thank you for the wonderful time in Stellenbosch, the positive coaching, and the good talks in your home and in the Language Center. Also the colleagues of the Language Center: many thanks for the help and the great tea times. Lynette Rademeyer- Bosman, thank you very much for all the help in conducting the focus group. Ollie and Nistel: all I am saying is 'alané'. Of course my dear friends and roommates: thank you for hanging out with me during the inspiring coffee breaks in the library and at home. Frank and Hanneke: the English would never have been as professional without your help. Lastly, Mom and Dad: thank you for all the support in many ways.

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## ABSTRACT

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As the number one cause of death in South Africa, the spread of HIV/AIDS constitutes one of the greatest challenges to public health in the region. Especially among young people the infection rate is rapidly increasing, with devastating effects throughout the country. One of the most effective strategies in reducing the number of new HIV infections is to educate the South African population about the nature of the virus and to provide them with updated information on how best to protect themselves. This research intends to make a contribution towards effective HIV/AIDS communication.

Different forms of communication may have different effects on different recipients. Style, defined as 'the choice between possible formulations to shape a thought' constitutes one of the main factors which can influence the effectiveness of a text in reaching a certain goal. A certain style, in turn, can be created by so-called 'rhetorical figures'. This particular research focused on 'the metaphor' as a rhetorical figure which may be employed to 'enhance understanding by describing one conceptual domain (the target domain) in terms of another conceptual domain (the source domain)'.

This research project was conducted in collaboration with two other researchers (Olislagers and van Nistelrooij), and had set to the task of investigating whether the use of metaphors can enhance the effectiveness of HIV/AIDS communication in South Africa. More specifically, the effects of metaphors in HIV/AIDS communication were tested on three different ethnic groups: Afrikaans speaking whites, Coloreds, and Xhosas. This particular research focused on Afrikaans speaking whites, while Olislagers focused on the Xhosas, and van Nistelrooij focused on the Coloreds. (Please refer to the thesis of Olislagers (2008) and van Nistelrooij (2008) for an elaborate report on the Xhosa and the Colored group). One of the reasons for studying each ethnic group separately is that, according to for instance Emanatian (1996), the same metaphors cannot be used in every culture.

In order to reveal the effectiveness of metaphors in HIV/AIDS communication, four main questions were posed. The first research question read: *'Under which conditions and to what extent does the use of various types of metaphors in written HIV/AIDS communication have an effect on attractiveness, understanding, and persuasiveness for Afrikaans speaking white high school students in South Africa?'*. The answer to this question revealed the possible positive effects of metaphors in HIV/AIDS communication for Afrikaans speaking white high school students in South Africa.

The second question read: *'Under which conditions does the use of metaphors in written HIV/AIDS communication affect stigmatization among the Afrikaans speaking white high school students in South Africa?'*. This question was relevant because it took into account the possible downside of the use of metaphors. In collaboration with the two other researchers it was possible to evaluate the effectiveness of metaphors in HIV/AIDS communication for the three ethnic groups together, to draw conclusions about South African youth in the Western Cape and to reveal the differences between these three ethnic groups.

The third research question read: *'To what extent do ethnic group and text version affect the attractiveness, understanding, and persuasiveness of various types of metaphors in written HIV/AIDS communication?'* The fourth research question was posed to reveal the possible differences in stigma between the ethnic groups and the text versions: *'To what extent do ethnic group and text version affect stigmatization caused by the use of metaphors in written HIV/AIDS communication?'*

According to the conceptual metaphor theory, as put forward by Lakoff and Johnson (2003), metaphors are likely to enhance the attractiveness, understanding, and persuasiveness of a text. This theory, however, is not universally accepted. McGlone (2007), is more sceptical about the effects of metaphors and indicates that only completely novel metaphors can induce effects such as the enhancement of the attractiveness, the understanding, and the persuasiveness of a text. According to McGlone, the conceptual metaphor theory considers too many metaphors as novel. Based on the different theories of Lakoff and Johnson, and McGlone diverging expectations could be formulated for the outcomes of the present study with respect to the possible effects of metaphors: a serious chance of finding greater text effectiveness on the one hand, and only a small possibility of finding such results on the other hand.

In order to obtain the answers to the research questions, an experiment was conducted among high school students. Before this experiment was carried out, two preparatory research phases (a corpus analysis and a focus group discussion) were done to get an idea of the extent to which metaphors had previously been used and the extent to which experts believed that metaphors could be a useful tool in educating people on HIV/AIDS. Both the corpus analysis and the focus group discussion revealed that metaphors have been used and are regarded as useful tools in present HIV/AIDS education. Besides, a list of specific metaphors for HIV/AIDS was obtained. Based on the information retrieved from both the corpus analysis and the focus group discussion, four different text versions were designed in collaboration with Olislagers and van Nistelrooij. Three texts contained metaphorical language and one contained neutral, non metaphorical language. In addition, a survey was carried out to measure the 'attractiveness', 'understanding', 'persuasiveness' and 'stigmatizing effects' of these text versions. Following a within-subject experimental design, the texts were evenly distributed to the students of the Stellenbosch High School. In total 936 high school students participated in this research, of whom 261 were Afrikaans speaking whites, 369 were Coloreds, and 285 were Xhosas.

The outcomes of the analyses for the Afrikaans speaking whites showed no main effects for the independent variable 'text version' on the dependent variables 'attractiveness', 'understanding', and 'persuasiveness'. Moreover, no main effect was found for 'text version' on 'stigma', implying that none of the text versions appeared to differ in possible stigmatizing effects.

The analyses in which all the ethnic groups were taken into account revealed a significant overall effect of 'ethnic group'. Differences were found between the ethnic groups on the variables 'attractiveness' and 'persuasiveness'. It appeared that Xhosas and Coloreds evaluated the texts as more attractive and more persuasive than the Afrikaans speaking whites. No differences were found on any of the variables between Xhosas and Coloreds. Also, no differences were found between any of the ethnic groups for the variable 'understanding'.

For the South African youth in the Western Cape no significant overall effect of 'text version' occurred, implying that no differences were found between the different text versions for 'attractiveness', 'understanding', and 'persuasiveness'. Moreover, no main effects for 'stigma' on 'ethnic group' or 'text version' occurred. Lastly, no interaction effects were found between the independent variables 'text version' and 'ethnic group' for the dependent variables 'attractiveness', 'understanding', 'persuasiveness', and 'stigma'.

To conclude; this research did not support the expectation that metaphors influence the effectiveness of HIV/AIDS documents targeted at South African youth. A possible explanation is that the metaphors were not novel enough and therefore were not processed differently from non-metaphorical expressions. This implies that the expectation based on the theory of McGlone (2007) appears to be supported. An explanation regarding solely the 'understanding' of the text may be that the students were already too familiar with the subject of the texts, and therefore they did not need a metaphor to understand the text.

Further research is needed on how different metaphors are processed. Additionally, different ethnic groups, for example, Zulus living in KwaZulu-Natal could be addressed. In further research, a within-group experimental design could be applied. This might lead to different outcomes because when a within-group-design is used a contrast effect could occur. Also, different materials could be used in which the metaphors are checked in advance on novelty and in which, besides the immune system, different subjects are explained.

# CONTENT

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<b>PREFACE</b>	p. 1
<b>ABSTRACT</b>	p. 2
<b>1. INTRODUCTION</b>	p. 8
1.1 Relevance	p. 8
1.2 Theoretical Background	p. 8
1.2.1 Style	p. 8
1.2.2 Rhetorical Forms	p. 9
1.2.3 Definition of Metaphors	p.10
1.2.4 Identification of Metaphors	p.11
1.2.5 What Metaphors Do	p.11
1.2.5.1 Attractiveness and Understanding	p.11
1.2.5.2 Persuasiveness	p.13
1.2.5.3 Criticism Conceptual Metaphor Theory	p.14
1.2.5.4 Effect on Stigma	p.16
1.2.6 Illness and Metaphors	p.17
1.2.7 Influence of Culture on the Use of Metaphors	p.18
1.3 Research Questions	p.19
<b>2. METHODS</b>	p.21
2.1 Overview	p.21
2.2 Corpus Analysis	p.21
2.2.1 Relevance	p.21
2.2.2 Material and Procedure	p.21
2.2.3 Cohen's Kappa	p.22
2.3 Focus Group Discussion	p.24
2.3.1 Relevance	p.24
2.3.2 Participants	p.24
2.3.3 Time and Location	p.25
2.3.4 Tasks	p.25
2.3.5 Content of the Focus Group Discussion	p.26
2.3.6 Outcomes	p.27
2.4 Experiment	p.27
2.4.1 Material	p.27
-Pre-test	p.28
2.4.2 Respondents	p.29
-Afrikaans Speaking Whites	p.29
-South African Youth	p.30
2.4.3 Design	p.30
2.4.4 Instrumentation	p.30
2.4.4.1 Independent Variables	p.31
2.4.4.2 Dependent Variables	p.31
-Attractiveness	p.31
-Understanding	p.32

-Persuasiveness	p.33
-Stigma	p.33
-Metaphor Recognition	p.34
-Perception of Realism	p.34
2.4.5 Procedure	p.34
2.4.6 Analyses	p.34
2.4.6.1 Internal Consistency	p.34
2.4.6.2 Correlations and Analyses of Variance	p.35
<b>3. RESULTS</b>	p.37
3.1 Corpus Analysis	p.37
3.2 Focus Group Discussion	p.38
3.3 Experiment	p.39
3.3.1 Afrikaans Speaking Whites	p.40
3.3.1.1 Perception of Realism	p.40
3.3.1.2 Multivariate Analyses	p.40
3.3.1.3 Univariate Analyses	p.41
3.3.2 Afrikaans Speaking Whites, Coloreds, and Xhosas	p.42
3.3.2.1 Perception of Realism	p.42
3.3.2.2 Multivariate Analyses	p.42
3.3.2.3 Univariate Analyses	p.44
<b>4. CONCLUSIONS</b>	p.45
4.1 Overview	p.45
4.2 Perception of Realism	p.45
4.3 Afrikaans Speaking Whites	p.45
4.4 Cultural Differences and South African Youth	p.46
4.4.1 Ethnic Group	p.46
4.4.2 Text Version	p.46
4.4.3 Stigma	p.47
<b>5. DISCUSSION</b>	p.48
5.1 Overview	p.48
5.2 Expectations and Explanations	p.48
5.3 Limitations	p.49
5.4 Further Research	p.50
5.5 Final Note	p.51
<b>BIBLIOGRAPHY</b>	p.52
<b>APPENDICES</b>	p.56
7.1 Alphabetically Ordered List of Analyzed HIV/AIDS Brochures	p.57
7.2 Metaphors Found During Corpus Analysis	p.67
7.3 Script Focus Group Discussion	p.73
7.4 Minutes Focus Group Discussion	p.77
7.5 Pre-test Questionnaire and Text Versions	p.84
7.5.1. Pre-test Experts	p.84
7.5.2. Pre-test Target Group	p.86
7.6 Questionnaires	p.89

7.6.1	Questionnaire	p.89
7.6.2.	Questionnaire Stigma	p.95
7.7	Text Versions	p.97

# 1. INTRODUCTION

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## 1.1 Relevance

HIV/AIDS is a severe threat to people all around the world. The annual UNAIDS report states that in 2007 approximately 33.2 million people were infected with HIV (UNAIDS, 2007). Sub-Saharan Africa was the most seriously affected region, with AIDS remaining the leading cause of death there. Southern Africa accounted for almost one third (32%) of all new HIV infections and AIDS deaths globally in 2007. South Africa is the country with the largest number of HIV infections in the world. It is interesting to note that the epidemic varies considerably between provinces, from 15% in the Western Cape to 39% in the province of KwaZulu-Natal. Research has shown that young South Africans have been particularly affected by HIV/AIDS (Keizer Family Foundation, 2008).

In South Africa, organizations such as LoveLife have launched many campaigns to try to educate the South African population about HIV/AIDS. Even though a lot of money and effort are put into these campaigns, its effectiveness has hardly ever been evaluated (EPIDASA). Knowledge of the effects of fundamental design decisions and the way in which concept messages can be tailored to the needs and preferences of the various target groups is needed. In order to try to close this knowledge gap, several students participated in the EPIDASA project between 2003 and 2006 by doing research on HIV/AIDS communication. The main goal was to improve the effectiveness of public information documents on HIV/AIDS in South Africa. Now that the EPIDASA project came to an end in 2006, a lot of work is still to be done in the field of HIV/AIDS communication.

## 1.2 Theoretical Background

### 1.2.1 Style

Since South Africa is coping with severe problems with regard to HIV/AIDS, effective HIV/AIDS communication is needed. Throughout the years, many aspects of document design of HIV/AIDS communication have been studied. Previous research by e.g. Saal (2003) and Laanstra (2005) has indicated that style can be one of the aspects that play a role in the effectiveness of HIV/AIDS communication. Laanstra (2005) conducted an experiment in which two different texts with each a different style were used. One text was written in a funky style and the other text was written in a non-funky style. Both texts were presented to different culture groups. The results indicated that there were some differences between different South African culture groups in the appreciation and persuasiveness of the two texts. In general, however, a non-funky style was proved to be more effective. In the research done by Saal (2003) the effects of slang were measured. A text written in Standard English was compared to a text written in slang. No significant results were found between the slang version and the Standard English version. However, Saal (2003) indicates that a different measuring instrument might lead to significant results. Besides funky language and slang, there are other ways in which style can vary.

According to Burger and de Jong, (2002, p. 21) style is a matter of choice between possible formulations to shape a thought. While formulation (word choice and sentence structure) is an

important element, structure also plays a vital role within style. Structure, for example, can determine which parts of the text will receive more attention. When certain information is placed in the first paragraph of a text it is likely to receive more attention than when it is placed in the middle of the text.

Even though, for instance, Laanstra (2005) argues that style can play an important role in the success of HIV/AIDS documentation, many topics with regard to style have not been thoroughly researched. The aim of this present research on HIV/AIDS communication is to find out to what extent style can make texts more attractive, can facilitate understanding on HIV/AIDS, and can persuade readers to adopt a certain view or behavior. Additionally, this study attempts to reveal the effect of style on the stigmatization on HIV/AIDS and people living with HIV/AIDS.

There are many ways in which style can vary. An example, discussed in the previous section, is the use of slang. Apart from slang, rhetorical language is one of the tools that can be used in communication to create a certain style. There are many forms in which rhetorical language can occur, which will be elaborated on in section 1.2.2. Rhetorical forms, with metaphors in particular, will be the main focus of this research.

### 1.2.2 Rhetorical Forms

In a research conducted by van Enschoot- van Dijk (2006), a rhetorical form is defined as an artistic deviation of a message. This means that when a rhetorical form is used, the content of the message stays the same, only this time the message is presented in an artistic or creative manner (p. 11). There are many different kinds of rhetorical forms. In the research of van Enschoot- van Dijk an overview is given of the categorization made by McQuarrie and Mick (1996).

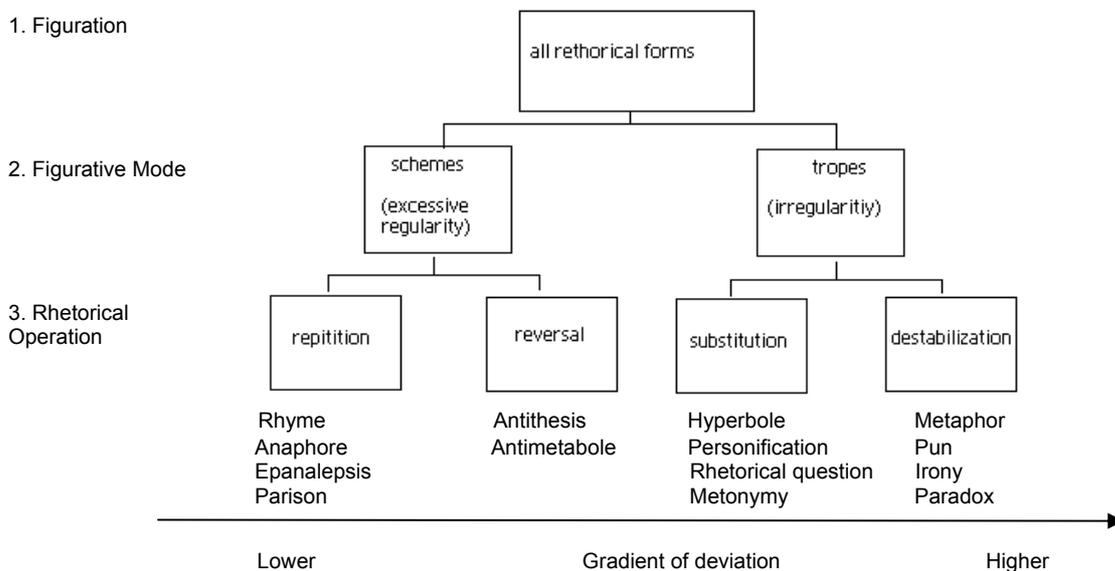


Figure 1 Categorization of Rhetorical Figures (McQuarrie and Mick, 1996)

As shown in figure 1, three general levels are distinguished. The first level consists of all artistic deviations (rhetorical forms). These rhetorical forms can be divided into two main categories: *schemes* and *tropes*, which make up the second level. *Schemes* consist of excessive regularity such as rhyme (e.g. sublime crime), while *tropes* are characterized by an irregular usage such as a paradox (e.g. “Oh

god! There is no god"). *Schemes* are stylistic decorations that are meaningless and which tend to be less deviant than *tropes* (van Enschoot- van Dijk, 2006, p. 16). The third level subdivides both *schemes* and *tropes*. A *scheme* is either a form of repetition or reversal. An example of a repetition is alliteration. Alliteration is a series of words that begin with the same letter or sound alike (e.g. Peter Piper picked). An example of reversal is an antithesis. An antithesis is the juxtaposition of opposing or contrasting ideas (e.g. Hell is the antithesis of Heaven). *Tropes* can be subdivided into substitution and destabilization. An example of substitution is personification. Personification occurs when a human quality is projected on a non human object (e.g. the wind is whispering). An example of destabilization is a metaphor. Since the gradient of deviation increases from left to right, this implies that the metaphor is one of the rhetorical forms which deviates the most. In the following section the definition of a metaphor will be elaborated on.

### 1.2.3 Definition of Metaphors

In this research the main point of focus will be the use of metaphors in HIV/AIDS communication. Therefore, it is necessary to find out what metaphors exactly are. Vroon and Draaisma (1984) state that the metaphor is originally derived from the Greek word 'metapherien' which means 'transmission'. They state that when a metaphor is used, the unknown is described in terms of the known. Kövecses (2002) elaborates on this definition by defining metaphors as a tool to enhance understanding by describing one conceptual domain in terms of another conceptual domain. Metaphors are mostly used to make a concept concrete. Often a familiar physical domain is projected on a less well-delineated, less familiar, abstract domain. The physical domain is called the source domain, while the less familiar abstract domain is called the target domain. In short this means that a metaphor uses a source to describe and explicate the target domain (Kövecses & Szabo, 1996).

According to Kövecses (2002) a distinction can be made between conceptual metaphors and linguistic metaphors. '*Conceptual metaphors*' are mostly used to describe abstract concepts. These metaphors describe one conceptual domain (A) by another conceptual domain (B). In other words, one domain is understood in terms of another; the source domain is applied to facilitate the understanding of the target (Kövecses & Szabo, 1996). An example that is used in the article of Kövecses and Szabo (1996, p. 331) is the metaphor of *spitting fire*. In this metaphor the domain of fire is used to understand the domain of anger. This means that anger (the target domain) is comprehended via the concept of fire (source domain). Following the convention of cognitive semantics, we can call this the *anger is fire* conceptual metaphor.

Conceptual metaphors are essential tools to structure tacit knowledge. Aita, McIlvain, Susman, and Crabtree (2003) explain that metaphors can be seen as the key to unlock tacit knowledge. Metaphors function as a valuable tool to organize abstract information (Lakoff & Kövecses, 1987, Lakoff, 1993 as referred to in Kövecses & Szabo, 1996). The most common source domains in metaphors are the human body, health and illness, animals and machines, and tools. The most common target domains are emotion, desire, morality, and thought. Conceptual metaphors can serve the purpose of understanding intangible and other concepts that are difficult to understand on their own. To put it briefly, a conceptual metaphor can be regarded as a set of mappings or correspondences between two domains, namely the source and the target (Lakoff et al., 1987, as referred to in Kövecses & Szabo, 1996).

According to Kövecses (2002) the '*linguistic metaphor*' comes from the language or terminology of the more concrete conceptual domain (e.g. the target domain). In other words, metaphorical linguistic expressions can be described as linguistic manifestations of conceptual metaphors. Linguistic expressions make conceptual metaphors explicit or are manifestations of these metaphors. Kövecses (2002, p. 5) gives *love is a journey* as an example of a conceptual metaphor. A linguistic manifestation of this metaphor is 'look how far we have come' and 'we cannot turn back now'.

#### 1.2.4 Identification of Metaphors

In order to do research on metaphors in HIV/AIDS communication, it is necessary to find a method to identify metaphors in HIV/AIDS communication. Forceville (1998) has presented a clear overview on how to identify metaphors. He builds upon and expands the definitions of Kövecses and Lakoff. Forceville states that the best way of identifying metaphors is by using Black's interaction theory of metaphor. This theory draws upon the view of Kövecses (2002), that in a metaphor one or more features are projected from the secondary subject (source domain) upon the primary subject (target domain). The first part of the metaphor is the primary subject of the statement. This is the literal part of the statement in which language is used conventionally and it is referred to as the 'frame'. The secondary subject is the part of the statement that is used unconventionally and is called the 'focus'. In a metaphor one or more features are projected from the secondary subject upon the primary subject.

Based on the theory of Black, Forceville (1998) distinguishes three questions which have to be asked to determine whether or not a verbal expression is a metaphor:

- What are the two terms of the metaphors, and how do we know they are the two terms?
- Which of the two terms is the metaphor's primary subject (target domain) and which is its secondary subject (source domain), and how do we know these are the primary and secondary subject?
- Which features are projected from the domain of the secondary subject upon the domain of the primary subject, and how do we decide upon these features?

When answering these questions, it is important to take into account the context in which the metaphor is written.

#### 1.2.5 What Metaphors Do

The aim of this research is to find out to which extent the metaphor may be a useful tool to create effective HIV/AIDS communication. In order to satisfyingly answer this question, knowledge is needed on what metaphors exactly do when they are applied in HIV/AIDS communication. In the following sections three possible positive effects and one negative effect of metaphors in HIV/AIDS communication are discussed. First, literature on attractiveness and understanding is presented. Second, persuasiveness is discussed. Third, the possible effects on stigma will be elaborated upon.

##### 1.2.5.1 Attractiveness and Understanding

Hoeken and Poulssen (1991) recommend that informative or persuasive texts should often be written in a lively style. In their research they point out that the application of a lively style leads to a higher text evaluation, a more positive feeling towards the text, and a higher source credibility. Ortony (1975) states that the use of metaphors has a positive effect on the liveliness of a text. Assuming that metaphors can enhance the liveliness of a text, it is reasonable to assume that the use of metaphors

can make HIV/AIDS documents more lively, consequently leading to a higher evaluation of this document's attractiveness and source credibility. When, for example, youngsters read a text about HIV/AIDS which uses metaphors to create a lively style, then this will more likely lead to a higher evaluation of the attractiveness and source credibility than when this text is written in a non-lively style.

