More than words?

A study on the effects of metaphors in written AIDS education in South Africa.

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Preface

Al sinds het begin van de cursus ‘Interculturele aspecten van gezondheidsvoorlichting’, wist ik het zeker: ik wil naar Zuid-Afrika. Na de nodige virtuele bezoeken aan de Universiteit van Stellenbosch wist ik ook dat dit mijn bestemming zou worden. Helaas was ik niet de enige met deze gedachte, en omdat er slechts 3 plaatsen beschikbaar waren, volgde er een spannende loting. Met kloppend hart luisterde ik naar de uitslag, en wat bleek: ik was 1 van de drie geluksvoogels!

12 juli was het dan zover. Samen met twee mede studenten vertrok ik, na afscheid van mijn feestcommitee, richting Zuid-Afrika. Vanaf het vertrek vormden Maartje, Marloes en ik meteen een goed team: de dol dwaze drie was een feit. Mijn verwachting van Zuid-Afrika bleek meer dan waar te zijn. Wat een bijzonder en prachtig land! De natuur en de dieren zijn adembenemend mooi en de mensen zijn erg gastvrij en vriendelijk. Maar hoe prachtig Zuid-Afrika ook is, HIV/AIDS is voor de gezondheid van de Zuid-Afrikaanse bevolking een grote bedreiging. Gedreven en enthousiast ben ik aan de slag gegaan met mijn afstudeeronderzoek, in de hoop een bijdrage, hoe klein dan ook, te kunnen leveren aan de strijd tegen HIV/AIDS in Zuid-Afrika.

Dit onderzoek had ik zonder de hulp en steun van een aantal mensen niet kunnen uitvoeren. Zoals in elk voorwoord, wil ik hier dan ook graag van de gelegenheid gebruik maken om een aantal mensen te bedanken.

Ten eerste wil ik mijn scriptiebegeleiders Prof. dr. Jansen en Prof. dr. de stadler bedanken voor de mogelijkheid die ik heb gekregen om mijn afstudeeronderzoek uit te voeren in Stellenbosch. Meneer Jansen, ik wil u bedanken voor uw enthousiaste begeleiding, kritische blik en opbouwend commentaar waardoor ik dit onderzoek naar tevredenheid heb kunnen afronden. Beste meneer de stadler, baie dankie vir die enthousiaste begeleiding in Stellenbosch, vir die gastvrijheid en natuurlik ook vir die lekker aand wat ons gehad het by die huis van julle. Ook wil ek baie dankie sê vir Lize, Maretha, Philip, Rose and Erina van die Taalsentrum van de Universiteit van Stellenboch vir hulle assistensie en vriendelijkheid. Ook gaat een woord van dank uit naar Margot van Mulken voor haar verhelderende kijk op, en deskundig advies omtrent metaforen.

Tot slot gaat een speciaal woord van dank uit naar mijn (schoon)familie en Pattie. Bedankt voor jullie steun, vertrouwen, interesse en jullie kaartjes maar vooral voor het feit dat jullie niet aan mij lieten merken hoe erg jullie me misten.

And last, but not least: Sambal & Nistel bedankt voor de fijne samenwerking, de lol, en onze gedeelde passie voor eten, ‘Wes’, wijn en chocolade! Zonder jullie was het nooit zo een geweldige ervaring geweest.
Abstract

The silent storm of HIV/AIDS is ravaging communities all over South Africa where over 22 million people are living with HIV/AIDS. Especially among young people the infection rate is increasing rapidly, with devastating effects throughout the country. One of the most effective strategies in reducing the number of new HIV infections is health education. It is essential that South Africans (especially young ones) are well informed and educated about HIV/AIDS and the methods of prevention and treatment. This research intends to gain insights into the effectiveness of written HIV/AIDS education documents.

Research by Laanstra (2005), Saal (2003) and Verwer (2003) has shown that style constitutes one of the main factors which can influence the effectiveness of a text. A certain style, in turn, can be created by so-called ‘rhetorical figures’. The present study focused on one particular rhetorical figure, namely metaphors. Metaphors can be defined as expressions that provide means of understanding by describing one thing or experience in terms of another thing/ experience.