Hoeken and Poulssen (1991) also expected a positive relationship between the liveliness and the understanding of a text. However, their research showed that the texts that were written in a lively style did not lead to a higher understanding of the content. A possible explanation for this result could be the occurrence of a ceiling effect: the majority of scores were all near the maximum. Even though Hoeken and Poulssen did not find a relationship between the use of a lively style (under which the use of metaphors) and understanding, other researchers such as Kövecses (2002), Paivio (1986) and Lakoff and Johnson (2003) did find a relationship between understanding and the use of metaphors.

In section 1.2.3 the definition of a metaphor by Kövecses (2002) is presented. He defines a metaphor as a tool to enhance understanding by describing one conceptual domain in terms of another conceptual domain. In the following sections various researchers who support the vision that metaphors can enhance the understanding of a concept will elaborate upon this vision.

The dual coding theory developed by Paivio (1986) indicates that there are two ways in which information can be captured in people's memories. The first way is verbal and the second way is visual. Information which is captured visually will often be more accurately remembered than verbally obtained information. Paivio states that concrete word pairs are more easily remembered than abstract word pairs because concrete words are easier to visualize than abstract words. Randsell and Fischler (1989) endorse this finding. Their research showed that respondents remembered more from a concrete paragraph than from an abstract paragraph, implying that concrete texts lead to a better retention in the long term. Ortony (1993 p. 321) explains that the reason for this enhancement of retention is that, unlike abstract words, concrete words evoke images in the reader's mind. Nuijten (2004) also acknowledges the advantages of concrete language compared to abstract language. She adds that the advantage of concrete language compared to abstract language can be dissolved by using 'image mediators'. 'Image mediators' are means that can help people visualize abstract concepts. When these mediators are applied, a better understanding of the abstract concept can be achieved. Nuijten does not specify what these 'image mediators' could be. However, since Kövecses (2002) states that the main purpose of a metaphor is to make an abstract concept more concrete, it is likely to assume that metaphors could function as 'image mediators'. This would imply that metaphors could dissolve the advantage of concrete language to abstract language by making it easier to visualize the information, subsequently leading to a better retention and understanding in the long term.

Lakoff and Johnson (2003) agree that metaphors enhance the understanding of the text. They do, however, oppose the traditional view in which metaphors are seen as purely linguistic manifestations of communication. They support the vision that a metaphor is more than just a linguistic wrapping of a message, and they believe that metaphors can lead to higher levels of understanding. They draw upon the conceptual metaphor theory put forward in section 1.2.3 and reinforce it by claiming that the human conceptual system is shaped by metaphors. This implies that many, often abstract, concepts

are understood through metaphors. They believe that metaphors bring structure to many concepts, and metaphorizing is the primary human resource for understanding experiences. The human thinking process is largely metaphorical, and therefore, a lot of aspects of our society are understood and even created through metaphors. The metaphors that are often used play an important role in what people decide to be reality.

Liebert (1999) supports the view put forward by Lakoff and Johnson (2003) and Paivio (1986) for instance, that understanding can be achieved by using metaphors. He states that metaphors in the medical world are seen as powerful linguistic tools for understanding and comparing complex systems. Moreover, he puts forward that: "In pursuing their social and professional aims, doctors often adopt metaphors such as fighting against cancer".

From the previous sections it can be concluded that there is reasonable evidence that the use of metaphors can affect attractiveness and understanding in communication in general (for instance, Hoeken & Poulssen, 1991). However, more research is needed to make a well-considered judgement on the possible effect of metaphors on attractiveness and understanding of HIV/AIDS communication in South Africa.

#### **1.2.5.2 Persuasiveness**

It is important that HIV/AIDS communication is persuasive; without persuasion no-one will adopt the promoted view points or health related behavior. "Persuasive communication can be defined as an attempt to change someone's mental state by communication in which the other has a certain amount of freedom" (O'Keefe, 2002, p. 3-4).

One of the main goals of HIV/AIDS communication is to persuade people to engage in a certain behavior such as practicing safe sex. To reach this goal, it is important to know how the target group can be convinced to engage in the desired behavior. In order to persuade people to adopt a certain opinion or behavior, communication should be aimed at the target group's attitude. An attitude can be defined as "the underlying determinant of behavior" (Fishbein & Azjen, 1980). Or as Perloff (2001, p. 3) puts it: "persuasion is about convincing people to change their attitude towards the behavior". Persuasive texts should be designed to inform in such a manner that it influences the attitude of the target group (Hoeken, 1998). According to Fishbein and Azjen (1980) an attitude can be defined as "the evaluation of behavior and is based on two components":

- beliefs that the behavior leads to certain outcomes;
- evaluation of these outcomes.

This implies that writers of persuasive texts should address both components in order to influence a person's attitude. Fishbein and Azjen (1980) state that if via the components the attitude is then changed, this might result in the intention aimed at, namely the adoption of a certain view or behavior. Often this intention leads to the desired behavior. The following sections will elaborate on how persuasiveness in HIV/AIDS communication may be enlarged.

According to Hoeken (1998) a factor that can contribute to the persuasiveness of a text is the source credibility. Two factors determine the source credibility; the expertise of the source and the reliability of the source. As stated in section 1.2.5.1 a lively style could enlarge the source credibility of a text

(Hoeken & Poulssen, 1991). According to Ortony (1975) metaphors can generate a lively style, which can lead to the enhancement of the source credibility and therefore the persuasiveness of a text. If the writer of a text is regarded as credible, this makes the content of the text more believable, enhancing the likeliness that the reader will adopt the promoted view or behavior. In light of the present research this implies that when a lively style, such as the use of metaphors, is applied in HIV/AIDS communication this could enhance the source credibility and therefore the persuasiveness of the message. When, for example, young South Africans read a text of which they believe it is written by a credible writer, than this will enlarge the chance that they will adopt the promoted view or behavior.

Besides via source credibility, there are other ways in which the use of metaphors could increase the persuasiveness of a text. According to several researchers (Booth 1979; Cook 1992; Stern, 1990, as referred to in Spears, 2003) the metaphor is an important tool of persuasion in advertising. Some researchers support this view by saying that metaphors are processed more deeply than literal expressions (Grice, 1975; Janus & Bever, 1985; Searle, 1979, as referred to in Spears, 2003). However, other researchers (Glucksberg, Gildea & Bookin 1982; Ortony et al. 1978, as referred to in Spears, 2003) oppose this view by saying that metaphoric and literal expressions are processed in the same way.

McQuarrie and Philips (2005) hold a different view with regard to persuasion and metaphors. They demonstrate that the use of metaphors is not directly persuasive, but could indirectly lead to persuasion. Indirect persuasion occurs when the reader has to construct a meaning of the message her/himself. The message includes an indirect claim that has to be derived by the reader. These indirect claims are often found in advertising. An example put forward by McQuarrie and Philips (2005, p. 14) is "bring home a fresh fruit orchard with Mill's window cleaner". This example includes the indirect claim that Mill's window cleaner smells like a fresh fruit orchard, which is implicitly stated and needs to be derived by the reader. Because metaphors do not literally but figuratively present a message, the reader is obliged to construct the meaning her/himself in order to explicate the message. Therefore, the metaphor is a type of indirect claim. According to Sperber and Wilson (1986, as cited in McQuarrie & Philips, 2005, p. 8) "it is this openness to multiple alternative interpretations, or weak implicatures that may confer a persuasive advantage on indirect claims presented through metaphor."

The views on the possible influence of metaphors on persuasiveness are not consistent among researchers. Some researches believe metaphors enlarge persuasiveness, others believe they only indirectly affect persuasiveness, and some believe that there is no relationship between metaphors and persuasiveness at all. Besides these inconsistent views on the subject, most of the researchers studied advertisements and not health communication. Therefore, more research is needed to find out whether or not metaphors can make texts, with HIV/AIDS communication in particular, more persuasive.

### **1.2.5.3 Criticism on the Conceptual Metaphor Theory**

The conceptual metaphor theory that is put forward by, for instance, Lakoff and Johnson (2003) is opposed by McGlone (2007). McGlone states that the theory of the conceptual metaphor does not carry sufficient empirical nor theoretical support. According to McGlone (2007) the theory is solely based on intuition (p. 114). He states that it does not take into account the difference between the way

novel metaphors or conventional metaphors are processed. McGlone (2007) states that the process of understanding a metaphor will change as a function of its conventionality: when a metaphorical expression is completely novel, this process is different than when a literal or metaphorical expression is familiar. McGlone (p. 121) states that metaphorical expressions with which a person is familiar are processed in the same manner as a stock expression and is therefore understood without recourse to conceptual mappings. Both conventional metaphors and stock expressions appear to be understood directly and literally. An example of a familiar metaphor which will often be processed as a stock expression is *the argument was shot down*. This expression is familiar to such an extent that no conceptual mapping such as *argument is war* is needed in order to understand this expression. In contrast, novel metaphorical expressions very well involve inferring a conceptual mapping (between source and target). An example that McGlone gives for a complete novel metaphor is *Rush Limbaugh's bloated ego gobbled up his integrity and then used the airwaves as a toilet*. In this case a conceptual mapping is needed between arrogance and digestion.

Gentner and Bowdle (2001) agree with McGlone (2007)<sup>1</sup> that the conventional and familiar metaphors are processed and interpreted differently than novel metaphors. They state that novel metaphors contain source domains that refer to a domain-specific concept, but are not yet associated with a domain-general category. Conventional metaphors involve source domains that refer both to a literal concept and to an associated metaphoric category. Familiar metaphors contain a source domain which has been repeatedly used. These familiar metaphors often become stock expressions such as *time is money*. In light of the present research it is important to know how these different metaphors are processed. Different types of metaphors might be processed differently, leading to diverse outcomes with regard to the attractiveness, understanding and persuasiveness of a text on HIV/AIDS.

Gentner and Bowdle state that there are two ways in which metaphoric mappings are processed: by literal comparison and by categorizing. Literal comparison implies that the reader will attempt to find common ground between the target and source domain. Categorization implies establishing class-inclusion relations between ontologically distant concepts. This means that the source domain derives a metaphoric category of which it represents a prototypical member. When this metaphoric category has been abstracted, the target domain is understood as being part of the category. An example which illustrates categorization is the metaphor *time is a river*. The metaphoric category in this case could be 'things that flow forward'. Gentner and Bowdle also state that there are two ways in which a metaphor is comprehended: directly and indirectly. Indirect comprehension means that the meaning of the metaphor has to be derived by the reader via the source domain. The source domain is simply an aid to derive the correct denotation. Direct comprehension occurs when a metaphorical expression is processed in the same way as a literal expression. Several experiments prove that novel metaphors are mostly indirectly processed via comparing, while conventional and familiar metaphors are processed directly via categorizing or comparing.

The relevance of the theory of Gentner and Bowdle (2001) for the present research is that there are various types of metaphors which are processed differently. An important difference between the three

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<sup>1</sup> The articles of McGlone (2007) and Gentner and Bowdle (2001) were integrated in this thesis after this present research had been carried out among the target groups in South Africa. Therefore, these theories were not taken into account during the preparatory phases and during the design of the material for the experiment.

types of metaphors is that novel metaphors are processed indirectly while conventional and familiar metaphors are processed directly requiring the same processing as a literal expression. According to this theory, metaphors in HIV/AIDS communication should be novel in order to be evaluated differently than communication which does not use metaphors.

McGlone (2007) endorses the findings of Gentner and Bowdle (2001) and adds that a lot of expressions might be categorized as novel metaphors by Lakoff and Johnson (2003), while in reality people are so familiar with them that they have become stock expressions and are used, processed, and understood as normal literal phrases. A consequence is that, according to McGlone (2007), possible effects of conceptual metaphors such as the enhancement of understanding that are put forward by, for instance, Lakoff and Johnson (2003) do not apply for conventional or familiar metaphors.

Applying both the theories of Lakoff and Johnson and McGlone to this research may therefore result in diverging expectations for the outcomes with respect to the possible effects of metaphors in HIV/AIDS communication. When the conceptual metaphor theory of Lakoff and Johnson (2003) is taken as the basic principle, then it is to be expected that more metaphors are considered as novel than when the theory of McGlone is taken as a starting point. McGlone's theory handles a much stricter distinction between conceptual and novel metaphors than Lakoff and Johnson. This implies that, according to McGlone, it is to be expected that very few metaphors are classified as novel metaphors and that very few metaphors will therefore be processed indirectly, in which case a conceptual mapping is needed. The conceptual metaphor theory of Lakoff and Johnson (2003) employs a less strict distinction, and therefore, more metaphors are classified as novel, implying that more metaphors are expected to be processed indirectly, in which case a conceptual mapping is needed. When employing the conceptual metaphor theory it is therefore to be expected that more metaphors will enhance the attractiveness, understanding, and persuasiveness of a text than when the theory of McGlone is employed.

#### **1.2.5.4 Effect on Stigma**

In the previous sections possible positive effects of metaphors on the effectiveness of HIV/AIDS communication have been discussed. But besides positive effects, the use of metaphors might have unwanted negative implications. According to Sontag (1991) every disease knows certain myths, ideologies, and metaphors with which the disease is associated. These associations and metaphors represent ways in which humans try to understand suffering and death. The dangerous thing about these associations is that they might be based on incorrect or incomplete knowledge, and this might lead to misperceptions of the people who carry the disease. Sontag states that AIDS has been strongly associated with negative associations such as drug use, prostitution, and moral denigration. These negative associations might influence the stigma on AIDS and people living with HIV or AIDS. Or as Sontag (1991) puts forward: "The metaphoric use of language in AIDS is a powerful indication of the stigma attached to it".

Sontag also stresses that the employment of metaphors in the description of AIDS can to a large extent falsify and distort the truth about AIDS. This implies that many metaphors of HIV/AIDS on the one hand demonstrate that there is a considerable stigma attached to the disease, and on the other hand reinforce the stigma. Sontag gives an example of a metaphor in which HIV/AIDS is regarded as

an *evil force*. In this example the target domain is HIV/AIDS and the source domain is an evil force. This particular metaphor might enforce the stigma regarding HIV/AIDS because people might attribute 'evil' to people who are currently living with the disease. Because of these negative side effects, Sontag advocates a de-metaphorization of diseases such as HIV/AIDS. She advocates that diseases are not referred to by metaphors, but they should be understood for what they are: biological entities alone. Because it is also important to take possible negative effects of the use of metaphors into account, the effects on stigma will be covered in this research as well.

### 1.2.6 Illness and Metaphors

As stated in section 1.2.5.1, it is often necessary to make abstract concepts more concrete in order to create a better understanding of the message. According to Kövecses (2002) for instance, this can be done by projecting a more concrete concept on an abstract concept; in other words by using a metaphor. In the medical world metaphors are often used to explain what a disease is and what happens when a person is affected by a disease. For example Aita et al. (2003) note that metaphors can be used to identify tacit knowledge and behaviors that are imbedded in organizations and shape health care practises. Conceptual metaphors can accurately explicate cultural assumptions and behavior in the medical practice milieu. A disease is often intangible and complex, and therefore it is hard for many people to understand what a disease actually is, and what it does to the human body. HIV/AIDS is one of the diseases that is very difficult for people to understand. Besides, it is also a disease that carries a considerable stigma, which makes it difficult to talk about HIV/AIDS. Therefore, metaphors are often used when referring to HIV/AIDS (Lean, n.d.). Many researchers have tried to reveal which metaphors are commonly used for illness. In the following sections the main focus lies on existing AIDS metaphors.

Lean (n.d.) notes that information about AIDS does not only come from health practitioners, but also from many other parts of society. This has led to many attempts to conceptualize metaphors in order to represent the images of AIDS to the public. In order to reveal these metaphors, a corpus analysis was done on AIDS metaphors in TIME magazine. The aim of the study was to investigate how 'evil' got associated with AIDS through the use of metaphors. From this research, five metaphors were derived that portrayed AIDS as a form of evil. The first metaphor covers *the contamination of AIDS*. This metaphor positions people living with AIDS as the cause of their own illness and a potential risk to people who are HIV-negative. This metaphor is reflected in a vocabulary which includes words such as pervert, pollute, stigma, decay, corrupt, and taint. Infected people have themselves to blame, and when AIDS contaminates the body, the patient is given a new identity, turning him or her into 'one of them'. The second metaphor is the one that portrays AIDS as *an evil force*. Here AIDS is seen as a curse and the century's evil. The disease is able to show itself in certain forms. This metaphor is associated with other negative concepts such as: a mysterious disease, witchcraft, tragedy, and an ancient curse. The third metaphor portrays AIDS as *a form of moral pollution or plague*. This metaphor is moral in nature, and a link is put between AIDS and homosexuals. AIDS and homosexuals are perceived as if they represent the same thing. Homosexuals are considered to be a disease by itself. The disease is seen as a moral harassment that threatens the existence of the homosexual community. The fourth metaphor is AIDS as *a killer*. AIDS is seen as a terrifying killer that has left a horrifying trail of destruction on its murderous path. It is a killer with human abilities and it is so frightening that people do not call the disease by its name. This metaphor shows the victory of the

disease, by emphasizing that it cannot be beaten. There are many metaphors for the damage that AIDS causes as well: metaphor of destruction (e.g. flesh and muscle melt from the bones of the sick), metaphor of horror (e.g. nightmare), metaphor of bleakness (e.g. the rest of society looks away). The fifth and last metaphor that was found in the corpus of TIME magazine shows AIDS as *a notion of decay*. This metaphor often uses monsters. According to this metaphor, a disease is caused by an alien which lodges itself in a healthy body and then turns it into an ill body. AIDS victims are seen as people who are nearly dead. Even though the revelation of these five metaphors proves that metaphors are often used to explain and portray AIDS, this study also endorses the possible downside of the use of metaphors to refer to illness as put forward by Sontag (1991) (see section 1.2.5.4).

Gilmore and Somerville (1994) also identified several metaphors for AIDS. They state that there are many different reactions to the disease. People therefore use different tools to express their reactions such as symbolism and metaphors. The following metaphors could be identified: AIDS as death; AIDS as punishment; AIDS as crime; AIDS as war; AIDS as otherness; AIDS as horror; and AIDS as villain.

### 1.2.7 The Influence of Culture on the Use of Metaphors

In the previous section several metaphors used for HIV/AIDS have been presented. An important question that arises is to which extent the various types of metaphors are used and comprehended by different culture groups, and what effects the usage of these metaphors have in these various culture groups. In short, what needs to be determined is whether the effects of the various types of metaphors are dependent on culture or universally applicable.

According to Kövecses (2005) universal as well as non-universal metaphors exist. Universal metaphors contain domains which carry the same meaning around the world. 'Affection' for instance, is universally conceptualized as warmth, rather than coldness. The reason for this is that affection is a universal bodily experience; when you give somebody a hug for example, you can feel the other person's body heat. Therefore, the metaphors that refer to 'affection' will often be universally used. However, Kövecses (2005, p. 3) states that many abstract domains are understood differently in different cultures. In some cultures for example, 'love' is conceptualized as a 'journey', while in other cultures 'love' is conceptualized as 'hunting' or 'flying a kite'. Emanatian (1996) supports the view that the same metaphors cannot always be used in different cultures. For example, geographical or meteorological features could lead to different source domains since some will only be available in certain cultures and not in others.

Since South Africa knows a large variety of ethnic groups, it is important to take possible cultural differences between these groups into account. These groups have different backgrounds, values, and languages. Besides, as indicated by Emanatian (1996) different culture groups might use different metaphors to communicate about HIV/AIDS. Because these differences in metaphor use could lead to different outcomes, it is important to make a distinction among these groups. In the present research project of which this thesis is a part, three main ethnic groups that reside in the Western Cape are distinguished: Afrikaans speaking white people, Xhosa people, and Colored people. This thesis will particularly focus on the Afrikaans speaking white population, while Olislagers and van Nistelrooij will focus on the Xhosa and the Colored population.

### **Afrikaans Speaking White Population**

According to Byrnes (1996) approximately three million South Africans identify themselves with the Afrikaans speaking white population. This group has Dutch, German, Belgian, and French roots. Most of them have Afrikaans, which is a language that is strongly related to the Dutch language, as a first language. Many people who belong to this group are members of the Dutch Reformed Church or other related protestant churches.

## **1.3 Research Questions**

The discussion in the previous sections leads to the following research questions:

*Under which conditions and to what extent does the use of various types of metaphors in written HIV/AIDS communication have an effect on attractiveness, understanding, and persuasiveness for Afrikaans speaking white high school students in South Africa?’*

*Under which conditions does the use of metaphors in written HIV/AIDS communication affect stigmatization among the Afrikaans speaking white high school students in South Africa?’*

This research has been carried out in collaboration with Olislagers and van Nistelrooij. Olislagers and van Nistelrooij conducted research among two different ethnic groups that greatly resembles this endeavor. In order to draw more extensive conclusions about metaphors in HIV/AIDS communication, the Afrikaans speaking whites, the Xhosa people, and the Coloreds will also be studied as a group. Two additional research questions are posed which also appear in the theses of Olislagers and van Nistelrooij.

*‘To what extent do ethnic group and text version affect the attractiveness, understanding, and persuasiveness of various types of metaphors in written HIV/AIDS communication?’*

*‘To what extent do ethnic group and text version affect stigmatization caused by the use of metaphors in written HIV/AIDS communication?’*

### **Expectations**

The main goal of this study is to explore whether or not metaphors can be useful tools to create effective HIV/AIDS communication for Afrikaans speaking whites and for South African youth of the Western Cape in South Africa. The answer to the first and third question will reveal the possible effects of metaphors in written HIV/AIDS communication. These effects are measured by three variables: ‘attractiveness’, ‘understanding’, and ‘persuasiveness’. The aim of the second and fourth question is to find out under which circumstances stigmatization is increased when metaphors are used in HIV/AIDS communication.

According to the theories that were presented in the previous sections, there are two different expectations with regard to the outcomes of this research; on the one hand the predictions based on the theory of Gentner and Bowdle (2001) and McGlone (2007), and on the other hand the predictions based on the conceptual metaphor theory by, for instance, Lakoff and Johnson (2003).

Both the theories of McGlone and Lakoff and Johnson state that in order for a metaphor to be effective, a conceptual mapping is needed between the source domain and the target domain. However, according to Gentner and Bowdle (2001) and McGlone (2007) this conceptual mapping (or 'indirect processing') is only achieved when completely novel metaphors are used. They state that familiar metaphors and conventional metaphors do not need this conceptual mapping in order to be understood and that these two types of metaphors are processed in the same way as a literal expression (or 'direct processing').

What needs to be taken into account is that the distinction made by McGlone (2007) between the different types of metaphors (familiar, conventional, and novel) differs considerably from the distinction made by Lakoff and Johnson (2003). McGlone rejects the conceptual metaphor theory put forward by Lakoff and Johnson, on the basis that no adequate distinction is made between the processing of familiar, conventional, and novel metaphors (section 1.2.5.3). According to McGlone (2007), very few metaphors can be classified as novel, which is a precondition for a conceptual mapping to occur. The more familiar a metaphor, the less likely it will have an effect on text evaluation. Therefore, in light of this theory it is to be expected that in very few cases metaphors in written HIV/AIDS communication will have an effect on the attractiveness, understanding, and persuasiveness. According to the conceptual metaphor theory, however, it is more likely that a metaphor is categorized as novel and this automatically increases the chance of finding effects of metaphors in written HIV/AIDS communication

This leads to diverging expectations for the present study: according to the theory proposed in Lakoff and Johnson (2003) the probability that effects will be found from metaphors as used in most public information health brochures is much higher than might be expected from the view taken in McGlone (2007).

## 2. METHODS

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### 2.1 Overview

As previously indicated, this thesis is part of a greater research carried out in collaboration with two other researchers (Olislagers and van Nistelrooij), with the aim of investigating whether the use of metaphors can enhance the effectiveness of HIV/AIDS communication in South Africa. To achieve this goal, the effects of metaphors were tested on three different ethnic groups; Afrikaans speaking whites, Coloreds, and Xhosas. This particular thesis reports the outcomes of Afrikaans speaking whites while an elaborate report on the Xhosa and the Colored group can be found in the theses of Olislagers and van Nistelrooij.

The aim of this research was to find out whether or not metaphors are an effective tool in HIV/AIDS communication. In order to satisfyingly reach this aim, three steps had to be taken. First, a corpus analysis was carried out, followed by a focus group discussion. These two steps were preparatory for the third step in the process, which consisted of an experiment. The outcomes of the corpus analysis and the focus group discussion were used to create well-considered materials for the experiment. Since the exact same type of research was carried out by Olislagers and van Nistelrooij, it was possible to carry out only one corpus analysis and one focus group discussion for all three ethnic groups to prepare for the experiment. The design of the experiment was also established in collaboration with Olislagers and van Nistelrooij. The corpus analysis and the focus group will be discussed in section 2.2 and 2.3. In section 2.4 the experiment among Afrikaans speaking whites is discussed.

### 2.2 Corpus Analysis

#### 2.2.1. Relevance

A corpus study reveals what people have previously done and which decisions they have made. In light of this research, a corpus study was conducted to get an overview on the extent to which health educators in South Africa use metaphors in written HIV/AIDS material. The outcomes of the corpus analysis were utilized in the second step; the focus group discussion.

#### 2.2.2 Material and Procedure

In order to get an idea about whether or not HIV/AIDS related metaphors occur in HIV/AIDS communication in South Africa, a total of 112 brochures on HIV/AIDS were analyzed (see appendix 7.1, p. 57). The brochures that were used were all different, but they all had the aim of educating people on HIV/AIDS. The brochures were collected from HIV/AIDS related institutions in Stellenbosch, South Africa, such as: the Clinic, the Center for AIDS Management, and the HIV-testing Center. In addition, an available collection of HIV/AIDS brochures that had been collected over the years by staff members of the Language Center of the University of Stellenbosch was used. The material that was used for the analysis had only been collected in the Southern areas of South Africa. The brochures

were released in a time period ranging from 1992 until 2006, except for one brochure which was published in 1986.

Every brochure was thoroughly read by all three researchers<sup>2</sup>. The metaphor-identification-method by Forceville, presented in section 1.2.4, was used to identify the different metaphors. Forceville's three questions were used to determine whether or not a verbal expression should be labelled a metaphor. The main aim of the questions was for each researcher to identify the source and target domains, and to find out which features of the source domain were projected on the target domain of the metaphor. The inter-rater reliability between the three researchers was checked by calculating Cohen's Kappa.

### 2.2.3 Cohen's Kappa

The 112 brochures were individually analyzed by the three researchers. After this independent analysis, the results were compared per couple. In order to measure the inter-rater reliability the same method was used as in Hornikx (2003, p. 213). In this case, the method involved three decisions: 'is a certain expression a metaphor?'; 'what is the source domain?'; and 'what is the target domain of the metaphor?'. The first decision identified which expression was a metaphor. The second and third decision was solely applicable for the metaphors that both researchers found. It discovered whether the researchers identified the same source and target domains. After the independent analyses had been carried out by the three researchers, the mean inter-rater reliabilities were calculated with Cohen's Kappa.

The Kappas concerning 'decision one' were calculated by making a file in which a '1' was given when the researcher had found a metaphor, and a '2' when the researcher had not found a metaphor. The findings of the researchers were compared to each other, and as can be seen in table 1, all the values were >.8, which indicates that the reliability per couple was very adequate (Neuendorf, 2002).

Table 1: Kappas Concerning Decision 1

comparisons	Kappa
Researcher1 * researcher2	.81
Researcher1 * researcher3	.89
Researcher2 * researcher3	.81
Average of three researchers 1,2,3	.84

For the cases in which the researchers identified the same expressions as metaphors, the 'second' and 'third decision' had to be made. The 'second decision' and the 'third decision' were made to find out to which extent the researchers specified the same source and target domain per metaphor. It appeared that among the three researchers twenty different kind of source domains and ten different target domains (table 2 and table 3) were discovered of which some occurred more than once.

<sup>2</sup> Researcher 1 is van Sambeek, researcher 2 is Olislagers, and researcher 3 is van Nistelrooij

Table 2: Target Domains

	Source Domains
1	Army
2	Attackers
3	Boxer
4	Bus of uninvited friends
5	Crazy killer
6	Defence force
7	Dragon
8	Enemy
9	Figures
10	Garbage men
11	Invaders
12	Killer cells
13	Monster
14	Person
15	Plan in the sand
16	Process of building a house
17	Shield
18	Soccer game
19	Soldier
20	War

Table 3: Source Domains

	Target Domains
1	AIDS
2	CD8
3	Condom
4	HIV
5	Immune system
6	Microphages
7	Process of a virus getting into a cell
8	Rules you live by
9	Viruses
10	White blood cells

The sources and targets that the three researchers specified per metaphor were compared. For each metaphor it was decided whether or not the researchers had identified the same source and target. Table 4 shows that all three Kappas for 'decision 2' and 'decision 3' were 1, implying that the researchers identified the exact same sources and targets for the metaphors that were found by both researchers.

Table 4: Kappas decision 2 and 3

Comparisons	Kappa (source)	Kappa (target)
Researcher1 * Researcher2	1	1
Researcher1 * Researcher3	1	1
Researcher2 * Researcher3	1	1
Average of three researchers 1,2,3	1	1

After Cohen's Kappas had been calculated, a session took place in which differences in outcomes for 'decision 1' between the researchers were discussed. Researcher 1 and Researcher 2 had seven cases in which only one of them had identified an expression as a metaphor. Researcher 1 and researcher 3 had four cases in which only one of them had identified an expression as a metaphor. Researcher 2 and researcher 3 had seven cases in which only one of them had identified an expression as a metaphor. Consensus was achieved on which expressions should be labelled as metaphors and which should not. It turned out that all the expressions that were termed as metaphors by the three researchers in the brochures were correctly termed as metaphors and that the differences between the researchers were solely due to the fact that one of the researchers had not noticed the metaphor. From the 112 brochures that were analyzed, ten contained one or more metaphors. A list of the metaphors that were found is presented in chapter three section 3.1. A frequency analysis revealed that some metaphors occurred more often in the brochures than others. These will also be described in section 3.1. There was one metaphor which occurred three times, and two metaphors which occurred two times. These three most frequently used metaphors appeared to be most popular to use in the brochures possibly implying that they might have been most effective. Therefore, these three metaphors were presented to and discussed with the participants of the focus group discussion, which was the next phase of the research.

## 2.3 Focus Group Discussion

### 2.3.1. Relevance

Besides identifying the metaphors used in existing HIV/AIDS material, it was also important to reveal the metaphors which are currently used in oral communication such as educational lectures on HIV/AIDS. The reason for this is that the metaphors that were used in the brochures might not be used in oral communication or might not be used at all. It is relevant to find out which metaphors are understood and appeal to the target group. In order to get a more detailed view on which metaphors occur in communication about HIV/AIDS, a focus group discussion was conducted. A focus group discussion is a method to get an idea of underlying attitudes, which in this case are the attitudes concerning metaphors in HIV/AIDS communication. The aim of the focus group discussion was to find the three most effective metaphors per ethnic group, so that these could be used to design the material for the experiment.

### 2.3.2 Participants

Kitzinger (1995) states that the ideal group size for a focus group discussion varies from four to eight participants. This allows them to interact with each other while still being small enough to increase the participants' 'sense of belonging to the group'. According to Puchta and Potter (2004) a group of eight participants allows the moderator to encourage introverted participants to interact and express their

opinions, and moderate (if necessary) the influence of the more dominant participants. Taking this into account, the group consisted of seven people. All these people were health workers at the HIV-testing Center in Stellenbosch, of which three were male and four were female. All ethnic groups were represented in the discussion; two men were Xhosa, one man and one woman were Afrikaans speaking white, and the other three women were Colored.

Health workers were chosen to participate in the discussion because it was expected that they would efficiently provide useful information on the use of metaphors in communication about HIV/AIDS. According to the manager of the HIV-testing Center in Stellenbosch, Mrs. Rademeyer- Bosman, the health workers were experienced in talking freely and openly about this topic, unlike many South Africans who consider HIV/AIDS a taboo topic. Additionally, health workers were chosen because it was likely that they would be able to indicate to which extent metaphors are being used when educating people on HIV/AIDS. Health workers often engage in dialogues with the people from different ethnic groups in the local communities, and therefore there is a considerable chance that they will have a good view on how people talk about HIV/AIDS and whether or not these people use and understand metaphors. Taking these advantages into consideration, it was reasonable to assume that the experienced health workers could provide three effective metaphors per ethnic group. Time wise it was not possible to also arrange focus group discussions among the different ethnic groups. But since this phase was only preparatory, it was decided that one focus group discussion among experts would be sufficient.

**2.3.3 Time and Location**

The focus group discussion took place at the HIV-testing Center in Stellenbosch on Friday the 24<sup>th</sup> of August, 2007. It was held in the morning during a regular meeting of the health workers, which is held once every two weeks. The focus group discussion lasted for 68 minutes. The tables in the room were set up in a so called u-shape (figure 2) so that everybody could see each other during the discussion.

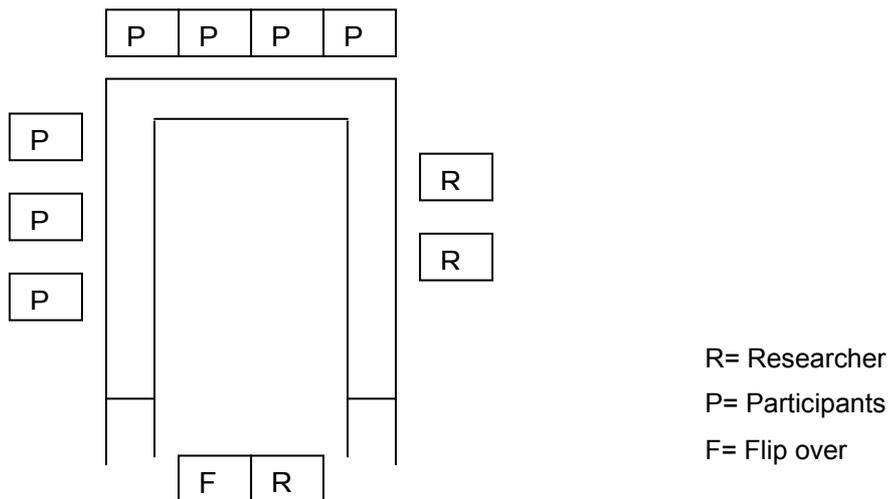


Figure 2: Table Set Up

**2.3.4 Tasks**

Before the session commenced, the three researchers designed a script (see appendix 7.3, p. 73). In order to make the researchers feel comfortable with their tasks and to test the method of research, a

pre-test session was conducted. Time wise it was not possible to carry out a pre-test among the target groups. Therefore, five international students of the University of Stellenbosch were asked to participate in this practise round in order to simulate a real focus group discussion. This pre-test session discovered two main problems that were immediately adjusted in the script. The first problem was that it seemed awkward to immediately start talking about metaphors and HIV. Therefore, it was decided to first have some small talk about the researchers and their home country when introducing themselves. This is because most people do not know much about the Netherlands, and more importantly, it can make the opening less uncomfortable by breaking the ice for the rest of the conversation. Another problem was that it seemed difficult for the participants to understand what a metaphor is and how it works. This problem was solved by explaining in more detail what a metaphor is, and by giving an example of a metaphor for the human body. In this example the human body was compared to a car.

In order to create a well organized session, each researcher had its own task. Researcher 3 was the moderator, researcher 2 was the assistant of the moderator and minutes secretary, and researcher 1 was the main minutes secretary and observed the discussion. The moderator made sure that all the essential information was collected within the available time frame and that the discussion stuck to the script. The minutes secretaries thoroughly documented the session. A voice recorder was used to record the session. This way the session could be replayed during the analysis. The researchers wrote an elaborate report on the session (see appendix 7.4, p. 77) of which a short overview is given in chapter three section 3.2.

### **2.3.5 Content of the Focus Group Discussion**

The focus group discussion started with an introduction of the researchers. Subsequently, the topic of the research and the aim of the focus group discussion were presented to the health workers. This introduction was necessary, so the health workers knew what was expected of them, hence they could start thinking about the subject and start initiating ideas. They were also encouraged to talk to each other rather than to address the moderator. After the introduction, the participants were asked to introduce themselves by telling something about their work and their experience. The moderator explained what the aim of the session was and how it was organized. This was followed by a conversation on the following subjects; the definition of a metaphor, examples of metaphors, the use of metaphors by health workers, and their opinion on most effective metaphors for high school students in the 8<sup>th</sup> to 11<sup>th</sup> grade.

The second step concerned the question whether metaphors could be effective for HIV/AIDS communication and if health workers had experienced positive or negative effects. Moreover, the participants were asked if they used different metaphors for different ethnic groups. Kitzinger (1995, p. 300) advises group exercises in order to encourage people to start a discussion on a certain topic. He states that a common exercise is to present the group with a series of statements on large cards. This method was used in the third step of the focus group discussion. In this step, the metaphors that had been revealed by the corpus analysis together with the metaphors that the participants had come up with themselves were presented on several cards. The participants were asked to collectively rank these cards from most effective to least effective metaphor. This had to be done for every ethnic group,

which eventually resulted in a top three of most effective metaphors per ethnic group. These top threes were discussed in order to reach consensus among the participants.

### 2.3.6 Outcomes

The outcomes of the focus group, which are discussed in chapter three section 3.2, were essential to design the material for the next phase of this research; the experiment. The top three of most effective metaphors that were revealed by the focus group participants was compared to the top three that was brought to light in the corpus analysis. Together, these outcomes were used to design metaphors that were integrated in the experiment.

## 2.4 Experiment

The experiment was the last phase of the research. This phase was done to reveal the effectiveness of metaphors in HIV/AIDS communication for high school students. In this section the method that was applied for the Afrikaans speaking whites will be covered. A similar research method was done for Xhosa and Colored high school students. For details on the structures of these two groups and for an elaborate report of the method, please refer to the theses of Olislagers and van Nistelrooij.

### 2.4.1 Material

The outcomes of both the focus group discussion and corpus analysis revealed various metaphors which might be useful in HIV/AIDS communication. Two examples of useful metaphors that were revealed are the *army metaphor* and the *fire station* metaphor. The *army metaphor* uses an army to explain the immune system. In this metaphor the soldiers of the army are compared to the white blood cells of the human body. The *fire station* metaphor uses a fire station to explain the immune system. In this metaphor fire fighters are compared to white blood cells. In order to test the effectiveness of these metaphors, educational texts which contained these metaphors were designed. The three researchers designed five versions in total; four texts which contained metaphors and one neutral text. All texts explained the immune system with regard to HIV. This subject was chosen because it is essential for people to know what the immune system is and the role that it plays when a person is infected by HIV. Moreover, the immune system is not easy to understand, and therefore, metaphors might be able to facilitate understanding this subject.

Four text versions were used per ethnic group; one neutral and three metaphorical texts. For the Afrikaans speaking whites, text A, B, D, and E were used (see appendix 7.7, p. 97). Text A was a neutral text in which no metaphors were used to explain the 'immune system and HIV'. Text B used the *army* metaphor in which the immune system was compared to an army. Text D used the *security system* metaphor to explain the immune system. Text E used the *fire station* metaphor to explain the immune system. All texts had the same content and were approximately the same length. Texts B, D, and E carried the same metaphorical weight, meaning that the number of metaphorical sentences was equal. Different metaphors were used, because this way these different metaphorical texts could be compared to the neutral version as well as to one another.

Comparing the metaphorical texts to one another made it possible to find out whether or not the possible effects were due to the use of metaphors in general, or due to a specific metaphor. A

questionnaire, which will be elaborated upon in section 2.4.4, was designed to measure the effectiveness of the various text versions (see appendix 7.6, p. 89). The texts and the questionnaire were both written in English. This language was chosen because, even though in South Africa many different languages are spoken, much public information is provided only in English.

### **Pre-test**

To ensure that the texts and the questionnaire satisfied the quality level required to conduct good research, two different pre-tests were held. One pre-test among experts and one among high school students (see appendix 7.5, p. 84).

#### Pre-test experts

The first pre-test was held among experts. First, the quality of the text was tested. Second, a manipulation check was done to find out whether the differences between the four metaphorical texts and the neutral text would be noticed. The two experts were both employees of the Language Center of the University of Stellenbosch, and had obtained a degree in Document Design. Both experts were asked to read all five text versions and to answer questions with regard to the quality of the texts. These questions concerned the understanding and readability of the text. Besides evaluating the understanding and readability, it was also important to find out if the content of the different texts were the same. Only the style of the texts was supposed to be different, not the content.

After they had read all texts, the experts had to indicate whether the texts were similar in meaning. For the manipulation check two questions were posed. The first question tried to discover if the difference in style between the metaphorical texts and neutral text was noticed. The central style dimension of this research is metaphorical language. Therefore, a second question was posed to reveal whether the neutral text and the texts with a metaphor differed in the use of metaphorical language. This method of pre-testing was based on Laanstra (2005).

#### Outcomes pre-test experts

Both experts indicated that the neutral text and the text with the *army* metaphor were easy to understand and easy to read. The paragraphing was short and the texts were clear. Concerning the texts that contained the *security system* and the *fire station* metaphors, a general comment was made that sometimes the distinction between reality and metaphor was vague. Both these metaphorical texts were thoroughly reread and revised. The distinction between the metaphorical language and reality was sharpened. Also, difficult words were replaced by simple words. Both experts indicated that all texts were reasonably similar in meaning. They also noticed that, although all texts conveyed the same message, they used different strategies to get the message across. The manipulation check showed that the experts affirmed that non-metaphorical language was used in text A (the neutral text). They all agreed that in text B, D, and E metaphorical language was used. This implies that the experts noticed that there was one neutral text and three metaphorical texts.

#### Pre-test target group

Because the target group of this research consisted of high school students, it was important to do an additional pre-test. It was relevant to know if high school students thought that the texts and questionnaire were of good quality and especially if they were clear and understandable for them. Five

high school students were asked to participate in this pre-test. Three students were Afrikaans speaking whites, one was Xhosa, and one was Colored. They all were requested to read one of the texts and then fill out the questionnaire. After that, they had to answer three questions about the texts. The first question tried to reveal if the text was understandable. If words or expressions were difficult to understand, the student was asked to indicate which aspects made it hard to understand. The second question was on language; 'Was the language easy to understand?'. If the student did not understand the language, she or he was asked to indicate why it was difficult. The last question was posed to find out if the text was clear, and if not, which part was not clear. The respondents were also asked to give their opinion about the questionnaire. They first had to indicate whether they understood the questions and the language that was used in the questionnaire. If they had not understood the language or the questions, they were asked to indicate what was difficult and why.

#### Outcomes pre-test target group

The evaluation of the text revealed that all students believed that the text was understandable and clear. Four students found the language in the text easy to understand. Only one indicated that some words were difficult to understand.

The evaluation of the questionnaire revealed that three students understood all the questions. Two students said that they understood most questions, but that there were some parts which were difficult. They all found the language in the questionnaire easy to understand. In order to determine which questions in the questionnaire might cause problems, a rule was set by the three researchers that all questions would be reconsidered if they had been answered with 'I don't know' on the Likert scale by at least three of the five students. For ten questions this rule seemed to apply. In total six of these ten questions had to be removed; they appeared to be too difficult and were impossible to revise. The following questions were left out: 'The writer of the text is dependable', 'The text is rational', 'The text is exaggerating', 'The text is appropriate', 'The text is preachy', and 'The text has a complaining tone'. It was possible to leave these questions out because there were plenty of other questions measuring the same variables. Three questions were revised. The question 'The writer talks to me in an informal way' was changed into: 'The writer talks to me in the same way as my family and friends would do'. The question 'The text makes the immune system more recognizable' was changed into: 'The text makes it easier to picture what the immune system is'. And lastly, the question 'I find the content of the text realistic' was changed into 'I think that the text is realistic'. One question was answered with 'I don't know' at least three times, but it was not possible to change it and could not be left out. This question was: 'In the text, the immune system is explained by using examples that make the immune system more concrete.'

#### 2.4.2 Respondents

First a description of the Afrikaans speaking white group will be elaborated upon, followed by a description of three ethnic groups living in the Western Cape.

##### **Afrikaans Speaking Whites**

This particular study was conducted among Afrikaans speaking whites. The respondents were students of the Stellenbosch High School who were in grade eight to eleven. In total 261 respondents participated, with an average age of 15.70 (SD=1.20). The grades these respondents were in were

evenly distributed, except that there were slightly more respondents who were in grade eleven compared to grades eight, nine, and ten. Fifty-eight students were in grade eight (22 per cent), 61 students were in grade nine (23 per cent), 59 students were in grade ten (23 per cent), and 83 students were in grade eleven (32 per cent). There were more female respondents (59 per cent) than male respondents (41 per cent). Ninety-eight per cent of the respondents indicated that their mother tongue was Afrikaans and two per cent indicated to speak English<sup>3</sup>.

### **South African Youth**

In order to get a more elaborate picture of the South African youth in the Western Cape, all the ethnic groups that had participated in this project were assembled in one database. In total 936 respondents participated, of which the average age was 16.27 (SD=1.78). There were 139 respondents who were in grade eight (15 per cent), 171 who were in grade nine (18 per cent), 301 who were in grade ten (32 per cent), and 325 who were in grade eleven (35 per cent). In total 524 respondents were female (56 per cent) and 405 were male (44 per cent). Six-hundred-and-fifteen respondents spoke Afrikaans (66 per cent), 286 spoke isiXhosa (31 per cent), 25 spoke English (3 per cent), and eight indicated that they spoke a different language (1 per cent). The ethnic group that was most largely represented was the Colored group: 369 respondents (40 per cent), followed by the Xhosas: 285 respondents (31 per cent), the Afrikaans speaking whites: 261 respondents (28 per cent), and lastly the group that is referred to as 'other': 18 (2 per cent).