Several researchers claim that not every metaphor might be successful in every culture. Therefore, the three largest ethnic groups in South Africa (the Xhosas, Whites, and Coloureds) needed to be considered. The present research focused on the Xhosas, while two other researchers (Van Nistelrooij and Van Sambeek) focused on respectively the Coloureds and Whites. All studies tried to reveal whether or not the use of metaphors in written HIV/AIDS documentation affects understanding, persuasiveness, attractiveness and stigmatization.

In order to reveal this effectiveness, four main questions were posed. The first research question was aimed at determining the effectiveness of metaphors. This research question read: “Under which conditions and to what extent do metaphors in written AIDS communication have an effect on a text’s attractiveness, understanding and persuasiveness to the Xhosa high school students in South Africa?”

The second research question was aimed at determining whether metaphors enlarge stigma. This research question read: “Under which conditions and to what extent do metaphors affect stigmatization among the Xhosa high school students in South Africa?”

Since the present study was also carried out among White and Coloured high school students, it was possible to combine all data and draw conclusions for the South African high school students in general. The third research question was aimed at revealing possible differences between the three ethnic groups regarding the effectiveness of metaphors, and at revealing differences between the metaphorical and non-metaphorical text. This question read as follows: “To what extent do ethnic
group and text version affect the attractiveness, understanding, and persuasiveness of various types of metaphors in written HIV/AIDS documentation?"

The last research question was aimed at determining whether or not there were differences between the ethnic groups regarding the stigmatizing effects of metaphors. Additionally, this question was aimed at determining whether or not there were differences between the stigmatization of the metaphorical and the non-metaphorical text. The question read: “To what extent do ethnic group and text version affect stigmatization caused by the use of metaphors?”

A review of several studies showed diverging theories on the processing of metaphors. In general, two diverging views can be distinguished with regard to the effects metaphors might have on the effectiveness of a text. The first view draws upon the theory of conceptual metaphor by, for instance, Lakoff and Johnson. When this theory is considered, one might expect metaphors to be processed indirectly and therefore to have possible effects such as the enhancement of the understanding, attractiveness, and persuasiveness. The second view draws upon the theories of McGlone and Gentner & Bowdle. When considering these theories, it may be expected that the way metaphors are processed depends on their novelty: novel metaphors are processed indirectly, while conventional metaphors are processed directly. Consequently, it may be expected that conventional metaphors might not lead to the same effects, such as the enhancement of understanding, attractiveness and persuasiveness, as novel metaphors will.

An experiment was conducted in order to obtain the answers to the research questions. Before this experiment was carried out, two preliminary stages (a corpus analysis and a focus group discussion) were implemented in order to get a notion of the extent to which metaphors had already been used in HIV/AIDS communication in South Africa, and the extent to which experts believed that the use of metaphors might be useful for educational purposes. Both also revealed that metaphors have been used and that they may be useful for educational purposes, and they also revealed a top three of most effective/most frequently used metaphors. Based on this top three, five different text versions were designed in collaboration with Van Nistelrooij and Van Sambeek. Four of these text versions contained metaphorical language and one contained non-metaphorical language. In addition, a questionnaire was made to measure the ‘attractiveness’, ‘understanding’, ‘persuasiveness’, and ‘stigma’ of these text versions. These texts and questionnaires were evenly distributed to high school students around Stellenbosch. In total 936 students participated, of which 285 were Xhosa, 261 were White, and 369 were Coloured.

The different text versions made it possible to reveal potential differences between metaphorical- and non-metaphorical texts. The representation of the different ethnic groups made it possible to reveal possible differences between the ethnic groups. Moreover, interaction effects between ethnic group and text version could also be calculated.
The results of the analyses for the Xhosa high school students showed that metaphors did not under any condition or to any extent had an effect on ‘attractiveness’ and ‘understanding’. Moreover, none of the text versions appeared to have stigmatizing effects. However, the results did show an effect of metaphors on ‘persuasiveness’. Metaphorical text C (which referred to a boxer) was found significantly more persuasive than metaphorical text B (which referred to an army).