#### **2.4.3 Design**

It was decided to use a within-group-design for this research. The respondents would receive a text with a metaphorical model as well as the neutral text. Half of the respondents would receive the neutral text first, and the other half would start with one of the metaphorical texts. The respondents had to read one text and answer questions about this version. After the first text had been read and the questionnaire had been completed and handed in, a second text would be presented together with a second questionnaire.

However, in practice it appeared that this within-group-design was not appropriate. During the first data collection session, the design immediately turned out to be too difficult for research among high school students. It was too much to read for the students and they were incapable of concentrating for a long time. The level of discipline among the students in the classrooms was not good enough to concentrate on reading two texts and filling out two questionnaires which accounted to 122 questions in total. The design of the research was immediately changed into a between-group-design because a within-group-design would only lower the quality of the results. The respondents only had to read one text and fill out one questionnaire. It was noticed that for some students even this was a tough task to complete. Of the Afrikaans speaking whites 49 respondents read text A (19 per cent), 51 read text B (20 per cent), 55 read text D (21 per cent), and 59 read text E (23 per cent). Of the South African youth (all ethnic groups together) 217 respondents read text A (28.22 per cent), 174 read text B (22.63 per cent), 177 read text E (23.02 per cent).

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<sup>3</sup> Even though two per cent of the respondents indicated to speak English instead of Afrikaans, the ethnic group will still be referred to as Afrikaans speaking white.

In order to see to which extent high school students stigmatize people that are living with HIV/AIDS, additional respondents were needed to solely measure stigma (will be referred to as 'stigma no text'). These students did not have to read a text, but only fill out questions measuring stigma. Of the Afrikaans speaking whites 47 students filled out a questionnaire to measure 'stigma no text' (18 per cent). Of the South African youth in the Western Cape 201 students filled out a questionnaire to measure 'stigma no text' (26.13 per cent).

#### **2.4.4 Instrumentation**

This section will cover in detail which variables were measured and how these variables were operationalized.

##### **2.4.4.1 Independent Variables**

The *independent* variables were 'text version', 'ethnic group', 'high school grade', 'age', 'gender', and 'mother tongue'. All these variables were measured by asking the high school students to fill out a questionnaire. This questionnaire commenced with questions about the independent variables. The respondent's level of education (grade) was revealed by presenting a semantic differential existing of grades eight until eleven. Subsequently, the respondents were asked to write down their exact age and indicate whether they were female or male. Even though in South Africa many different languages are spoken, much public information is only provided in English. This might influence, for instance, the understanding of the information in a text, since for many people English is not their mother tongue. Therefore, they were asked to indicate which language they spoke at home. The last question referred to the ethnicity of the respondents. This was measured by directly asking them what their ethnic background was.

Taking into account that the target group of the research consisted of high school students, it was decided to use five point Likert scales throughout the questionnaire to facilitate the measurement of the *dependent* and *independent* variables. The values of this five point scale varied from totally disagree (1) to totally agree (5). This implies that the higher the score, the more the student agreed with a certain statement. These five point scales were chosen because it is less complicated to choose from five possible answers than from, for example, seven answers.

The section below describes the *dependent* variables that were researched. Also 'metaphor recognition' and 'perception of realism' are covered. In section 2.4.6.1. the internal consistency of the various scales will be presented.

##### **2.4.4.2 Dependent Variables**

###### **Attractiveness**

The variable 'attractiveness' in this research was operationalized in a similar way as in Laanstra (2005) (see figure 3). Attractiveness was operationalized by subdividing this variable into 'interest in the text' and 'judgement of the text'.

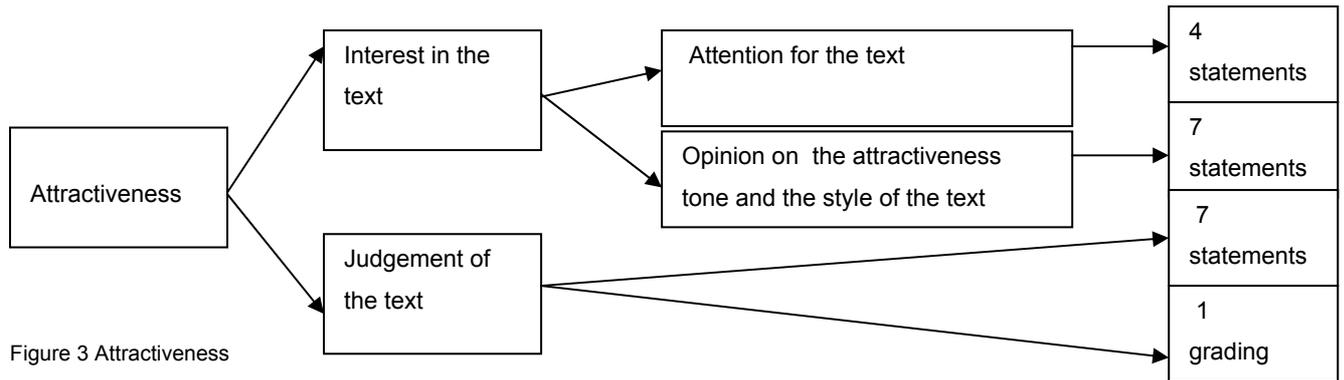


Figure 3 Attractiveness

### Interest in the text

Interest in the text was measured with a combined item variable. It distinguished two terms: ‘attention for the text’ and ‘opinion on the attractiveness of the tone and style in the text’. ‘Attention for the text’ was operationalized by posing questions about four statements. The first question measured to what extent the text gave enough incentives to read it. The second and third question revealed the motivation to finish reading the text. The last question was posed to find out if the respondent would be motivated to read the text on his/her own initiative. Seven questions were presented to measure the ‘attractiveness of the tone and the style in the text’. The questions tried to reveal: if the writer had used direct language; if the writer had used informal language; if the writer had used language which was perceived as easy-going; if the writer had used lively language; the quality of the text; the extent to which the text was interesting; and the likeability of the style of the text.

### Judgement of the text

The judgement of the text was measured by using a combined item variable and by asking the respondents to give a mark to the texts. Seven questions were designed to measure the judgement of the attractiveness of the texts. All questions were retrieved from the research of Laanstra (2005). The first five questions measured: dullness; liveliness; formalness; seriousness; and to which extent the reader agreed with what had been said in the text. The next two questions measured the attractiveness of the language and the suitability of the language in the text for HIV/AIDS documentation. The last question tried to discover what mark the respondents would give the text. This mark varied from 1 to 10 (in which 1 is very low and 10 is very high). This indicates that this question was not measured on a five point Likert scale, but on a ten point scale.

As explained above, ‘attractiveness’ is measured by asking the respondents to evaluate 18 statements regarding the text and by giving a mark to the texts. Because the ‘mark for the text’ is measured on a different scale than the statements, the results regarding the 18 statements and the average mark will be discussed separately in chapter three, section 3.3.

### Understanding

The variable ‘understanding’ was measured by using the same six questions as in Laanstra (2005). The first four questions were posed to reveal the text’s clearness, conciseness, readability, and to which extent the high school students thought that she or he had understood the text. The next two questions were based on Hoeken (1998). The first question was on the use of illustrative and concrete

language in the text. It tried to reveal to which extent the reader thought that the language in the text facilitated the understanding of difficult subjects. The second question referred to the use of clear language in the text.

### **Persuasiveness**

According to Aristotle, persuading someone means that the receiver thinks your ideas are valid. In order to reach this goal, three categories need to be addressed: *pathos*, *logos*, and *ethos*. In this research, the persuasiveness of the text was measured by posing 18 questions based on Feltham (1994), and Ohanian (1990) (as cited in Bruner, Hensel, & James, 2005).

The first nine questions measured the *ethos* of the text. According to Hoeken (1998) the credibility of the source, or *ethos*, partly determines the persuasiveness of a text. The *ethos* of a text refers to the credibility of the sender of the text and was measured by looking at the trustworthiness and reliability, and by looking at the expertise of the sender. The first four questions measured the trustworthiness and reliability by asking questions about the believability; the credibility; the trustworthiness; and the reliability of the writer of text. The last five questions measured the expertise of the writer by measuring whether or not the sender was: an expert; experienced; knowledgeable; qualified; and skilled.

The next three questions measured the *logos* of the texts. The *logos* of a text is the appeal based on logic and reason. These three questions measured to which extent the text was: informative; dealing with facts; and logical.

The last six questions that measured persuasiveness dealt with the *pathos* or the emotion that the text initiates. It measured to what extent: the text affected the respondent's feelings; the respondent was emotionally touched by the text; the respondent was given new ideas by the text; the text reached out to the respondent; the respondent found the text inspiring; the respondent found the text exciting.

### **Stigma**

The next variable that will be operationalized is 'stigma'. Six questions which are based on Plaat (2005) were designed in order to measure what influence the various text versions had on stigma. The first two questions were posed to reveal if after reading the text the respondent was less likely to hug and share his or her water bottle with an HIV-infected person. The third and fourth question discovered whether, after reading the text, the respondent would be less likely to shake the hand of a person who is HIV positive and would want to avoid an HIV-infected person. The fifth question measured whether the text made the respondent feel that HIV-infected people had done something wrong. The last question was posed to find out whether or not the text made the respondent think that he or she would feel ashamed if he or she was infected with HIV.

A measurement of stigma was done, for which no text had to be read (see section 2.4.3). This was done to reveal the stigma that is already attached to HIV/AIDS and is referred to as 'stigma no text'. The six questions that were posed to measure 'stigma no text' were the same as the ones in the previous paragraph only this time 'after reading the text' was left out. This measurement enabled to compare stigma after having read one of the texts, to stigma that is already attached to HIV/AIDS.

### **Metaphor Recognition**

In this research it was important to measure whether the respondents recognized the metaphors in the different text versions. If the expressions were not recognized as metaphors then this would indicate that the manipulation had failed and this would imply that possible differences between the texts might not be due to metaphorical language. Five questions were presented to measure the recognition of metaphors. The first question tried to reveal whether the reader recognized that the features of the source domain were mapped upon the target domain. The second question tried to find out to which extent the text made the target domain more concrete. The third question tried to discover whether the text made the target domain more recognizable. The fourth question was posed to determine the use of lively language. The last question tried to reveal if the information in the text was presented in a simple way.

### **Perception of Realism**

It is relevant to measure if respondents think that the texts that are presented to them are realistic. The extent to which the reader thinks that the text is realistic will influence how serious the text will be taken and how the respondents will evaluate the text. The standard of realism of the texts was measured by letting the respondents rate the statement 'I think that the text is realistic' and the statement 'I think that the text is common'. Both statements were retrieved from Jansen, Croonen, and de Stadler (2005).

#### **2.4.5. Procedure**

The Stellenbosch High School agreed on handing out the questionnaires during classes of the students. The three researchers started by introducing themselves followed by an explanation of what was expected from the students. It was said that they should first thoroughly read the text on the first page and then fill out the questionnaire. After this introduction, the questionnaires were handed out. The researchers stayed in the classroom in case there were any questions and to observe the procedure. The whole process took approximately 20 minutes per class. Most sessions went smoothly. However, in some classrooms the students were noisy or students came in late which disturbed the others.

#### **2.4.6 Analyses**

In order to provide the answers to the research questions, all the data were entered into SPSS. Before any analyses could be done, there were two questions that needed to be reversed (5=1, 4=2, 3=3, 2=4, and 1=5). These questions were attin32, attjudge41 (see appendix 7.6, p. 89). Additionally, the internal consistency had to be determined which is discussed in section 2.4.6.1. After these two things were done, the analyses leading to the answers to the research questions could be carried out. A brief overview of the analyses is presented in 2.4.6.2.

##### **2.4.6.1 Internal Consistency**

In this section the internal consistency will be discussed. The internal consistency determined to which extent the various questions measured the same variable by calculating Cronbach's Alpha (van Wijk, 2000, p. 217). The Cronbach's Alphas of the Afrikaans speaking whites will be discussed first, followed by the Cronbach's Alphas of the South African youth of the Western Cape. Table 5 provides an overview of what meaning can be attributed to the Alphas.

Table 5: Evaluation of Cronbach's Alpha (van Wijk 2000)

Value	Qualification	Decision
>.80	Good	Analyze and report scale scores
.70-.80	Adequate	Analyze and report scale scores
.60-.70	Moderate	Analyze scale scores, provided that is separately motivated
<.60	Insufficient	Analyze and report item scores

#### Reliability for the Afrikaans Speaking Whites

The reliability for the combined scales was calculated for the Afrikaans speaking whites. The following variables were checked upon internal consistency: 'understanding', 'persuasiveness', 'attractiveness', 'stigma', 'metaphor recognition', 'stigma no text', and 'realism'. The scale that measured 'understanding' was adequate with a Cronbach's Alpha of .79. 'Persuasiveness' (.83) and 'attractiveness' (.89) both appeared to be good. 'Stigma' (.72), 'metaphor recognition' (.76), and 'stigma no text' (.79) appeared to be adequate. The only variable which not seemed to be consistent was 'realism'. This variable was measured by two questions and had a low Cronbach's Alpha (.17).

#### Reliability for South African Youth

The reliability for the combined scales was calculated for the respondents of all ethnic groups who had read text A, B, and E. The following variables were checked upon internal consistency: 'understanding', 'persuasiveness', 'attractiveness', 'stigma', 'metaphor recognition', 'stigma no text', and 'realism'. The scale that measured 'understanding' was adequate with a Cronbach's Alpha of .77. 'Persuasiveness' (.83) and 'attractiveness' (.83) both appeared to be good. 'Stigma' (.75), 'metaphor recognition' (.78), and 'stigma no text' (.72) appeared to be adequate. The only variable which did not turn out to be consistent was 'realism'. This variable was measured by two questions. These two questions were not consistent with each other with a low Cronbach's Alpha of .14.

Because the Cronbach's Alphas of the two items that measured the variable 'realism' were poor, it was not possible to combine the two items into one group. It was decided to solely use the item that most directly measured the perception of realism. The item 'I think that the text is realistic' was therefore used to measure this variable, while the item 'I think that the text is common' was left out. Another motivation to leave out the item 'I think this text is common' instead of 'I think that the text is realistic', is because 'common' could also have been interpreted as 'vulgar'.

#### 2.4.6.2 Correlations and Analyses of Variance

In this research two types of analyses were done; Pearson's Correlation Analyses and Analyses of Variance. Pearson's Correlation coefficients were calculated to see to which extent the perception of realism cohered with the dependent variables 'attractiveness', 'understanding', 'persuasiveness', and 'metaphor recognition'. Pearson's Correlation coefficient 'r' measures the linear relationship between two variables (McClave, 2003, p. 306).

In order to be able to answer the four research questions, Multivariate Analyses of Covariance (MANCOVA) and Univariate Analyses of Variance (ANOVA) were conducted. MANCOVA is a Multivariate procedure in which group differences are assessed on more than one metric variable which includes metric variables as covariates. ANOVA is a Univariate procedure in which group

differences are assessed on a single metric variable. The MANCOVA and the ANOVA enabled that the various text versions and different ethnic groups could be compared on the dependent variables: 'metaphor recognition', 'perception of realism', 'attractiveness', 'average mark', 'understanding', 'persuasiveness', and 'stigma' (Hair, Black, Babin, Anderson, & Tatham, 2006).

## 3. RESULTS

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### 3.1 Corpus Analysis

In this section the results of the corpus analysis are presented. First, a short overview of the metaphors that were found is given, followed by a brief discussion of the metaphors that occurred most frequently.

In table 6 an overview is presented of the metaphors that were identified in collaboration with Olislagers and van Nistelrooij.

Table 6: Metaphors Per Brochure

Brochure	Metaphors
1. Brochure: Battles in blood....HIV & the immune system	<ul style="list-style-type: none"> <li>○ defence force is used to describe the immune system</li> <li>○ invaders are used to describe HIV</li> <li>○ army is used to describe the blood cells of our immune system</li> <li>○ killer t-cells are used to describe CD8-cells</li> <li>○ garbage man is used to describe macrophages</li> <li>○ war is used to describe HIV in the blood</li> </ul>
2. Brochure: Brenda het 'n drakie in haar bloed	<ul style="list-style-type: none"> <li>○ dragon is used to describe HIV</li> <li>○ soldiers are used to describe white blood cells</li> </ul>
3. Brochure: Ubangani	<ul style="list-style-type: none"> <li>○ boxer is used to describe white blood cells</li> <li>○ monster is used to describe HIV</li> </ul>
4. Brochure: Thethanathi	<ul style="list-style-type: none"> <li>○ one crazy killer is used to describe this disease (HIV/AIDS)</li> </ul>
5. Brochure: Soul City: Living with HIV	<ul style="list-style-type: none"> <li>○ army is used to describe the immune system</li> </ul>
6. Brochure: Positive Health Metropolitan	<ul style="list-style-type: none"> <li>○ person is used to describe virus</li> </ul>
7. Brochure: Soul City: This is my life	<ul style="list-style-type: none"> <li>○ boxer is used to describe HIV</li> <li>○ shield is used to describe condom</li> <li>○ boxer is used to describe AIDS</li> </ul>

- 
- |                                |   |
|--------------------------------|---|
| 8. Brochure: Play it safe      | <ul style="list-style-type: none"> <li>○ soccer game is used to describe your life</li> </ul>   |
| 9. Brochure: How 2b AIDS aware | <ul style="list-style-type: none"> <li>○ bus full of uninvited friends is used to describe AIDS</li> <li>○ process of building a house is used to describe the process of a virus getting into a cell</li> <li>○ army is used to describe white blood cells</li> <li>○ plan drawn in the sand is used to describe viruses</li> <li>○ figures are used to describe viruses</li> <li>○ figures are used to describe a cell</li> </ul> |
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In total 26 metaphors were found in ten different brochures (see appendix 7.2, p. 67). From the 112 analyzed brochures nine per cent contained one or more metaphors. Metaphors which used 'army', 'boxer', and 'soldier' to explain an HIV/AIDS related topic occurred most often. 'Army' and 'boxer' occurred three times, and 'soldier' occurred two times. These three metaphors were presented to the participants of the focus group discussion.

### 3.2 Focus Group Discussion

This section provides an overview of the most important results of the focus group discussion. Since the focus group discussion was carried out as preparation for the experiment, only the results that were used in the experiment will be discussed. A more elaborate report of the topics that were discussed during the focus group discussion can be found in the section 7.4 of the appendix (p. 77). The main goal of the focus group discussion was for the participating health workers to make a top three of the metaphors which they thought were the most effective for students in 8<sup>th</sup> to 11<sup>th</sup> grade for Afrikaans speaking whites, Xhosas, and Coloreds.

The participants in the focus group were asked to name the metaphors that they used when educating young people about HIV/AIDS. During a brainstorm session, several metaphors were identified by the focus group which were not found in the corpus analysis. All of these metaphors are presented in table 7. These metaphors were identified as most effective, however in this phase, the novelty of the metaphors was not taken into account.

Table 7: Source Domains and Target Domains of the Focus Group

Source Domains	Target Domains
Fire station	Immune system
Security system in a house	Immune system
Police men	Condom and immune system
Eating sweets with wrappers on	Safe sex
Jacket	Condom
Umbrella	Condom
Missing a match	Having a period
Someone's blood is dead	Being HIV positive

After these metaphors were identified and written down, the metaphors that occurred most frequently in the corpus analysis were presented to the health workers. The health workers were asked to make a top three of which they thought were the most effective metaphors for high school students in 8<sup>th</sup> to 11<sup>th</sup> grade per ethnic group. They were asked to choose from the metaphors they had just come up with together with the metaphors from the corpus analysis. Before this was done, two important points were put forward by the group. The first aspect they pointed out is that the *soldier* and the *army* metaphor are in fact identical: they both draw upon the concept of *war*. Secondly, the health workers shared the opinion that there was no difference in the use of metaphors between the Colored South Africans and the Afrikaans speaking white South Africans. This implicates that in their view the top three for these two ethnic groups is identical. The top three of most effective metaphors for Xhosas were: '*army/soldier*' to explain the immune system, '*boxer*' to explain the immune system, and '*fire station*' to explain the immune system. The top three of most effective metaphors for Afrikaans speaking whites and Coloreds were: '*army/soldier*' to explain the immune system, '*security system*' to explain the immune system, and '*policemen*' to explain the immune system.

When the health workers were asked whether the use of metaphors could lead to specific feelings, associations or emotions, one participant indicated that it could lead to stigmatization of the people who are living with HIV/AIDS. This stigmatization could occur when the metaphor leads to wrong names and associations with regard to HIV/AIDS. These associations will be attributed to the people who are living with the disease. The health worker illustrated this with the 'dead blood' metaphor. This metaphor indicates that an HIV-infected person has dead blood. The health worker explained that this metaphor should never be used, because it has negative associations that will be mapped upon people living with HIV/AIDS. Another important suggestion that followed from the discussion was to always guarantee understanding of the metaphors by the reader in order to prevent misperceptions. This is especially an issue among low literates.

### 3.3 Experiment

In this chapter the results of the experiment are presented. The variables measuring 'metaphor recognition', 'perception of realism', 'attractiveness', 'understanding', 'persuasiveness', and 'stigma', will be covered. In section 3.3.1 the results for the Afrikaans speaking white high school students are discussed. In section 3.3.2 the results are presented of three ethnic groups in South Africa: Afrikaans speaking whites, Xhosas, and Coloreds.

### 3.3.1 Afrikaans Speaking Whites

In this section, the results of the analyses carried out for the Afrikaans speaking whites are presented. First, the perception of realism is described. Second, the Multivariate Analyses of Variance are covered with the *independent* variable 'text version' and the *dependent* variables 'metaphor recognition', 'attractiveness', 'average mark', 'understanding', and 'persuasiveness'. Third, the Univariate Analyses of Variance measuring 'stigma' are described.

#### 3.3.1.1 Perception of Realism

##### The Correlation of Perception of Realism on the Dependent Variables

The item measuring the 'perception of realism' examined whether the respondents perceived the text they had just read as realistic. In order to find out whether or not the perception of realism had influenced the answers on the questionnaire, Pearson's Correlation coefficients between 'realism' and the variables 'metaphor recognition', 'attractiveness', 'average mark', 'understanding', and 'persuasiveness' were calculated. The outcomes are presented in table 8.

Table 8: Pearson's Correlations Between Realism and Dependent Variables

Dependent Variables	r
Metaphor recognition	.48**
Attractiveness	.42**
Average mark	.16**
Understanding	.13
Persuasiveness	.28**

\*=p<.05 and \*\*=p<.01

Since the correlations between 'realism' and the dependent variables 'metaphor recognition', 'attractiveness', 'average mark', and 'persuasiveness', were significant, it was reasonable to assume that the perception of realism could have played a role in the evaluation of the effectiveness (attractiveness, understanding, and persuasiveness) of the texts. Therefore, 'realism' was taken as a covariate in the Multivariate Analyses of Variance which are described below.

#### 3.3.1.2 Multivariate Analyses

##### Effect of text version on the dependent variables

A Multivariate Analysis of Covariance was done with the independent variable 'text version', the dependent variables 'metaphor recognition' (M=3.76, SD=.60), 'attractiveness' (M=3.45, SD=.63), 'average mark' (M=7.15, SD=1.63), 'understanding' (M=4.1, SD=.58), 'persuasiveness' (M=3.36, SD=.47), and with the covariate 'realism' (M=3.86, SD=.88). The analysis showed that there was a significant overall effect of 'text version' ( $F(3, 183)=2.68, p<.01, \eta^2=.07$ ). A significant main effect occurred for the variable 'text version' on the variable 'metaphor recognition' ( $F(3, 183)=4.84, p<.01, \eta^2=.08$ ). A Bonferroni post hoc test showed that text A (M=3.63, SD=.62) scored lower on metaphor recognition than text B (M=3.76, SD=.5)  $p<.05$ . Text A also scored lower than text D (M=3.84, SD=.63)  $p<.01$ . And lastly, text A scored lower than text E (M=3.8, SD=.61)  $p<.05$ . Text D did not differ from B or E. Additionally, no differences were found for 'metaphor recognition' between texts B and E.

A second significant main effect was found for the variable 'text version' on the variable 'average mark' ( $F(3, 183)=3.89, p<.05, \eta^2=.06$ ). A Bonferroni post hoc test revealed that text D ( $M=7.64, SD=1.72$ ) received a significantly higher mark than text E ( $M=6.68, SD=1.76$ )  $p<.05$ . Text A did not differ from B, D or E. Additionally, no differences were found for the average mark between text B and D and between B and E. There was also a significant effect of the covariate 'realism' ( $F(1, 183)=15.77, p<.001, \eta^2=.31$ ).

No significant main effects occurred for the variable 'text version' on the variables 'attractiveness' ( $F(3, 193)=1.39, p=.25, \eta^2=.02$ ) and 'persuasiveness' ( $F(3, 195)=1.6, p=.192, \eta^2=.03$ ). According to Cohen (1992) the power of a test is considered to be adequate if it exceeds .80. A materially smaller value than .80 would incur too great a risk of a Type II error, leading to the rejection of a hypothesis when in fact it should have been accepted. Therefore, in this research .80 will be regarded as a standard for adequacy. Cohen's power analyses for the main effects of 'attractiveness' and 'persuasiveness' showed that if in reality the effect of the independent variable on the dependent variables would be *large* or *medium*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate ( $ES=.40, power>.995$ ; and  $ES=.25, power>.995$ ). This implies that it is unlikely that in reality there is a *large* or *medium* effect of metaphors on the attractiveness and persuasiveness of a text for a target group such as in this study. The power was not adequate, however, to detect a possible *small* effect which might occur in reality ( $ES=.10, power=.61$ ). This implies that there is a chance that in reality there is a small effect of metaphors that was not detected here, on the attractiveness and persuasiveness of a text for a target group such as in this study (for definitions of *large*, *medium* and *small* effect sizes, see Cohen, 1988).

No significant main effect occurred for the variable 'text version' on the variable 'understanding' ( $F(3, 200)=.70, p=.56, \eta^2=.01$ ). Cohen's power analyses for the main effect of 'understanding' showed that if in reality the effect of the independent variable on the dependent variable would be *large* or *medium*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate ( $ES=.40, power>.995$ ; and  $ES=.25, power>.995$ ). This implies that it is unlikely that in reality there is a *large* or *medium* effect of metaphors on the understanding of a text for a target group such as in this study. The power was not adequate, however, to detect a possible *small* effect which might occur in reality ( $ES=.10, power=.66$ ). This implies that there is a chance that in reality there is a small effect of metaphors that was not detected here, on the understanding of a text for a target group such as in this study.

### 3.3.1.3 Univariate Analyses

#### Effect of Text Version on Stigma

A Univariate Analysis of Variance was carried out to find possible differences between the stigma after having read text A, B, D, E, and the stigma that was identified without having read a text (also referred to as 'stigma no text'). In this way, conclusions could be drawn about whether stigma around HIV/AIDS would be enlarged by any of the texts. The dependent variable of the analysis was 'stigma' and the independent variable was 'text version'. The average mean of 'stigma' was 2.45 ( $SD=.79$ ). No significant main effect was found ( $F(4, 252)=1.04, p=.39, \eta^2=.17$ ). Cohen's power analyses for the main effect of 'stigma' showed that if in reality the effect of the independent variable on the dependent

variable would be *large* or *medium*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate (ES=.40,  $power > .995$ ; and ES=.25,  $power > .995$ ). This implies that it is unlikely that in reality there is a *large* or *medium* effect of metaphors on the stigmatizing effects of a text for a target group such as in this study. The power was not adequate, however, to detect a possible *small* effect which might occur in reality (ES=.10,  $power = .77$ ). This implies that there is a chance that in reality there is a small effect of metaphors that was not detected here, on the stigmatizing effects of a text for a target group such as in this study.

### 3.3.2 Afrikaans Speaking Whites, Coloreds, and Xhosas

In this section the results of the analyses for three different ethnic groups that reside in the Western Cape (Coloreds, Xhosas, and Afrikaans speaking whites) are presented. The analyses were carried out to find possible differences between the ethnic groups and to make conclusions about South African youth in the Western Cape. The analyses were carried out in collaboration with Olislagers and van Nistelrooij. Text D was excluded from the analyses because the Xhosa respondents had not read that text. Text A, B, E, and 'stigma no text' could be used in these analyses.

#### 3.3.2.1 Perception of Realism

##### The Correlation of Perception of Realism on the Dependent Variables

In order to find out whether or not the perception of realism had influenced the answers on the questionnaire, Pearson's Correlation coefficients between 'realism' and the variables 'metaphor recognition', 'attractiveness', 'average mark', 'understanding', and 'persuasiveness' were calculated. The outcomes are presented in table 9. Since the correlations between 'realism' and the dependent variables 'metaphor recognition', 'attractiveness', 'average mark', understanding, and 'persuasiveness', were significant, it was reasonable to assume that the perception of realism could have played a role in the evaluation of the effectiveness (attractiveness, understanding, and persuasiveness) of the texts. Therefore, 'realism' was taken as a covariate in the Multivariate Analyses of Variance which are described in section 3.3.2.2.

Table 9: Correlations Between Realism and Dependent Variables

Dependent variables	R
Metaphor recognition	.48**
Attractiveness	.37**
Average mark	.17**
Understanding	.25**
Persuasiveness	.32**

\*= $p < .05$  and \*\*= $p < .01$

#### 3.3.2.2 Multivariate Analyses

##### Effect of Text Version and Ethnic Group on the Dependent Variables

A Multivariate Analysis of Covariance was done with the independent variables 'text version' and 'ethnic group', and with the dependent variables 'metaphor recognition' (M=3.82, SD=.63), 'attractiveness' (M=3.71, SD=.61), 'average mark' (M=7.81, SD=1.85), 'understanding' (M=3.99, SD=.65), 'persuasiveness' (M=3.55, SD=.48), and with the covariate 'realism' (M=3.82, SD=.94). This

analysis showed that there was no significant overall effect of 'text version' ( $F(2, 568)=1.12, p=.35, \eta^2=.01$ ). Cohen's power analyses for the overall effect of 'text version' showed that if in reality the effect of the independent variable on the dependent variables would be *large* or *medium* or *small*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate ( $ES=.40, power>.995$ ;  $ES=.25, power>.995$ ; and  $ES=.10, power=.95$ ). This implies that it is unlikely that in reality there is a *large* or *medium* or *small* effect of metaphors on text version for a target group such as in this study.

A significant overall effect of 'ethnic group' ( $F(3, 565)=9.94, p<.001, \eta^2=.10$ ) was found. There was a significant main effect of 'ethnic group' on 'metaphor recognition' ( $F(3, 538)=3.51, p<.05, \eta^2=.02$ ). A Bonferroni post hoc test showed that Xhosas ( $M=3.92, SD=.63$ ) scored higher than Afrikaans speaking whites ( $M=3.72, SD=.58$ )  $p<.05$ . Xhosas did not differ from Coloreds ( $M=3.86, SD=.61$ ). Additionally, no differences were found for 'metaphor recognition' between Afrikaans speaking whites and Coloreds. A main effect was also found for 'ethnic group' on 'attractiveness' ( $F(3, 518)=30.35, p<.001, \eta^2=.17$ ). A Bonferroni post hoc test showed that Xhosas ( $M=3.95, SD=.5$ ) scored higher on 'attractiveness' than Afrikaans speaking whites ( $M=3.38, SD=.64$ )  $p<.001$ . Coloreds ( $M=3.82, SD=.54$ ) also scored higher than Afrikaans speaking whites  $p<.001$ . No differences were found for 'attractiveness' between Xhosas and Coloreds.

A significant main effect was found for 'ethnic group' on 'average mark' ( $F(3, 542)=18.51, p<.001, \eta^2=.11$ ). A Bonferroni post hoc test showed that Xhosas ( $M=8.38, SD=1.81$ ) gave higher marks than Afrikaans speaking whites ( $M=6.93, SD=1.61$ )  $p<.001$ . Coloreds ( $M=7.9, SD=1.84$ ) also gave higher marks than Afrikaans speaking whites  $p<.001$ . No difference was found for 'average mark' between Xhosas and Coloreds.

No main effect occurred for the variable 'ethnic group' on 'understanding' ( $F(3, 544)=2.19, p=.09, \eta^2=.02$ ). Cohen's power analyses for the main effect of 'understanding' showed that if in reality the effect of the independent variable on the dependent variable would be *large* or *medium* or *small*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate ( $ES=.40, power>.995$ ;  $ES=.25, power>.995$ ; and  $ES=.10, power=.95$ ). This implies that it is unlikely that in reality there is a *large* or *medium* or *small* effect of ethnic group on understanding of a text for a target group such as in this study.

The last main effect was the significant effect of 'ethnic group' on 'persuasiveness' ( $F(3, 526)=21.17, p<.001, \eta^2=.13$ ). A Bonferroni post hoc test showed that Xhosas ( $M=3.67, SD=.46$ ) scored higher on persuasiveness than Afrikaans speaking whites ( $M=3.31, SD=.44$ )  $p<.001$ . Coloreds ( $M=3.64, SD=.46$ ) also scored higher than Afrikaans speaking whites  $p<.001$ . No difference was found for 'persuasiveness' between Xhosas and Coloreds.

There was a significant effect of the covariate 'realism' ( $F(1,552)=27.05, p<.001, \eta^2=.24$ ). However, the Multivariate Analysis of Covariance showed that there was no significant interaction effect of 'ethnic group' and 'text version' ( $F(6, 565)=.96, p=.53, \eta^2=.01$ ). Cohen's power analyses for the interaction effect of 'ethnic group' and 'text version' showed that if in reality the effect between the independent variables would be *large* or *medium* or *small*, the power of this test, i.e. the chance that this effect

would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate (ES=.40,  $power > .995$ ; ES=.25,  $power > .995$ ; and ES=.10,  $power = .95$ ). This implies that it is unlikely that in reality there is a *large* or *medium* or *small* interaction effect for a target group such as in this study.

### 3.3.2.3 Univariate Analyses

#### Effect of Text Version on Stigma

This analysis took the stigma into account that was measured after reading text A, B, E, and the 'stigma no text'. A Univariate Analysis of Variance was done for the independent variables 'ethnic group' and 'text version', and with the dependent variable 'stigma' (M=2.47, SD=.63). This Univariate Analysis of Variance showed that there was no significant main effect of the independent variable 'ethnic group' on the dependent variable 'stigma' ( $F(3, 734) = .21$ ,  $p = .89$ ,  $\eta^2 = .00$ ). Cohen's power analyses for the main effect of 'stigma' showed that if in reality the effect of the independent variable on the dependent variable would be *large* or *medium* or *small*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate (ES=.40,  $power > .995$ ; ES=.25,  $power > .995$ ; and ES=.10,  $power = .99$ ). This implies that it is unlikely that in reality there is a *large* or *medium* or *small* effect of ethnic group on the stigmatizing effects of a text for a target group such as in this study.

The second main effect was the influence of the independent variable 'text version' on the dependent variable 'stigma'. This effect enabled to draw conclusions on whether stigma around HIV/AIDS would be enlarged by any of the texts. This effect proved to be not significant ( $F(3, 734) = 1.16$ ,  $p = .33$ ,  $\eta^2 = .01$ ). Cohen's power analyses for the main effect of 'stigma' showed that if in reality the effect of the independent variable on the dependent variable would be *large* or *medium* or *small*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate (ES=.40,  $power > .995$ ; ES=.25,  $power > .995$ ; and ES=.10,  $power = .99$ ). This implies that it is unlikely that in reality there is a *large* or *medium* or *small* effect of metaphors on the stigmatizing effects of a text for a target group such as in this study.

No interaction effect was found for the independent variables 'ethnic group' and 'text version' on the dependent variable 'stigma' ( $F(9, 734) = 1.12$ ,  $p = .34$ ,  $\eta^2 = .01$ ). Cohen's power analyses for the interaction effect of 'ethnic group' and 'text version' showed that if in reality the effect between the independent variables would be *large* or *medium* or *small*, the power of this test, i.e. the chance that this effect would be detected, exceeded .80 and that the power of this test could therefore be regarded as adequate (ES=.40,  $power > .995$ ; ES=.25,  $power > .995$ ; and ES=.10,  $power = .99$ ). This implies that it is unlikely that in reality there is a *large* or *medium* or *small* interaction effect for a target group such as in this study.

## 4. CONCLUSIONS

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### 4.1 Overview

In this chapter an answer will be given to the question whether the use of metaphors can enhance the effectiveness of HIV/AIDS communication in South Africa. Before each research question is discussed, the influence of the perception of realism will be covered in section 4.2. Conclusions for the Afrikaans speaking whites are discussed in section 4.3, followed by the conclusions for the three ethnic groups taken together in section 4.4.

### 4.2 Perception of Realism

As could be expected from the research done by Jansen, Croonen, and de Stadler (2005), the perception of realism of the texts correlated with the dependent variables. For the Afrikaans speaking white group as well as the South African youth of the Western Cape the correlations between the perception of realism and the variables that measured the 'metaphor recognition', the 'attractiveness', the 'average mark', and the 'persuasiveness' were positive and significant. For the South African youth of the Western Cape the correlation between the perception of realism and the variable that measured 'understanding' turned out to be positive and significant as well. Also in the Multivariate Analyses of Covariance in which 'realism' was taken as a covariate, a significant effect was found for the perception of realism for both the Afrikaans speaking whites and for the South African youth of the Western Cape. These findings indicate that the perception of realism plays an important role in evaluating the texts on its effectiveness.

### 4.3 Afrikaans Speaking Whites

In this research Afrikaans speaking white high school students were asked to evaluate a text which explained the immune system with regard to HIV/AIDS. The main points on which the text needed to be evaluated were: attractiveness, understanding, and persuasiveness. In an experiment four different text versions, three of which included metaphors and one of which was neutral, were evaluated to measure the effectiveness of metaphors in HIV/AIDS communication. The outcomes showed that the text manipulation had been successful; the Afrikaans speaking white respondents recognized the metaphors in the three metaphorical texts (text B, D, and E).

The first research question read: *'Under which conditions and to what extent does the use of various types of metaphors in written HIV/AIDS communication have an effect on attractiveness, understanding, and persuasiveness for Afrikaans speaking white high school students in South Africa?'* The results showed that under no condition and to no extent metaphors had an effect on understanding and persuasiveness for the Afrikaans speaking white population in South Africa. The Afrikaans speaking white students did not understand one of the text versions better than the other and neither did the persuasiveness vary per text. Moreover, metaphors did not have an effect on attractiveness. However, one effect was found for average mark; the metaphorical text D which

explained the immune system by using a *security system* was given a higher mark than text E which explained the immune system by using a *fire station*. This could imply that the *security system* metaphor was more appealing to the students than the *fire station* metaphor.

The second research question was posed in order to find out if the use of metaphors would increase the stigma attached to people living with HIV/AIDS. The question read: *'Under which conditions does the use of metaphors in written HIV/AIDS communication affect stigmatization among the Afrikaans speaking white high school students in South Africa?'* The findings indicated that there were no texts which initiated a higher evaluation of stigma concerning HIV/AIDS. This implies that according to this study, texts on HIV/AIDS which use neutral language and texts which use metaphorical language do not differ in stigmatizing effects.

## 4.4 Cultural Differences and South African Youth

Because the same experiment was done among Xhosa and Colored high school students, the outcomes of these two groups could be compared to the outcomes of the Afrikaans speaking whites. In addition, conclusions could be drawn for the South African youth of the Western Cape by taking all ethnic groups together to look at possible differences between the text versions. The third research question was: *'To what extent do ethnic group and text version affect the attractiveness, understanding, and persuasiveness of various types of metaphors in written HIV/AIDS communication?'*

### 4.4.1 Ethnic Group

Differences occurred between the three ethnic groups when it came to evaluating the effectiveness of the texts. The three ethnic groups differed when it came to evaluating the attractiveness and average mark of the texts: Xhosas and Coloreds rated the texts as more attractive and gave higher average marks than the Afrikaans speaking whites. No differences for attractiveness and average mark occurred between Xhosas and Coloreds. Regarding the understanding of the texts, the conclusion can be drawn that the perception of understanding was the same among Afrikaans speaking whites, Coloreds, and Xhosas. The ethnic groups appeared to differ when it came to evaluating the texts on persuasiveness. Xhosas, and Coloreds found the texts more persuasive than the Afrikaans speaking whites. No differences occurred for persuasiveness between Xhosas and Coloreds. The ethnic groups differed when it came to metaphor recognition. Xhosas scored higher on metaphor recognition than Afrikaans speaking whites. No differences were found for metaphor recognition between Coloreds and Xhosas, and between Afrikaans speaking whites and Coloreds.

### 4.4.2 Text Version

The research showed that the South African students of the Western Cape did not understand one of the texts better than the other. Neither did they find one of the texts more attractive or more persuasive. This may be explained by the fact that the respondents failed to notice that more figurative language was used in the two metaphorical texts than in the neutral text. There appeared to be no interaction effect between text version and ethnic group.

#### **4.4.3 Stigma**

In order to reveal the differences of the stigmatizing effects between the ethnic groups on the one hand, and between the text versions and the 'stigma no text' on the other hand, the fourth research question was posed: *'To what extent do ethnic group and text version affect stigmatization caused by the use of metaphors in written HIV/AIDS communication?'* The results indicated that there were no differences in stigmatizing effects between the ethnic groups. None of the ethnic groups were affected by the texts when it came to stigma concerning the HIV/AIDS topic. Regarding the different text versions it also appeared that among the South African students none of the texts had a stigmatizing effect. This could imply that metaphors can be used in HIV/AIDS communication without initiating more stigma than neutral texts.

## 5. DISCUSSION

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### 5.1 Overview

In this chapter possible explanations for the findings are given. Moreover, a critical review will be given of the implications of the findings for the theory that was presented in chapter one. First, the expectations that are based on previous studies are discussed. An answer will be given to the question whether or not this present research supported the expectations that were based on the theory in chapter one. Also, possible explanations for the outcomes will be discussed. Second, the limitations are covered. Third, possible further research is discussed.

### 5.2 Expectations and Explanations

According to the conceptual metaphor theory, it was to be expected that the use of metaphors would initiate a better understanding of difficult concepts such as the immune system with regard to HIV/AIDS (Lakoff & Johnson, 2003). In previous research done by, for instance, Hoeken (1998) it was also proved that the use of metaphors could enhance persuasiveness and attractiveness. In light of the theory put forward by McGlone (2007), these positive effects would solely be found if the metaphors that were used were completely novel. This research does not support expectations of the conceptual metaphor theory. The neutral text was rated just as understandable, persuasive, and attractive as the metaphorical texts. This implies that the results of this study tend to support the conclusions of McGlone that very few metaphors are processed differently than neutral expressions and that therefore very few metaphors can enhance the understanding, persuasiveness and attractiveness in written HIV/AIDS communication.

There are several possible reasons why the different text versions did not show differences on understanding, attractiveness, and persuasiveness. A first explanation that is applicable for the *South African Youth of the Western Cape*, is that the students were not able to distinguish between the metaphorical texts and the neutral text. This could indicate that, even though the manipulation check proved otherwise, the difference between the neutral and the metaphorical text was not noticeable enough. If the metaphors had been more obvious, the difference with the neutral text would have been clearer, possibly leading to different results. It could also imply that the (English) language skills of the respondents were too limited to be able to recognize and process metaphors. However, this explanation does not apply for the *Afrikaans speaking whites*, because they did recognize the difference in figurative language between the neutral text and the metaphorical texts. Second, McGlone (2007) and Gentner and Bowdle (2001) state that novel metaphors and conventional metaphors are processed differently. In their opinion, novel metaphors are processed indirectly while conventional metaphors are processed directly. Since the neutral text initiated the same effects as the metaphorical text, this indicates that all texts were processed in the same direct way. It is therefore conceivable that the metaphors in the text versions were not novel enough but rather conventional. Perhaps the students had already seen the metaphors several times and therefore they were perceived as stock expressions and processed directly.

In addition, it is feasible that no differences for understanding occurred between the texts because the respondents were too familiar with the subject of the text. The students might have known beforehand how the immune system works exactly. Therefore, the third possible explanation is that they might not have needed a metaphor in order to understand the immune system. The fourth possibility for not finding differences between the texts is that the method was not optimal. Students between the age of 12 and 22 might have a difficult time reading a text that is not in their mother tongue and also having to concentrate on a lengthy questionnaire which is also not in their mother tongue. Perhaps in their own language they would have distinguished more easily between the figurative language and the neutral language. Additionally, in their own language it might have been easier to focus and understand the text and questionnaire. Perhaps under such circumstances students would have been more precise and accurate when answering the questions. The fifth possibility is that the metaphor is simply not a good tool to enhance the understanding, attractiveness, and persuasiveness of a text on HIV/AIDS.

From previous research by Laanstra (2005), for instance, it could be expected that the effectiveness of HIV/AIDS communication varies per culture. This expectation was supported by this research. There were considerable differences in outcomes between the three ethnic groups. When it came to evaluating the texts, Xhosas and Coloreds tended to be more positive than the Afrikaans speaking whites. This could indicate that the metaphorical texts as well as the neutral text are most effective for Xhosas and Coloreds and least effective for the Afrikaans speaking whites. On the other hand, this could also imply that Xhosas and Coloreds find it more difficult to be critical than Afrikaans speaking whites. Answering questions on a Likert scale, for instance, is a subjective method and could be influenced by culture. For example, a respondent of a specific ethnic group might give a 4 to a statement with which she or he totally agrees while another person with a different ethnic background who shares this opinion might give a 5. This would lead to diverging results while in fact they share the same opinion. Besides, there is a possibility that for certain culture groups different methods are more effective. More research needs to be carried out to thoroughly examine which method suites which culture group the best.