The analyses in which all the ethnic groups were taken into account only revealed differences between the ethnic groups. No differences, however, were found between the metaphorical and non-metaphorical text versions or between the various metaphorical texts. Moreover, no interaction effects were found between ethnic group and text version. Differences between the ethnic groups were only found for the variables ‘attractiveness’ and ‘persuasiveness’. It appeared that the Xhosa and Coloured high school students evaluated the texts as more attractive and more persuasive compared to the White students.

To conclude; this research does not find support for metaphors enhancing the attractiveness, understanding, and persuasiveness of an educational text on HIV/AIDS. This research does, however, show that metaphors do not seem to have stigmatizing effects. Moreover, the effectiveness of metaphors seems to differ between the ethnic groups indicating that these differences should be taken into account when educating South African students about HIV/AIDS. This might mean that each text should be adjusted to the specific ethnic group instead of designing one text for all South Africans.

Several possible explanations can be given for not finding effects. The most profound explanation concerns the novelty of metaphors. Maybe only novel metaphors can enhance the effectiveness of a text. It is plausible that the metaphors which were used in the present research were conventional and therefore were processed directly without having effects on the ‘attractiveness’, ‘understanding’ and ‘persuasiveness’. These results are in line with the expectations based on the theories of McGlone and Gentner & Bowdle. Other possible explanations concern the content of the text: the information in the text may be interesting and appealing without the use of metaphors, or it could be that metaphors simply are not effective tools to enhance the effectiveness of a text. Methodological problems could also have influenced the results: the students might not have concentrated enough while reading the text and answering the questions, the language might be too difficult for them, or the differences between the texts might not have been obvious enough for them. Further research is needed to gain more insight into the effectiveness of metaphors and the differences between the African ethnic groups. It may be interesting to consider both novel and conventional metaphors and to use a within subject design.
AIDS is a disease that has affected the whole world. The annual UNAIDS report states that in 2007 approximately 33.2 million people were infected with HIV. Sub-Saharan Africa appeared to be most affected by the global AIDS epidemic, with AIDS remaining the leading cause of death there. The scale and trends of the epidemics in the region vary considerably, with Southern Africa most seriously affected. This sub region has the highest death rate in the world due to AIDS and accounted for almost one third (32%) of all new HIV infections and AIDS deaths globally in 2007. Research conducted by CAR SAMR and ASSA\(^1\) (2006) showed that almost half of all deaths in South Africa, and a staggering 71 percent of deaths among those aged between 15 and 49, are caused by AIDS. Medicine is still expensive and therefore not available for everyone. Effective AIDS education is, therefore, of vital importance in the fight against this disease. It is essential that people (especially young people) are well informed and educated about AIDS and the methods of prevention and treatment. Research has shown that many young people are undereducated: “In 2005, only 30 percent of all boys and 20 percent of all girls worldwide knew how to prevent HIV infection” (Wessel Van, 2006).

In South Africa, much money and effort is put into the design of documents that educate people about HIV/AIDS. Unfortunately, as can be noted from the rising number of infected individuals, most documents and other interventions may not have been very effective in combating the spread of the disease. Therefore, more research is required to gain insight into the effectiveness of written AIDS education documents. Fishbein and Azjen (1981) state that if a health education campaign is to be effective, it must result in behavioural change. But, since someone’s behaviour is determined by their attitude, Fishbein and Azjen state that a campaign must not directly be aimed at behaviour; it must be focused on one of the underlying determinants of behaviour, namely ‘attitude’.

The present study is part of the EPIDASA project (www.epidasa.org) which tries to provide more insights into and knowledge of effective methods of influencing the determinant ‘attitude’ through the use of style elements in texts. The present study focuses on the extent to which one particular style element, namely metaphor, might be effective in written HIV/AIDS documentation in South Africa. It specifically tries to reveal whether or not the use of metaphors in written HIV/AIDS documentation affects ‘understanding’, ‘persuasiveness’, ‘attractiveness’ and ‘stigmatization’.

Considering the fact that South Africa has a variety of ethnic groups, who all have their own beliefs about HIV/AIDS (prevention), the present study also tries to determine if the factor ‘culture’ might affect the effectiveness of metaphor use. If this is the case, it could imply that South African AIDS education in general has to be adapted to the various ethnic groups that are living in this country.