According to Sontag (1991) metaphors should not be used to refer to diseases. She states that it could lead to severe stigmatization of the people who carry the disease. This research however, proved otherwise. The metaphorical texts did not lead to more stigmatization by the students. This does not exclude that there are cases in which metaphors could enlarge stigma on people living with HIV/AIDS. Perhaps the texts did not lead to stigmatization because it was a purely informative text about the immune system; in this present research a metaphor was solely used to explain this difficult concept. It is possible that a different result would have been found if the students were asked to evaluate a text with a different subject and in which a different approach, for example, a fear appeal was applied.

### 5.3 Limitations

There are some limitations to this research that might have influenced the outcomes. Firstly, the data collection was done in classrooms. In some cases the sessions during which the students were to read and evaluate the texts were rather chaotic. Several class rooms counted over 40 students, and often these students were very noisy and some students walked in late. Therefore, it was difficult for

the respondents to focus and to concentrate on reading the text and filling out the questionnaire. Secondly, only one HIV/AIDS related topic was covered in the texts. Metaphors are tools to make abstract concepts which are difficult to understand more clear. When a reader is already familiar with a specific subject, she or he already understands a certain concept, and this could make the use of metaphors superfluous. This might have applied for this research; the respondents might have already been well informed about the subject of the texts -the immune system. Besides the possible familiarity of the subject, the metaphor itself could have been familiar as well. As discussed in the previous section, the metaphors might have been conventional and were therefore possibly processed like a literal expression. These two 'familiarity problems' would have been eliminated when different texts with different topics were explained by using completely novel metaphors.

The third limitation encompasses the variable *understanding*. This variable was only measured by directly asking the respondents whether or not they understood the text. This method reveals solely the *perception* of understanding and it does not verify whether they have actually understood the texts. It is recommendable to ask questions that directly measure to which extent the respondent has understood the content of the text.

A limitation regarding the preparatory research phases, the corpus analysis and the focus group discussion, is that these phases were conducted to find the most frequently used and understood metaphors. What should have been taken into account is the fact that the more frequent the metaphor, the less probable it is that the metaphor is novel. Since the material of the experiment was based on the outcomes of the corpus analysis and the focus group discussion, this could imply that the used metaphors were not completely novel.

## 5.4 Further Research

The fact that the use of metaphors did not have the expected effects implies that theories such as the conceptual metaphor theory by, for instance, Lakoff and Johnson (2003) need to be re-evaluated. As McGlone (2007) states in his article theories such as the 'conceptual metaphor theory' by Lakoff and Johnson are not empirically nor theoretically well founded. It is not yet clear how different metaphors work exactly; how they are processed and what their effect can be. Besides, a well-considered distinction needs to be made between novel metaphors on the one hand, and conventional and familiar metaphors on the other. These definitions need to be clear in order to know when and how to use specific metaphors in educational texts such as HIV/AIDS documentation. Even though this research does not support the use of metaphors in HIV/AIDS communication, there is still considerable theoretical support that it could be a useful tool. In further research in which metaphorical texts are evaluated, the metaphors as well as the subject of the text should be checked in advance on familiarity and novelty. This to ensure that the subject of the text is not too simple and that novel metaphors are used.

Perhaps, it is possible to enhance Forceville's metaphor-identification method, by making it possible to identify whether the metaphor is novel, conventional or familiar. Additionally, it might be interesting to see what would happen if a within-group-design is used. This might lead to different outcomes because when a within-group-design is used a contrast effect could occur. This might enable the

respondents to notice the differences between the metaphorical texts and the neutral text. Also more metaphorical texts covering different aspects of HIV/AIDS should be evaluated instead of only the *immune system* which was the focus of the present research.

It is still conceivable that metaphors could be useful tools to clarify concepts that are difficult to understand. According to the health workers that participated in the focus group discussion, especially among the less educated people there is still a considerable knowledge gap when it comes to HIV/AIDS. New strategies and tools are needed in order to close this gap and to eliminate misperceptions regarding the disease and its prevention. In further research different target groups could be addressed. This research solely investigated high school students in the Western Cape. This particular province has the lowest HIV prevalence rate and has a relatively low number of illiterates in comparison to the other regions in South Africa. In rural areas in South Africa, for example in KwaZulu Natal, the HIV prevalence rate is higher (Keizer Family Foundation, 2008) and besides, people are more likely to be misinformed because of illiteracy and a shortage of information (Marcus, 2002, p. 96). Metaphors might help to close this knowledge gap.

Unlike the prediction of Sontag (1991), this research did not show any stigmatizing effects of the use of metaphors. Further research is needed to find out if there are conditions under which Sontag's opinion does apply. In order to draw a well-considered conclusion about the stigmatizing effect of metaphors, different texts in which different approaches and styles are used will have to be researched. As stated in section 5.2 this present research solely studied the use of metaphors in an informative text that aimed at explaining the difficult concept of the 'immune system with regard to HIV/AIDS'. Therefore, it is possible that different effects of metaphors are found if high school students are asked to evaluate texts with a different subject and in which a different approach such as a fear appeal is applied. Perhaps if the metaphors that portray AIDS as 'evil', as discussed by Lean (n.d.), were applied in HIV/AIDS communication this would enhance stigma. Besides the difference in stigmatizing effects, a different subject or approach could also lead to diverging outcomes for the evaluation of the effectiveness (attractiveness, understanding, persuasiveness) of a text on HIV/AIDS.

## 5.5 Final Note

With HIV/AIDS as the number one cause of death in South Africa, the spread of HIV constitutes one of the greatest challenges to public health in the region. This study was carried out to help conquer this challenge by improving the effectiveness of public information documents on HIV/AIDS in South Africa. By conducting research on the effects of metaphors, this research has provided insight into the role of style in HIV/AIDS communication. Led by the aspiration to aid the universal goal of fighting HIV/AIDS, the outcomes of this thesis will hopefully contribute to attacking the '21<sup>st</sup> century's evil'.

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## APPENDICES

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- 7.1 Alphabetically Ordered List of Analyzed HIV/AIDS Brochures
- 7.2 Metaphors Found During Corpus Analysis
- 7.3 Script Focus Group Discussion
- 7.4 Minutes Focus Group Discussion
- 7.5 Pre-test Questionnaire and Text Versions
  - 7.5.1. Pre-test Experts
  - 7.5.2. Pre-test Target Group
- 7.6 Questionnaires
  - 7.6.1 Questionnaire
  - 7.6.2. Questionnaire Stigma
- 7.7 Text Versions

## 7.1 Alphabetically Ordered List of Analyzed HIV/AIDS Brochures

Table 10: HIV/AIDS brochures

Title brochure	Number of pages	Language	Subject	Author
A real life story... looking for love in a world of AIDS.	6	English	A story about a woman that had the nerves to stand up for herself by asking the man questions and insisting on using condoms.	Wellness project management
A real life story...Looking for love in a world of AIDS 2	6	English	Discussing AIDS (with a partner).	Wellness Project Management
An AIDS-free life	6	English	Basic information about what AIDS is, how to protect, ABCD.	CLF
Anti- retroviral treatment for life!	41	English	Information on ART.	Soul City Institute and Khomanani Caring Together
Anti- retrovirale behandeling	6	Afrikaans	Answer to questions regarding ARB (ART).	Soul City Institute and Khomanani Caring Together
Are you pregnant and HIV positive?	6	English	PMTCT (what is it, how does it work, getting support, after birth).	Department of Health, Provincial Administration of the Western Cape Health (PAWCH)
Battles in the blood.. HIV & the immune system	6	English	Information about what happens to the cells inside the human body when someone is HIV positive.	Wellness project management
Borstvoeding & MIV	4	Afrikaans	MNKO (moeder na kind oordraging), education for HIV positive mothers.	Department of Health, PAWCH
Breaking the male mould	8	English	Stereotyping about male and female characteristics.	Khomani, caring together
Brenda het 'n drakie in haar bloed	40	English	Story about a little girl that is HIV positive.	RKWO/ Garamond Uitgewers
Campus Peer	6	English	Information on peer educators	University of

Educators			on US (what is it, what to expect, how to apply).	Stellenbosch
Caring for people with HIV and AIDS	8	English, Afrikaans, IsiXhosa, Setswana	How to deal with and care for people who are living with HIV/AIDS.	department of health: HIV/AIDS and TB chief Directorate
Caring together for children	37	English	How to care for (HIV positive) children.	Soul City
Condoms	8	English, Afrikaans, IsiXhosa, Setswana	Information about condoms.	Department of health: HIV/AIDS and TB chief Directorate
Dear pastor, do you know that AIDS is a killer?	4	English	How pastors should deal with PLHA.	CLF AIDS Trust/ VIGS Trust
Die lewensvaardighede en HIV/VIGS onderrig program in skole	6	Afrikaans	Information for parents on HIV and their children.	Department of health: HIV/AIDS and STD Directorate
Divisions of HIV/AIDS Prevention	8	English	What HIV/AIDS is, how you can stay healthy, pregnancy, help.	Centre for disease control and prevention
Fact Sheets on HIV/AIDS for nurses and midwives	54	English	HIV/AIDS infection, Care of PLHA, Stigma, counselling, teaching about HIV/AIDS, HIV/AIDS prevention, TB, HIV and the workplace.	UNISA, UNAIDS, World Health Organization, International Counsel of Nurses and Advanced Nursing Sciences
Get tested for HIV	6	English	VCT	Higher education HIV/AIDS Programme
Getting Him to use a condom	8	English	Information about persuading the man to use a condom.	Stellenbosch AIDS action
Growing up	16	English	Information on the human body.	Living and Loving
Health Western Cape	2	English	How "health Western Cape" can help PLWA.	Health Western Cape

HIV & AIDS Policy US	6	English	Guidelines for HIV & AIDS Policy at the University of Stellenbosch.	University of Stellenbosch
HIV and AIDS and Treatment	49	English	HIV (infection, prevention, treatment, talking about it, places to go for help).	Soul City and Khomanani Caring Together
HIV and AIDS. Prevention care and treatment	56	English	Information about HIV and Aids, prevention, care and treatment.	Soul City
HIV positive- now what?	6	English	Dealing with a positive HIV-test result.	Christian Literature Fund
HIV The Answers	7	English	General facts about HIV, VCT.	ETR association
HIV What if I'm positive	6	English	What you can do if you have HIV, sex, protection.	ETR association
HIV, AIDS, and rights	8	English, Afrikaans, IsiXhosa, Setswana	Rights people living with AIDS have.	Department of health: HIV/AIDS and TB chief Directorate
HIV/AIDS & antiretroviral drugs	6	English	Antiretroviral drugs.	Cape technikon, student welfare and health
HIV/AIDS and Relationships	4	English, Afrikaans, IsiXhosa, Setswana	Relationships and HIV/AIDS.	Department of health: HIV/AIDS and STD Directorate as part of the beyond awareness campaign
HIV/AIDS counseling	8	English, Afrikaans, IsiXhosa, Setswana	Counselling for people living with HIV/AIDS.	Department of health: HIV/AIDS and STD Directorate as part of the beyond awareness campaign
HIV/AIDS workplace resource Guide	6	English	Practical guide on how to deal with HIV/AIDS at work.	Department of Health
HIV-positive... What is a CD4 count	6	English	Information about CD4.	Wellness project management

How 2b AIDS Aware	169	English	Book for schools, colleges about many topics regarding HIV/AIDS, HIV/AIDS projects.	Tabeisa
How to Protect Yourself From AIDS	14	English	Ways to protect yourself against AIDS.	Department of Health and Human Services
How to Talk With Your Child About HIV/AIDS	4	English	Talking about HIV/AIDS with your children.	Bergen County Department of Health Services
HRD and training	4	English	Newsletter with HIV facts.	Metro district
I had an HIV test- now what?	10	English	Dealing with the results of an HIV-test, Where to find more information.	Khomanani Caring Together
Important facts about HIV/AIDS STD'S and TB	6	English	Information about HIV/AIDS, TB, STD's. What can be done about it, how you can look after yourself.	Cape town Administration Health department
Important things to know about having an HIV test	6	English	Explaining the process of HIV testing.	Wellness Project Management
Important things to know about STD's	8	English and Isixhosa	Description of the common STD's, ways to reduce the risk.	Wellness Project Management
key points about HIV/AIDS	8	English, Afrikaans, IsiXhosa, Setswana	General information on HIV/AIDS.	Language groups, Western Cape
Knowledge is power	8	English	Dealing with HIV/AIDS, VCT (what is it, where to go, etc.)	Khomanani Caring Together
Kos en gesondheid	6	English, Afrikaans	General information on HIV and how to protect yourself.	Checkers
Leef positief saam met MIV en Vigs	48	Afrikaans	General information on AIDS and information on how you live with people who are HIV positive.	Soul City
Leef positief saam met MIV en VIGS	48	Afrikaans and English	MIV/VIGS, how to deal with a positive HIV status, caring/helping HIV positive people.	Soul City

Let's talk about it...	8	English	Information how to be firm about your choices, knowing yourself.	Department of health. Republic of South Africa
Living with HIV and AIDS	8	English, Afrikaans, IsiXhosa, Setswana	What people who are living with AIDS should do.	Department of health: HIV/AIDS and TB chief Directorate
Living with HIV/AIDS	8	English, Afrikaans, IsiXhosa, Setswana	What people who are living with AIDS should do.	Department of health: HIV/AIDS and STD Directorate as part of the beyond awareness campaign
Looking for love in a world of AIDS V	6	English	Story about a people who have AIDS.	Wellness project management
LOVEFACTS	27	English	Relationships, sex, HIV, pregnancy, protection, STI's.	LoveLife
Loving Life	24	English	Information on AIDS, protection, improving quality of life.	SABC
Loving Safely	6	English	Safe sex.	Planned parenthood Association of South Africa
Male condoms	8	English, Afrikaans, IsiXhosa, Setswana	Information on male condoms.	Department of health: HIV/AIDS and STD Directorate as part of the beyond awareness campaign
MIV Geen toekoms nie, reg	6	Afrikaans	Protection and VCT.	Stellenbosch University
MIV- VIGS	6	Afrikaans	Wat is VIGS en hoe kan ik het voorkomen.	Studentensake US
MIV/VIGS "ken jou status projek"	3	Afrikaans	Protection and VCT.	Stellenbosch University
MIV/VIGS: Sit hand by	2	Afrikaans	Programmes on HIV/AIDS prevention and a partnership.	Government

my beautiful body	6	English	Special parts of the body should not be touched until god gives you the right person to marry.	CLF
My child is HIV positive	2	English	Information is given to parents whose child might have/ has HIV/AIDS.	CLF
Nasionale jeugdige gesondheid studie	6	Afrikaans	Research on HIV/AIDS.	RHRU
No matter where you live or work you need to know about HIV and AIDS	14	English	HIV/AIDS overview, facts and fiction and HIV related to Sex/ children/pregnancy.	
Play it safe	4	English	Live by the rules of God.	CLF
Positive health (metropolitan)	88	English	The booklet is for people who are infected by HIV.	Metropolitan
Pregnancy and HIV	8	English, Afrikaans, IsiXhosa, Setswana	Pregnancy and HIV.	Department of health: HIV/AIDS and TB chief Directorate
Pregnancy and HIV - What you should know	12	English	Information for pregnant women who are HIV positive.	Soul City (Community Development project)
Prevention, protection, passion	6	English	General information on HIV/AIDS, testing and prevention methods.	Planned parenthood Association of South Africa
Ripe and Ready for a Ride, but is it worth the risk?	4	English	Sex and the risk of getting HIV, how to use a condom.	Unknown
S'camtoprint	18	English	Magazine for the young on several topics, like (sexual) relationships.	Sunday Times and LoveLife
Sexually Transmitted Diseases	8	English, Afrikaans, IsiXhosa, Setswana	STD's.	Department of health: HIV/AIDS and STD Directorate as part of the beyond awareness

				campaign
Sexually Transmitted Infections	8	English, Afrikaans, Isizulu, sesotho	STI's.	Department of health: HIV/AIDS and TB chief Directorate
Some important things to know....Germs and opportunistic infections	6	English	Explaining what opportunistic infections do a description on TB, Candida, Shingles, PCP, CMV and Cryptococcal meningitis.	Wellness Project Management
Soul Buddyz. Tomorrow is ours	40	Afrikaans	A magazine for parents on how to communicate with their kids.	Soul City Institute
Soul City George's story	36	English	A magazine with all kinds of information presented in different ways; cartoons, stories, fact sheets.	Soul City
Soul City HIV and AIDS affect all children	45	English	A magazine with a range of information regarding HIV/AIDS.	Soul City
Soul City HIV and AIDS User Guide	54	English	A magazine with guidelines for health workers.	Soul City
Soul City Know your body your reproductive health book	49	English	Magazine about health, puberty, testing, preventing, human body.	Soul City Community Development Project
Soul City Living with AIDS	31	English	Magazine with information on how to live with HIV/AIDS, there are questions and puzzles about HIV/AIDS.	Soul City
Soul City Simanga's choice	36	English	A magazine with all kinds of information presented in different ways; cartoons, stories, fact sheets.	Soul City
Soul city. HIV and Aids... action now!	42	English	Magazine covering all kinds of topics on HIV/AIDS.	Soul City (Community Development Project)
Soul city. VIGS in ons gemeenskap	33	English, Afrikaans	All kinds of general information on HIV/AIDS.	Soul City (Community

				Development Project)
Stop TB because you can	17	English	Information on TB (what is it, cure, treatment, living with TB and places to go for help).	Soul City and Khomanani Caring Together
Talking about sexually transmitted infections	25	English	Description of the common STD's, protection, talking about STD's.	Soul City and Khomanani Caring Together
Talking about... HIV/AIDS	6	English, Afrikaans	General information on HIV and how to protect yourself.	National Department of Health
Tell me more	20	English	Magazine covering topics that are related to sex, communication, respect.	LoveLife
The best of friends	8	English	Supporting friends who are HIV positive.	Khomanani, caring together
Thethanathi	7	English	Magazine for the young on several topics especially about fears.	LoveLife
ThethaNathi	8	English	Newspaper about love, relationship, sex, HIV/AIDS.	LoveLife
This is my life	47	English	Magazine with information on HIV/AIDS, protection, how to say no.	USAID
Ubungani	32	English	Information for parents on how to educate children on sex, relationships, AIDS.	Department of Health, DFID
UNCUT	44	English	A magazine with all kinds of information presented in different ways; cartoons, stories, fact sheets.	LoveLife
UNCUT	28	Afrikaans	Magazine covering all kinds of topics on HIV/AIDS.	LoveLife
UNCUT	44	Afrikaans	A magazine with all kinds of information presented in different ways; cartoons, stories, fact sheets.	LoveLife
UNCUT, februari	27	Afrikaans	Magazine for the young on	LoveLife

2005, uitgawe 20			several topics, also sex related topics.	
UNCUT, januari 2005, uitgawe 18	27	English	Magazine for the young on several topics, like sex related topics, sports and music.	LoveLife
UNCUT, uitgawe 27	43	Afrikaans	Magazine for youth about school related topics and body issues.	LoveLife
VIGS	6	English, Afrikaans, IsiXhosa	Specific information on HIV/AIDS. Cells.	CLF
Vigs - Om liefde te deel	6	Afrikaans	Transmission facts and myths, facts on safe sex, proper condom use.	Planned Parenthood Association of South Africa (PPASA) and Old Mutual
Voluntary counselling and Testing (VCT)	8	English, Sesotho, Isizulu, Afrikaans	Information on voluntary testing.	Department of health: HIV/AIDS and Directorate by CADRE
Voorkom MIV na verkragting	16	Afrikaans	Rights, What to do after rape (testing and medicine).	Centre for the Study of Violence and Reconciliation (CSVr)
Wat is 'n SOS	6	English	STD's.	Planned parenthood Association of South Africa
What did you hear about AIDS today?	4	English	Facts on AIDS in Africa, The HIV/AIDS strategic plan for SA.	Ministry of Health
What is right for me?	8	English	Life, love, relationships, pressure, choice, sex.	Department of health. Republic of South Africa
Whose right?	75	English	Information about the understanding of AIDS.	University of Pretoria
Workplace basics... HIV & AIDS	8	English	What is AIDS, how to prevent it and exposures to AIDS at work.	Wellness Project Management

World AIDS day. 2004	2	English	General information on HIV/AIDS, and information on AIDS day.	Department of the premier: Departmental HIV and AIDS Committee
World AIDS day. How can you help	4	English	What people can do on the AIDS day.	Avert
You & HIV/AIDS	25	English	Teenagers, STD's, sex, alcohol and drugs.	Unknown
You are one in a million	6	English	Being young, group behaviour.	Unknown
Your Mouth & HIV	5	English	Steps to maintain a healthy mouth for people who are HIV-positive.	University of Stellenbosch

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## 7.2 Metaphors Found During Corpus Analysis

Forceville (1998) states that there are three critical questions (based on Black's theory) in order to determine whether an expression should be termed a metaphor:

- What are the two terms of the metaphors? In other words: what thing is described/perceived in terms of another thing? And how do we know?
- Which of the two terms is the metaphor's primary subject, and which is its secondary subject? And how do we know?
- Which features are projected from the domain of the secondary subject upon the domain of the primary subject?

### 10. Brochure: Battles in blood....HIV& the immune system

This brochure contains several metaphors. For each metaphor, Forceville's questions will be answered:

- The two terms are defence force and immune system.
- The primary subject is the immune system and the secondary subject is the defence force, because the 'unknown' operation of the immune system is described in more recognizable terms of a defence force.
- The features:
  - The immune system is like a defence force of one's body, e.g. a network of organs/ tissues, cells and chemicals that cooperate in order to identify, attack, destroy and kill invaders;
  - The line of defence is linked to patrolling the body against viruses.
- The two terms are invaders and HIV.
- The primary subject is HIV and the secondary subject is the invader, because the 'unknown' process of HIV entering one's body is described in more recognizable terms of a war in which invaders want to enter your land (e.g. your body).
- The features:
  - HIV has to overcome barriers in order to invade and destroy;
  - HIV has chosen a path to enter the body and damage its lining.
- The two terms are army and the Blood cells of our immune system
- The primary subject are the Blood Cells of our immune system and the secondary subject is the army. The army is used to explain how the blood cells work in a human body to protect it.
- The features:
  - The army patrols the body and protects it.
- The two terms are CD8-cells and killer t-cells.
- The primary subject is the CD8-cell and the secondary subject the killer t-cell, because the abstract medical term (CD8) is made more concrete in terms of killer cells.

- The features:
  - CD8-cells destroy and kill viruses.
- The two terms are macrophages and garbage man. Both terms are used to make a comparison.
- The primary subject is the macrophage and the secondary subject the garbage man, because the 'unknown' (the macrophages) is described in more familiar terms of garbage man.
- The features:
  - The macrophages collect all bacteria's, gobbling up any kind of viruses.
- The two terms are HIV and war. Both terms are used to make a comparison.
- The primary subject is the HIV and the secondary subject is war, because the 'unknown' (the HIV in your body) is described in more familiar terms of a war.
- The features:
  - The HIV comes into your body and a war is created between the body and the HIV.

#### **11. Brochure: Brenda het 'n drakie in haar bloed**

- The two terms are AIDS (MIV) and virus-dragon. We know this because of the context of the text; these two terms are repeated all throughout the text.
- The primary subject is AIDS and the secondary subject is a virus-dragon. How AIDS penetrates the body is described in terms of a bad virus-dragon penetrating into the blood.
- The features:
  - AIDS is a virus-dragon, which makes people sick, tired and feverish;
  - Medicine makes the dragon go to sleep. So, if you do not take your medication, the dragon will wake up and will attack you. Consequently, you will get sick.
- The two terms are white blood cells and soldiers. We know this because of the context of the text; these two terms are repeated all throughout the text.
- The primary subject is a white blood cell and the secondary subject is a soldier. How cells fight of diseases is described in terms of a soldier protecting you.
- The features:
  - White blood cells protect you body by patrolling in the bloodstream and by attacking invaders.

#### **12. Brochure: Ubangani**

This brochure only contains pictorial metaphors.

- The two terms are boxer and white blood cells.
- The primary subject is white blood cell and the secondary subject is a boxer. The boxer named 'white blood cell' defeats the boxer called 'cough'. The comic continues and another character makes his entrance.
  - The boxer fights viruses

- The two terms are monster and HIV.
- The primary subject is HIV cell and the secondary subject is a monster. The monster fights with a boxer called 'white blood cell' and defeats/ destroys him.
  - HIV is a monster that can fight and defeat your white blood cells.

### 13. Brochure: Thethanathi

- The two terms are this disease (HIV/AIDS) and one crazy killer. We know this because of the context of the text.
- The primary subject is the disease HIV/AIDS and the secondary subject is one crazy killer. The context of the secondary subject is projected upon the primary subject.
- The features:
  - The disease kills, has to ability to kill;
  - It literally kills people but also the youth culture; it is crazy because of this.

### 14. Brochure: Soul City: Living with HIV

- The two terms are the army and the immune system. We know this because of the context of the text.
- The primary subject is the immune system and the secondary subject is the army. The context of the secondary subject is projected upon the primary subject; the immune system is explained in terms of the army.
- The features:
  - Protection (an army protects that body);
  - Healing the body from sickness;
  - Army can get weak if HIV attacks. After the army is weak it will not be able to fight back as good as before, and therefore the health can get in danger.

### 15. Brochure: Vigs

This brochure contains several metaphors. For each metaphor, Forceville's questions will be answered:

- The two terms are HIV and killer/attackers. We know these are the two domains because in the text they refer to the virus attacking the white blood cells and killing them. This is illustrated in a picture that shows little viruses attacking a white blood cell.
- The primary subject is HIV. Into the little puppets that attack the white blood cell is written: 'HIV'. Therefore we know HIV is the target. The secondary subject is Killers/attackers. We know this is the source because HIV is being explained as a virus that comes into the blood and kills the white blood cells. In the picture it also shows that a white blood cell is defeated by a couple viruses.
- Features:
  - HIV is strong and has the ability to attack and kill the white blood cells and make it more susceptible to other diseases.

- The two terms are white blood cell and soldier/protector. We know these are the two domains because in the text they literally refer to the white blood cell as a protector. This proves that features of one domain are mapped onto another domain.
- The primary subject is the white blood cell. In the text is said that the white blood cell protects the body from viruses. The secondary subject is a little soldier that carries a shield. The little soldier is presented in a picture and it protects the body with a shield against viruses. However; the soldier cannot protect the body from HIV.
- Features:
  - The white blood cell is the protector of the human body. It has a shield that protects and it has a spear that can stab the viruses that try to attack the body;
  - HIV is the one virus the white blood cell cannot protect the body from; HIV kills the white blood cell.
  
- The two terms are HIV and the enemy that kills secretly. In the text is literally stated: "VIGS is 'n vyand wat in het geheim doodmaak".
- The primary subject is HIV and the secondary subject is an enemy that kills secretly. We know that these are the source and the target, because the features of the enemy that kills secretly are mapped on the virus.
- Features:
  - HIV is an enemy that secretively hides in your body and has the ability to kill you.

#### **16. Brochure: Positive Health Metropolitan**

- The two terms are virus and person. The text refers to mister Virus. Infected people are advised to talk to the virus as if it was a person. This conversation is also shown in a picture.
- The primary subject is HIV and the secondary subject is mister virus (a person). We know this because human abilities are mapped upon HIV.
- Features;
  - HIV is someone you can talk to and is able to talk back at you.

#### **17. Brochure: Soul City: This is my life**

This brochure contains several metaphors. For each metaphor, Forceville's questions will be answered:

- The two terms are HIV and boxer. The fight between the two is shown in a picture.
- The primary subject is HIV and the secondary subject is a boxer. We know this because the process of becoming infected with HIV is described in terms of a boxing match.
- Features:
  - It seems HIV can be beaten, but in the end HIV is the winner of the fight.
  
- The two terms are shield and condom.
- The primary subject is a condom and the secondary subject is the shield. We know this because the function of a condom is explained in terms of a shield.

- Features:
  - Condom is a shield, who protects you against infections, bacteria's and diseases.
- The two terms are AIDS and boxer. The fight between the two is shown in a picture.
- The primary subject is AIDS and the secondary subject is a boxer. We know this because the process of becoming infected with AIDS is described in terms of a boxing match.
- Features:
  - It seems AIDS can be beaten, but in the end AIDS is the winner of the fight.

#### **18. Brochure: Play it safe**

- The two terms are a soccer game and your life. We know this because on the brochure they show a picture of someone who is playing soccer and in the text they use the soccer game to talk about your life.
- The primary subject is the rules of your life; what decisions people make regarding their life. The person's life is like a game; you can take risks or you can live safely. The secondary subject is a soccer game; a picture as well as a story is presented on a soccer game and its rules. The rules that are used in soccer games are mapped upon the rules that people live by in real life.
- Features:
  - The soccer game is projected on life. Life is a game; there are many decisions you have to make, and there are rules that you should play by. The decisions you make in soccer determine whether or not you are going to win, and this concept is projected on the decision that people make in real life.

#### **19. Brochure: How 2b AIDS aware**

This brochure contains several metaphors. For each metaphor, Forceville's questions will be answered:

- The two terms are a bus full of uninvited friends and AIDS. These terms are shown in a pictorial and described in the text.
- The primary subject is AIDS and the secondary subject is a bus full of uninvited friends. We know this because the features from the secondary subject are projected upon the primary subject.
- Features:
  - AIDS is like a bus full of uninvited friends, one is no problem but your not prepared for a whole group;
  - Being a guest, coming in, visiting.
- The two terms are the process of building a house and the process of a virus getting into a cell. These terms are shown in a pictorial and described in the text.

- The primary subject is the process of a virus getting into a cell and the secondary subject is the process of building a house. We know this because the process of building a house is used to explain HIV contamination.
- Features:
  - The attributes needed to build a house are compared to the different 'attributes' of becoming infected.
  
- The two terms are army and white blood cells. These terms are shown in a pictorial and described in the text. In the pictorial, the cells are armed with a sword and shield in order to fight and protect the body.
- The primary subject is white blood cell and the secondary subject is an army. We know this because features of the secondary subject are mapped upon the primary subject.
- Features:
  - Protecting a the body;
  - Fighting against invaders (viruses).
  
- The two terms are plan drawn in the sand and viruses. These terms are shown in a pictorial and described in the text.
- The primary subject is a virus and the secondary subject is a plan that is drawn in the sand. We know this because features of the secondary subject are mapped upon the primary subject.
- Features:
  - Some viruses stay for a longer time then others. It is compared to a plan drawn in the sand; when a plan (a virus) is drawn in the sand is does not stay long. The wind, for instance, can wash the plan away;
  - Stays infectious for a really short time once outside a cell or body.
  
- The two terms are figures and viruses
- The primary subject is viruses and the secondary subject are figures. Viruses are referred to as figures. This is also portrayed in a drawing.
- Features:
  - Viruses are like living things.
  
- The two terms are figures and cells
- The primary subject is cells and the secondary subject are figures. Cells are referred to as figures. This is also portrayed in a drawing.
- Features:
  - A cell is like a living creature. For example, it can move and die.

## 7.3 Script Focus Group Discussion

### INTRODUCTION

- **Participants will be welcomed with coffee/tea and snacks.**
- **We thank the group for their participation in the focus group.**
  - Welcome everyone. Thank you very much for letting us join today's session.
- **We introduce ourselves informally: the monitor tells a story about some cultural differences and the other two researchers shortly tell who they are and how they have been liking South Africa so far. This small talk is necessary to break the ice and to create an informal atmosphere. The participants now know who they are dealing with, and this way they might feel more comfortable.**
  - We are Maartje, Kim, and Marloes, and we are students from the Netherlands. Last year we had a lecturer who was South African, and we attended his course on South Africa, with health communication and HIV/AIDS in particular. This course was so interesting that we decided to go to South Africa to do research on HIV/AIDS communication. After spending 300 hours on getting our visas, injections, etc. we flew to South Africa in the beginning of July. In July and the beginning of August we first travelled a bit to get to know the country. Even though the weather is not always as good as we expected, we have been enjoying our stay very much! We stay here and do our research until the end of December 2007.
  - We have noticed that the people here are a lot more laid back than most Dutch people. In Holland most people are always in a hurry. What we also really like about here is the friendliness of the people; they are always willing to help, and they always have time for you. They are also very open and like to chat.
- **We shortly explain what we want to talk about in the focus group (we tell that our research is on HIV/AIDS communication for high school children). We try to use simple language to make sure that everybody understands everything and so that everybody feels comfortable.**
  - We'll now try to explain what our research is about. As I said before, we are doing research on HIV/AIDS communication. Our target group will be high school students in the grades 7 up to 11. What we want to find out is what kind of style you should use when educating high school students.
- **We explain to the group that we would like to have an open discussion and that everybody should be able to give his or her opinion and talk about all the subjects. We add that they will stay anonymous.**
  - During this session we would like all of you to speak openly and say everything that comes to your mind. We can assure you that all the information that you give us will strictly be used for our research and will be anonymous. We are only using the tape recorder as a back up, in case we cannot read our own hand writing anymore.

- **A short introduction of the health workers: who are they and what do they do.**
  - o Now that you all know who we are, maybe everybody can shortly introduce themselves. Maybe tell us what you do, and what you like about your job.

#### CORE

- **We explain that there are different ways in which you can educate people on HIV/AIDS. One tool that can be used is metaphorical language. Clear examples are given to explain what we mean by metaphorical language. One example: a body as a complicated machine. The machine can get out of order for many external reasons: dirt and worms cause diarrhoea and other stomach troubles, cold rains cough and fever. The process of healing could be referred in terms of preparing the machine in order to work normally.**
  - o Ok, now that we got to know each other a little bit better, we can start.
  - o There are many ways in which you can try to educate people on HIV/AIDS related topics. Some people say it is best to use comics or pictures, some say it is best to write in a certain slang, and others might say it is best to use scary pictures. What we want to find out is whether or not metaphors could be a useful tool to use in HIV/AIDS education for high school students. A metaphor is a kind of figurative language (beeldspraak) in which you describe something that is difficult to understand in terms of something that is more familiar. Let me give an example: A metaphor you could use for a human body is a complicated machine. This means that the features of a machine are mapped upon the human body. When you talk about a person that is sick, you could use this metaphor, by saying that the sick body is like a machine that is out of order. You can also use this metaphor to talk about the healing of a body by saying; the machine needs to be fixed. Another example of a metaphor is using the phrase 'eating out' in order to refer to sex. You go to another person to do something nice. When one refers to sex, one could compare it to the experience of eating. For instance: *I want to eat her* or *He tasted nice*. (Example of it goes round the group, Brenda het 'n drakie in haar bloed) Do you now understand what we mean by metaphors?
- **We ask them if they use a similar method/ figurative language when they work with Children in the grades 8-11. If so, can they provide examples? We write down their input.**
  - o Have you ever used such methods in your work on HIV/AIDS education, and do you use them often?
  - o And do you use them when addressing high school students?
  - o Could you possibly give us some examples of metaphors you use? (write down)
- **If they use metaphors, we try to reveal why they use them and what the effects are. All the metaphors that are put forward in this discussion will be written down visibly.**
  - o Why do you use metaphors; what do you think are the effects.

- **We present the metaphors that we found in the corpus analysis. We ask the health workers to give their opinion on these metaphors. Do they understand these metaphors? Do they use these metaphors themselves when educating high school students? Do they think high school students will understand them? In short: would the metaphors be effective?**
  - The metaphors that we found, are the following:
    - Army; the immune system is like a defence force of one's body, e.g. a network of organs/ tissues, cells and chemicals that cooperate in order to identify, attack, destroy and kill invaders.
    - Boxer; picture two boxers, one is called 'white blood cell' and the other one 'HIV'. The two fight and eventually HIV destroys/defeats the white blood cells and is this match' winner. (We show the pictorial to the health workers.)
    - Soldier; the white blood cell is seen as the soldier of one's body. It has a shield that protects and it has a spear that can stab the viruses that tries to attack the body. HIV is the one virus the white blood cell cannot protect the body from; HIV kills the white blood cell.
  - Do you all understand these metaphors?
  - Would you use them when educating high school students?
  - Do you think high school students will understand them?
  - Do you think these metaphors could contribute to effective HIV/AIDS education for high school students?
- **We make a list in which we present the most frequent metaphors from the corpus and the metaphors that the health workers came up with themselves. We ask them which they think would work best..**
  - Do you think some metaphors are better than others? If so, which ones are better and why?
- **We tell that we distinguish three ethnic groups and we ask the health workers about the differences in the use of the metaphors that were just discussed. If there is a difference, we ask them to make a top three of most effective metaphors per ethnic group.**
  - We are aware that there are many different ethnic groups in South Africa. In our research, we distinguish three ethnic groups: Xhosa people, Afrikaans speaking whites, and Colored South-Africans.
  - Do you counsel all of these groups? Or are there different counsellors per group?
  - Do you think that the different groups will use different metaphors for HIV/AIDS or related topics?
  - Is it possible for you to make a top 3 of best metaphors that would be most effective for the 3 different groups?
- **We ask them about possible emotional reactions that could be caused by these metaphors. (We want to find out if the health workers think that the metaphors could enhance stigmatization)**
  - Are there any emotional reactions to these metaphors? Perhaps some metaphors can lead to certain feelings, associations.

OPEN COMMENT ROUND

- **The participants can share all their comments about the subject or the session with us.**
  - Are there any last comments that you would like to make? Any suggestions; things that come to mind. Please share it with us.

END

- **We thank the participants, and we promise them to keep them informed on the progress of the research.**
  - That was all. Thank you very much for your help and cooperation. You have definitely been a great help to us. If you would like we could keep you updated on the results of our research

## 7.4 Minutes Focus Group Discussion (24-08-2007)

Task partitioning during the session:

Kim Ollislagers: assistant and minutes secretary

Maartje van Sambeek: minutes secretary

Marloes van Nistelrooij: moderator

Participants: the focus group consisted of seven participants:

*Timbee (Xhosa, male), Benjamin (Afrikaans speaking white, male), Heidi (Colored, female), Laprisha (Colored, female), Nasi (Colored, female), Timbi (Xhosa, male), Keri (Afrikaans speaking white, female).*

### **Introduction**

Moderator: Welcome everyone. Thank you very much for letting us join today's session. We are Maartje, Kim, and Marloes, and we are students from the Netherlands. Last year we had a lecturer who was South African, and we attended his course on South Africa, with health communication and HIV/AIDS in particular. This course was so interesting that we decided to go to South Africa to do research on HIV/AIDS communication. After spending 300 hours on getting our visas, injections, etc. we flew to South Africa in the beginning of July. In July and the beginning of August we first travelled a bit to get to know the country. Even though the weather is not always as good as we expected, we have been enjoying our stay very much! We stay here and do our research until the end of December 2007.

We have noticed that the people here are a lot more laid back than most Dutch people. In Holland most people are always in a hurry. What we also really like here is the friendliness of the people; they are always willing to help, and they always have time for you. They are also very open and like to chat. We'll now try to explain what our research is about. As I said before, we are doing research on HIV/AIDS communication. Our target group will be high school students in the grades 7 up to 12. What we want to find out is what kind of style you should use when educating high school students. During this session we would like all of you to speak openly and say everything that comes to your mind. We can assure you that all the information that you give us will strictly be used for our research and will be anonymous. We are only using the tape recorder as a back up, in case we cannot read our own hand writing anymore.

Now that you all know who we are, maybe everybody can shortly introduce themselves. Maybe tell us what you do, and what you like about your job.

*-Participants introducing themselves-*

Moderator: Ok, now that we got to know each other a little bit better, we can start. There are many ways in which you can try to educate people on HIV/AIDS related topics. Some people say it is best to use comics, some say it is best to write in certain slang, and others might say it is best to use scary

pictures. What we want to find out is whether or not metaphors could be a useful tool to use in HIV/AIDS education for high school students. A metaphor is a kind of figurative language (beeldspraak) in which you describe something that is difficult to understand in terms of something that is more familiar. Let me give an example: A metaphor you could use for a human body is a complicated machine, for instance a car. This means that the features of a machine (in this case the car) are mapped upon the human body. So you can say: a car needs petrol in order for it to work. The human body needs food, in order for it to live. Another example is that when the engine of the car is broken it won't work/start. That is just the same with the human body; it needs the heart to beat in order to live. When you talk about a person that is sick, you could also refer to a machine by saying that the sick body is like a machine that is out of order. You can also use this metaphor to talk about the healing of a body by saying; the machine needs to be fixed. Another example of a metaphor is using the phrase 'eating out' in order to refer to sex. You go to another person to do something nice. When one refers to sex, one could compare it to the experience of eating. For instance: *He tasted nice*. Do you now understand what we mean by metaphors?

*-Example is passed around the group, Brenda het 'n drakie in haar bloed.-*

Group: Yes, we all understand.

Moderator: **Do you use metaphors in your work?**

Timbi: In the clinics where we work we mostly deal with grown ups, who often already know about HIV/AIDS. However, metaphors are used for VCT. I used a metaphor yesterday. I said that testing was like checking the body if there are any fires. If you find a fire, this means that the immune system is fighting. I use metaphors for creating individual understanding and adjust them to the person.

Nasi: I work on farms a lot. In order to educate farmers, we use a toolkit with pictures. I use the pictures to make a local story. I let people choose names for the characters in the pictures, and I will use these names in my story. It must be a true story. I often make stories about being responsible, living a responsible life and about the consequences of having unprotected sex. It is interesting to see people's reactions, especially the youngsters, when they see that AIDS could lead to death. I use the local stories so people can identify themselves with the characters.

Benjamin: I often use a soldier metaphor to explain the immune system. HIV kills your soldiers; which is a metaphor for HIV killing the white blood cells or immune system. I also use a metaphor in which the body is a house. Someone tries to break into the house. This is a very clear example with all the crime in South Africa; everybody knows what you are talking about. In order to prevent the burglars from breaking in, you need a security company to prevent your house from being burgled. This metaphor uses the house to talk about the body and HIV trying to break into you body. It explains that you need to take measures in order for the HIV to break into your body. The security company can be compared to an HIV-test, it checks to see if there is something wrong in the house, your body.

**Moderator: Do you also use metaphors when addressing high school students?**

Timbi: Fifty percent of the schools in South Africa do not have any program for HIV/AIDS education. HIV/AIDS education does not have a high priority in some schools. Most do not have a good system. Teachers are also afraid that the children's parents will not appreciate it if they speak to the children about sex and HIV/AIDS.

Heidi: Often the education is integrated into a common course. The way that HIV/AIDS is explained in these courses is often very difficult for children to understand. It is even too difficult for me to understand! Often this education is integrated in the biology class. The language that is used in the biology books is often very technical; many medical terms are being used. This is difficult for the children to understand. They should break it down to kids-level.

Timbi: There are no brochures especially for kids, only the LoveLife campaigns.

Minutes secretary: And what about the Soul City magazines?

Timbi: Yes, that's another one.

Benjamin: I disagree with you Timbi. There is more for kids. Besides the LoveLife campaigns, there is also a youth insert in the newspaper; one page that is for the children. This insert has cartoons and very simple information. HIV/AIDS is often also a topic that occurs in this insert. Next to that, I think that a lot of brochures are suitable for children and adults, because AIDS is often described very simple.

Group: We agree with that, most brochures are suitable for people of all ages.

**Moderator: The metaphors that we found by looking through brochures on HIV/AIDS, are the following ones.**

*-The metaphors revealed by the corpus analysis are presented to the group by handing out papers with the following explanation on them-*

- Army: A little army that walks around the body and is the immune system. It is there to fight viruses so the body stays healthy.
- Boxer: Two boxers fighting, one is called HIV and one is called white blood cell. Eventually HIV comes out as a winner of this boxing game.
- Soldier: The soldier is a white blood cell in one's body. HIV is the virus that the white blood cell cannot protect the body from; HIV kills the white blood cell.

**Moderator: You named some of these metaphors yourself in the beginning of the session; do you all understand the given metaphors?**

Group: Yes, we understand them.

**Moderator: Do you think high school students will understand them?**

Timbi: Yes, it would be understood by children as well; it is very clear. When kids can relate to the topic or metaphor then they will understand it. Kids know what an army or a boxer is, so they will understand these metaphors.

Group: We agree with Timbi.

**Moderator: Would you use these metaphors when educating high school students?**

Benjamin: Kids know about HIV/AIDS. Most know what it is. They are pretty well aware because of television and media. When you talk to children about sex or HIV/AIDS, you try to call it what it is and do not make it too easy. But when you talk to a group and you are talking about a one-night-stand you might say: "I had a take out this weekend".

Heidi: Or people might say: "I don't eat my sweets with a wrapper on".

Benjamin: So we mostly use metaphors to make difficult concepts more clear.

**Moderator: Do you think these metaphors could contribute to effective HIV/AIDS education for high school students?**

Group: Yes, we think so.

**Moderator: We are aware that there are many different ethnic groups in South Africa. In our research, we distinguish three ethnic groups: Xhosa people, Afrikaans speaking whites, and Colored South-Africans. Do you counsel all of these groups? Or are there different counsellors per group?**

Group: Almost every counsellor works with several cultural groups.

**Moderator: Do you think that the different groups will use different metaphors for HIV AIDS or related topics?**

Laprisha: We would use the same metaphors for all the groups.

Group: We agree with the previous speaker.

Timbi: Xhosa is more metaphorical in nature compared to the other languages. In Xhosa you always use metaphors. For example, "Condoms are referred to as a jacket or an umbrella", you never say the word condom. But people know what you mean when you say umbrella or jacket.

Laprisha: Colored people are more direct.

Heidi: The Colored people I work with have a lower educational level and cannot afford a doctor and therefore go to the local clinic. I adjust the message to them and do not use a lot of direct terms because they do not understand them.

Benjamin: I work with all the three groups. I think whites are more direct than Xhosas. They just say the terms; maybe they do not even use metaphors at all.

Heidi: When you deal with older Colored people, you have to use metaphors and can not say it directly.

Moderator: **Is this the same with older white people?**

Benjamin: With older white people, you use more sophisticated words. You won't use the word 'dick', but just 'penis' and you definitely do not use slang.

Timbi: Factors that determine how to talk to people depends on many things: education, where you come from, age. In Xhosa when a girl has her period she will never say: "I have my period". She will more likely say: "I missed a match yesterday". There are many words for the same thing. People do not often use the word STI or AIDS/HIV, they have other words to refer to it.

Moderator: **Is it possible for you to make a top 3 of best metaphors that would be most effective for the 3 different groups?**

Benjamin: I would group the soldier and army together. They are the same. I think I would not use boxer.

Group: We agree with Benjamin on grouping the army and soldier together.

Benjamin: I think the soldier/ army metaphor is the most effective for all three groups.

Timbi: The policemen metaphor is also often used in the townships. People here all know what policemen are. It's the way of thinking. Boxing is easy for Xhosas to understand; it is a top sport in our communities, especially in the Western Cape. For the Xhosa, I would use soldier/army, then boxer and at last the police.

Laprisha: Colored people would also use soldier/army the most, followed by the house metaphor.

Benjamin: I agree with Laphrisha; the second best metaphor for the whites and the Colored is the house- metaphor.

Heidi and Nasi: We agree with Benjamin and Laphrisha.

Timbi: In Xhosa, you could never use the house metaphor. It is very sensitive because many people in the Xhosa community do not have a house. I always try to avoid sensitive topics, such as a house, in my education.

Group: We agree with Timbi.

Keri: Counsellors usually have some metaphors they use more often. They will stick to the ones they feel comfortable with, so I think it is a bit personal.

*-Eventually, the group comes to the following top three for the Xhosa speaking people-*

- army/soldier,
- boxer;
- fire station.

*-For the Whites and the Colored the top three is the same-*

- army/soldier,
- security system in a house;
- policemen.

Moderator: **Do you think that high school children like to read metaphors? Perhaps some metaphors can lead to certain feelings, associations. Are there any emotional reactions to these metaphors?**

Timbi: Some health workers are not promoting the use of metaphors. Metaphors could encourage stigma.

Benjamin: Besides that it also leads to confusion. It's better to be clear and direct in education. Use metaphors only for difficult things; to explain them, and then talk in direct language again. Metaphors can be useful, but at the end you must always use direct language again in order to remind people of what you are referring to. For example, so HIV is like a soldier.

Timbi: Yes, the confusion exists. I had a client who said: I would like to test whether or not my blood is dead or alive. That is bad. So I said: "You are not testing if it's dead; your blood is only dead when YOU are dead." Talking too much in circles is bad.

Keri: Metaphors could cause confusion. Therefore, use them as examples to compare difficult things with.

Moderator: **Are there any last comments that you would like to make? Any suggestions or things you would like to share with us?**

Timbi: Unscramble: use metaphors. Just to explain.

Benjamin: In areas of lower literacy, you need to be very, very direct. If you, for example, demonstrate condom use with the help of a broom stick, the very low literates might lay a broom stick with a condom next to the bed, and assume they can have safe sex then. Be very concrete and specific with this group.

Moderator: That was all. Thank you very much for your help and cooperation. You have definitely been a great help to us. If you would like we could keep you updated on the results of our research.

## 7.5 Pre-test

### 7.5.1. Pre-test Experts

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**Thank you very much for helping us with our research. The texts you are about to read are designed to inform high school students about HIV/AIDS. Please read them carefully and answer the questions.**

*Then the different text versions were presented, followed by these questions:*

After you have read all texts:

1. Do you think text A is easy to understand? *Motive your answer please.*

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2. Do you think text A is easy to read? *Motive your answer please.*

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3. Do you think text B is easy to understand? *Motive your answer please.*

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4. Do you think text B is easy to read? *Motive your answer please.*

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5. Do you think text C is easy to understand? *Motive your answer please.*

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6. Do you think text C is easy to read? *Motive your answer please.*

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7. Do you think text D is easy to understand? *Motive your answer please.*

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8. Do you think text D is easy to read? *Motive your answer please.*

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9. Do you think text E is easy to understand? *Motive your answer please.*

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10. Do you think text E is easy to read? *Motive your answer please.*

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11. Do you think text all texts are quite similar in meaning? *Motivate your answer please.*

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12. Do you think there is a clear difference in style between text A and text B/C/D/E?  
*Motivate your answer please.*

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13. → Metaphorical language is used in text A  
Totally agree      totally disagree

→ Metaphorical language is used in text B  
Totally agree      totally disagree

→ Metaphorical language is used in text C  
Totally agree      totally disagree

→ Metaphorical language is used in text D  
Totally agree      totally disagree

→ Metaphorical language is used in text E  
Totally agree      totally disagree

### 7.5.2. Pre-test Target Group

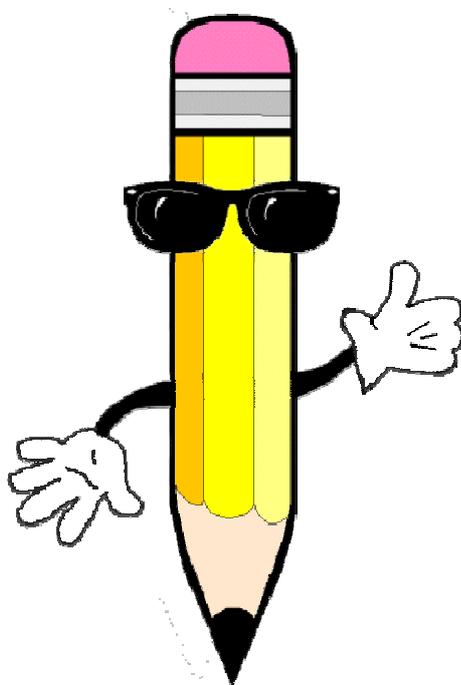
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Dear Student,

First of all, we would like to thank you for helping us with our research. The reason that we need your help is because we would like to test the quality of a text and a questionnaire that we designed for our research among high school children.

We would like you to start off with reading the text on the next page. After you are finished with reading, there are a couple questions about the text that we would like you to answer. Please take all the time you need and explain your opinion.

Good luck!



First the text was presented to the target group, followed by these questions:

- 1. Did you understand the text?
  - If it wasn't clear, could you indicate what made it hard to understand?

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- 2. Was the language easy to understand?
  - If it wasn't easy to understand, could you indicate why it was hard?

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- 3. Was the message clear?
  - If not, what part was not clear?

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Below you will find the questionnaire that we want to give to the high school kids. They have to answer these questions after they read the text. Could you also try to answer them?

*After this introduction the questionnaire was presented, followed by these questions:*

We would now like to hear your opinion about the 67 questions you just answered.

Did you understand the questions?

- If there were questions that you didn't understand, could you write down which were difficult?

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Was the language easy to understand?

- If not, could you indicate why it was hard?

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**Thank you very much 😊 you have been a great help to us!**

## 7.6 Questionnaires

### 7.6.1. Questionnaire

#### Questionnaire

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**Thank you for helping us with our research! Take all the time you need to read the texts and answer the questions. We think you will be finished in about 15 minutes. Please mark the answer that you think is the best. There are no wrong answers! We want to know what you think; nobody will judge you for it. You do not have to write your name down so we will not know who answered what.**

#### **Good luck!**

1. What high school grade are you in?
  - Grade 8
  - Grade 9
  - Grade 10
  - Grade 11
  
2. What is your age? \_\_\_\_\_
  
3. What is your gender?
  - Female
  - Male
  
4. Which language is mostly spoken in your home?
  - Afrikaans
  - Xhosa
  - English
  - Other
  
5. To what ethnic group do you belong?
  - Xhosa
  - Afrikaans speaking white
  - Colored
  - Other

**Example:**

From now on the questions in this questionnaire look as the following example:

**1. Rugby is my favourite sport:**

totally disagree     disagree     don't know     agree     totally agree

Mark the answer that you think is best;

If you mark the answer **totally disagree**, this means that you hate rugby.

If you mark the answer **disagree**, this means that you think rugby is not that much fun.

If you mark the answer **don't know**, this means that you do not have an opinion on rugby.

If you mark the answer **agree**, this means that you like rugby but it is not your favourite sport.

If you mark the answer **totally agree**, this means that rugby is your favourite sport.

6. The text is clear:

totally disagree     disagree     don't know     agree     totally agree

7. The text is short:

totally disagree     disagree     don't know     agree     totally agree

8. The text is easy to read:

totally disagree     disagree     don't know     agree     totally agree

9. The text is easy to understand:

totally disagree     disagree     don't know     agree     totally agree

10. I think that the writer has used language that helps to explain difficult subjects:

totally disagree     disagree     don't know     agree     totally agree

11. The writer has used language that is clear to me:

totally disagree     disagree     don't know     agree     totally agree

12. I believe what the writer says in the text:

totally disagree     disagree     don't know     agree     totally agree

13. The writer of the text is convincing:

totally disagree     disagree     don't know     agree     totally agree

14. I trust the writer of the text:

totally disagree     disagree     don't know     agree     totally agree

15. The writer of the text is reliable:

totally disagree       disagree       don't know       agree       totally agree

16. The writer of the text is an expert on HIV:

totally disagree       disagree       don't know       agree       totally agree

17. The writer of the text is experienced:

totally disagree       disagree       don't know       agree       totally agree

18. The writer of the text is well informed:

totally disagree       disagree       don't know       agree       totally agree

19. The writer of the text is qualified:

totally disagree       disagree       don't know       agree       totally agree

20. The writer of the text is skilled:

totally disagree       disagree       don't know       agree       totally agree

21. The text gives me new information:

totally disagree       disagree       don't know       agree       totally agree

22. The text deals with facts:

totally disagree       disagree       don't know       agree       totally agree

23. The text is logical:

totally disagree       disagree       don't know       agree       totally agree

24. The text affects my feelings:

totally disagree       disagree       don't know       agree       totally agree

25. The text touches me emotionally:

totally disagree       disagree       don't know       agree       totally agree

26. The text gives me new ideas:

totally disagree       disagree       don't know       agree       totally agree

27. The text reaches out to me:

totally disagree       disagree       don't know       agree       totally agree

28. The text is inspiring:

totally disagree       disagree       don't know       agree       totally agree

29. The text is exciting:

totally disagree     disagree     don't know     agree     totally agree

30. The text is interesting and I wanted to read it:

totally disagree     disagree     don't know     agree     totally agree

31. While I was reading the text, I realized that I would like to read the whole text:

totally disagree     disagree     don't know     agree     totally agree

32. After I read the first paragraph, I wanted to stop reading:

totally disagree     disagree     don't know     agree     totally agree

33. Even if nobody would ask me to read this text, I would still like to read it:

totally disagree     disagree     don't know     agree     totally agree

34. The way the writer talks to me is straight forward:

totally disagree     disagree     don't know     agree     totally agree

35. The writer talks to me in the same way as my family and friends would do:

totally disagree     disagree     don't know     agree     totally agree

36. The way the writer talks to me is easy-going:

totally disagree     disagree     don't know     agree     totally agree

37. The writer talks to me in a lively way:

totally disagree     disagree     don't know     agree     totally agree

38. The text is of good quality:

totally disagree     disagree     don't know     agree     totally agree

39. The text is interesting:

totally disagree     disagree     don't know     agree     totally agree

40. I like the way this text is written:

totally disagree     disagree     don't know     agree     totally agree

41. The way this text is written is dull:

totally disagree     disagree     don't know     agree     totally agree

42. The text is written in a lively way:

totally disagree     disagree     don't know     agree     totally agree

43. The text is informal:

totally disagree     disagree     don't know     agree     totally agree

44. The text is serious:

totally disagree     disagree     don't know     agree     totally agree

45. I agree with what is said in the text:

totally disagree     disagree     don't know     agree     totally agree

46. I like the language that is used in the text:

totally disagree     disagree     don't know     agree     totally agree

47. I think all HIV/AIDS texts should be written in the same way as the text I just read:

totally disagree     disagree     don't know     agree     totally agree

48. Please put a circle around the grade that you would give the text: (1=low, 10=high)

1      2      3      4      5      6      7      8      9      10

49. The text makes me feel that I shouldn't hug an HIV-infected person:

totally disagree     disagree     don't know     agree     totally agree

50. The text makes me feel that I shouldn't share my water bottle with people who are infected with HIV:

totally disagree     disagree     don't know     agree     totally agree

51. The text makes me feel that I shouldn't shake the hand of someone who is HIV-infected:

totally disagree     disagree     don't know     agree     totally agree

52. The text makes me want to avoid people who are infected with HIV, so that I don't get the disease myself:

totally disagree     disagree     don't know     agree     totally agree

53. The text makes me think that people who are infected with HIV have done something wrong:

totally disagree     disagree     don't know     agree     totally agree

54. The text makes me feel that I would be ashamed if I were HIV-infected:

totally disagree     disagree     don't know     agree     totally agree

55. In the text, the immune system is explained in terms of something familiar:

totally disagree     disagree     don't know     agree     totally agree

56. In the text, the immune system is explained by using examples that make the immune system more concrete:

totally disagree     disagree     don't know     agree     totally agree

57. The text makes it easier to picture what the immune system is:

- totally disagree     disagree     don't know     agree     totally agree

58. Lively language is used in the text:

- totally disagree     disagree     don't know     agree     totally agree

59. The information in the text is presented in a simple way:

- totally disagree     disagree     don't know     agree     totally agree

60. I think that the text is realistic:

- totally disagree     disagree     don't know     agree     totally agree

61. I think that the text is common:

- totally disagree     disagree     don't know     agree     totally agree

**Thank you very much for answering these questions! 😊**

## 7.6.2. Questionnaire Stigma (no text)

### Questionnaire

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**Thank you for helping us with our research! All you have to do is fill out the questions below. We think you will be finished in about 5 minutes. Please mark the answer that you think is best. There are no wrong answers! We want to know what you think; nobody will judge you for it. You do not have to write your name down so we will not know who answered what.**

**Good luck!**

1. In what high school grade are you at the moment?

- Grade 8
- Grade 9
- Grade 10
- Grade 11

2. What is your age? \_\_\_\_\_

3. What is your gender?

- Female
- Male

4. Which language is spoken most in your home?

- Afrikaans
- Xhosa
- English
- Other

5. To what ethnic group do you belong?

- Xhosa
- Afrikaans speaking white
- Colored
- Other

**Example:**

From now on the questions in this questionnaire look as the following example:

**1. Rugby is my favourite sport:**

totally disagree     disagree     don't know     agree     totally agree

Mark the answer that you think is best;

If you mark the answer **totally disagree**, this means that you hate rugby.

If you mark the answer **disagree**, this means that you think rugby is not that much fun.

If you mark the answer **don't know**, this means that you do not have an opinion on rugby.

If you mark the answer **agree**, this means that you like rugby but it is not your favourite sport.

If you mark the answer **totally agree**, this means that rugby is your favourite sport.

6. I shouldn't hug an HIV-infected person:

totally disagree     disagree     don't know     agree     totally agree

7. I shouldn't share my water bottle with people who are infected with HIV:

totally disagree     disagree     don't know     agree     totally agree

8. I shouldn't shake the hand of someone who is HIV-infected:

totally disagree     disagree     don't know     agree     totally agree

9. I should avoid people who are infected with HIV, so that I don't get the disease myself:

totally disagree     disagree     don't know     agree     totally agree

10. People who are infected with HIV have done something wrong:

totally disagree     disagree     don't know     agree     totally agree

11. I would be ashamed if I were HIV-infected:

totally disagree     disagree     don't know     agree     totally agree

**Thank you very much for answering these questions! ☺**

## 7.7 Text Versions

### Text A

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#### **Your immune system and HIV**

In your every day life your body is constantly exposed to viruses and bacteria. One virus that has been infecting more and more people around the world is HIV. This virus can cause a disease called AIDS. Do you know how you can get infected with HIV and how this affects your body?

Your immune system protects your body so that viruses and bacteria cannot harm you. This prevents you from getting sick. The white blood cells in your immune system take care of your health. Your immune system is active 24 hours a day, seven days a week.

If your skin has been damaged, for example by a needle, viruses can enter your bloodstream through this opening. It is in the bloodstream where the immune system really plays its role. As soon as a virus comes into your bloodstream, your immune system sends out chemical signals to the white blood cells. Depending upon the type of virus, the immune system will make antibodies that the white blood cells can use to get rid of the viruses.

The white blood cells in your immune system play a major role in the body's defence against viruses, bacteria, cancer cells, and poisons. There is one virus, however, that the immune system cannot defeat: HIV. HIV is different from other viruses; it infects the immune system itself. This prevents the immune system from working as effectively as it did before. Since the immune system of an HIV-infected person cannot protect the body properly, the person can get sick more easily. This makes the body weak. This weakening can be slowed down by medicine. However, even if no medication is taken, it usually takes years before the immune system can be completely destroyed by HIV. After the immune system has been destroyed, a person will eventually die.

**Text B**

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**Your immune system and HIV**

In your every day life your body is constantly exposed to viruses and bacteria. One virus that has been infecting more and more people around the world is HIV. This virus can cause a disease called AIDS. Do you know how you can get infected with HIV and how this affects your body?

Your immune system acts as your body's army that attacks and destroys invaders such as viruses. It prevents you from getting sick. This army in your body has several lines of defence, for instance the white blood cell soldiers who take care of your health. The immune system army is on duty 24 hours a day, seven days a week.

If invaders get past the lines of defence, they can freely enter your body. This can happen when your skin has been damaged, for example by a needle. This creates an opening through which invaders can walk into your body and enter your bloodstream. In the bloodstream the immune system army really plays its role. As soon as a virus invader comes into your bloodstream, the army sends out signals to the white blood cells soldiers. They fight as hard as they can to defeat these virus invaders. The army will use certain weapons that can destroy the enemy. These weapons are called antibodies. For each invader the army uses a different weapon.

The white blood cell soldiers are the most important force of the immune system army. They are constantly patrolling your body, searching for invaders, such as viruses, bacteria, cancer cells, and poisons. However, there is one virus invader that the immune system army cannot defeat: HIV. The HIV invader is different from other invader viruses; besides attacking the body, it also attacks the immune system army itself. In an HIV-infected body there are invaders entering which the body cannot easily get rid of. This is because the army and the white blood cell soldiers have been weakened. Medicine generally slows down these invaders. However, even if no medication is taken, it usually takes years before the army can be completely overcome by these invaders. After the HIV invaders have defeated and destroyed the immune system army, a person will eventually die.

**Text C** (not used for this thesis)

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In your every day life your body is constantly exposed to viruses and bacteria. One virus that has been infecting more and more people around the world is HIV. This virus can cause a disease called AIDS. Do you know how you can get infected with HIV and how this affects your body?

There is a boxer in your body called Immune System, but everybody calls him **IS**. In order to protect your body from sickness, he fights mean boxers such as viruses who have negative influences on your body. **IS** has several helpers who help him fight other boxers. These helpers are called White Blood Cells, and they take care of your health. **IS** is always prepared to fight, 24 hours a day, seven days a week.

If a mean boxer wants to fight **IS**, he first has to get into your body. This can happen when your skin is damaged, for example by a needle. This creates an opening through which mean boxers can enter your body and fight **IS**. Inside every body there is a boxing ring where **IS** really likes to fight as hard as he can. This boxing ring is called the bloodstream. As soon as a mean boxer tries to enter this ring, your body warns **IS's** White Blood Cell helpers so they can help **IS** to prepare for the fight. **IS** uses different boxing gloves to fight mean boxers. These gloves are called antibodies. For each opponent **IS** uses a different kind of boxing gloves.

The White Blood Cell helpers play a major role in protecting your body. They constantly walk around, searching for mean boxers such as Virus, Bacteria, Cancer Cell, and Poison. There is one mean boxer, however, that **IS** cannot defeat: HIV. The boxer HIV is different from other mean boxers: he is much stronger and more mean. HIV harms **IS** so he can not fight as hard as he could before. In an HIV-infected body there are mean boxers trying to fight **IS**. **IS** cannot easily defeat them, because he and his white blood cell helpers are weakened. Medicine generally strengthens them. However, even if no medication is taken, it will usually take years before **IS** is defeated by HIV. After HIV knocks out **IS**, a person will eventually die.

**Text D**

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**Your immune system and HIV**

In your every day life your body is constantly exposed to viruses and bacteria. One virus that has been infecting more and more people around the world is HIV. This virus can cause a disease called AIDS. Do you know how you can get infected with HIV and how this affects your body?

When you are in your house you feel safe because the security system protects you from burglars. There is also a security system in your body called the immune system. This system protects and warns your body when viruses want to enter. It prevents you from getting sick. The white blood cell security guards are part of the security system and help to protect you from burglars. The security system works 24 hours a day, seven days a week.

If you leave a window open in your house or someone messes with the security system, it creates an opening through which a burglar can come in. A similar thing can happen to your body: your skin can be damaged, for example by a needle. Through this opening uninvited viruses can enter your immune system like burglars. When the burglar gets into your house, the security system really plays its role. This is the same as when viruses come into your bloodstream. As soon as a virus breaks into your body, the security system gives signals to the white blood cell security guards. They will use certain weapons that can catch burglars. These weapons are called antibodies. For each burglar they use a different weapon.

The white blood cell security guards play a major role in protecting your body from burglars; they are constantly searching for burglars such as Bacteria, Virus, Cancer Cell and Poison. There is one burglar, however, that can get into your house without the security system warning you immediately. This burglar is called HIV. He is different from other burglars, because he breaks down the security system. In an HIV-infected body, there are burglars coming in which the body cannot easily get rid of because the security system is damaged and the white blood cell security guards are weakened. Medicine generally slows down these burglaries. However, even if no medication is taken, it usually takes years before the white blood cell security guards and the security system can be completely overcome by HIV. After HIV completely overcomes the security system and the security guards, a person will eventually die.

## Text E

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### Your immune system and HIV

In your every day life your body is constantly exposed to viruses and bacteria. One virus that has been infecting more and more people around the world is HIV. This virus can cause a disease called AIDS. Do you know how you can get infected with HIV and how this affects your body?

You do not want a fire to ruin your home. To prevent this from happening, there is a fire station nearby. There is also a fire station in your body called the immune system. This system protects your body when viruses want to enter. It prevents you from getting sick. The white blood cell fire fighters work for the fire station and protect you from fires. The fire station is available 24 hours a day, seven days a week.

If you are not careful with your body, a fire could occur. This can happen when your skin is damaged, for example by a needle. This creates an opening through which uninvited viruses can enter your body and cause trouble just like a fire. As soon as a fire occurs in your home, signals are sent to the fire station. Your body's fire station works in the same way. The station warns the white blood cell fire fighters. They will come to help you put out the fire. They will use certain tools to do this. These tools are called antibodies. For each fire the fire fighters use a different tool.

The white blood cell fire fighters play a major role in protecting your home. They are constantly searching for causes of fire such as Bacteria, Virus, Cancer Cells and Poison. There is one fire, however, that is hard to put out: HIV. HIV is different from other fires; it harms the fire fighters. Because of this, fire fighters can not do their job as quickly as they could before. Inside the HIV-infected person fire fighters are always trying to get rid of fires. They cannot stop the fires immediately because they are weakened. Medicine generally slows down these fires. However, even if no medication is taken, it usually takes years before the fires kill all the fire fighters. After HIV has burned down the fire station and its fire fighters, a person will die.