\(^1\) Centre for Actuarial Research, South African Medical Research Council and Actuarial Society of South Africa
2 (Health) Education

According to Perloff (2001), even in this era of great medical discovery, the best hope for AIDS prevention lies in education, communication and persuasion: in teaching people how HIV is transmitted and in counselling them on steps they can take to protect themselves from contracting the virus. Fishbein and Azjen (1981) state that if a health education campaign is to be effective, it should result in behavioural change. According to these authors, a health education campaign must not be aimed directly at behaviour, but at one of the underlying determinants of behaviour, namely attitude. This is because, according to these authors, someone’s behaviour is determined by their attitude. This attitude is an evaluation of the behaviour and is based on the following two components:

- beliefs that the behaviour leads to a certain outcome (for instance: drinking and driving can cause car accidents);
- an evaluation of these results (for instance: car accidents are bad).

This implies that writers of persuasive texts should address both components in order to influence a person’s attitude. An attitude change could result in a behavioural change. (Health) Education therefore is primary focused on attitude change. Or as Perloff (2001, p. 3) puts it: “persuasion is about convincing people to change their attitude towards behaviour”.

How to establish attitude change?

In the Elaboration Likelihood Model (ELM), Petty and Cacioppo (1986) describe how attitude change takes place. This model distinguishes two routes leading to attitude change, namely the central and the peripheral route. When people take the central route, they study the message arguments and assess the quality of these arguments thoroughly before making their evaluation. Central processing is careful and systematic and assumes that a person is motivated to think about the message. Since the individual expends a lot of energy thinking about a message, attitudes which are formed via the central route tend to be well integrated into an individual’s belief system. Consequently, these attitudes persist for a long time.

When people are less motivated or less competent, they tend to take the peripheral route. This process is much less focused on the content of arguments. People who process information heuristically do not think about the arguments that are given, but base their judgement on simple heuristics such as whether the source is an expert. Perloff (2001) gives the following example to explain peripheral processing: “people frequently lack time or motivation to think deeply about which gum, paper towel, or soft drink to buy. Recognizing this, advertisers rely on numerous peripheral cues to promote these products, including humour, celebrity endorsements, and glitzy packaging” (p. 81).
Meyers – Levy and Malaviya (1999) add a third route they call the experiential strategy. They believe that, “when an experiential strategy is used, the process that mediates judgements does not involve message cues per se, but the elicitation and interpretation that emerge from the very process of processing” (Meyers – Levy and Malaviya, 1999, p. 46). In other words: when people process information through this route, they do not base their judgement on the arguments presented or on heuristics, but the processing of the message alone gives them a positive or negative feeling. This feeling forms the basis for their attitude.

Since the main purpose of health education lies in persuading people, it is important to find effective ways in which this can be accomplished. Previous research by Laanstra (2005), Saal (2003) and Verwer (2003) has shown that style can play an important role in the process of persuading people. Hoeken (1998, p. 12) states that tailored decisions on the level of content, structure, and style might influence the effectiveness of a text.

2.2 Style Elements- Rhetorical Figures

Burger and De Jong (2002) define style as the choice between possible formulations to shape a thought. There are various elements to create a certain style. This research will focus on one of these elements, namely rhetorical figures.

In a study conducted by Van Enschot-Van Dijk (2006, p. 11), a rhetorical form is defined as an artistic deviation of a message (which is based on research conducted by McQuarrie and Mick, 1996). This deviation is primarily present at the level of the message’s form and not at the level of the content of the message. Thus, when a rhetorical form is used, the message is presented in an artistic or creative manner, but its content remains the same. For example, one could refer to a painting as follows: ‘In my office there is a beautiful painting on the wall’, but one could also present the message in a creative manner: ‘In my office there is a Rembrandt on the wall’.

In order to gain more insight(s) into the possible effects of rhetorical figures, it is necessary to categorize the different rhetorical figures. McQuarrie and Mick (1996) have developed such a categorization. As shown in figure 1 on the next page, McQuarrie and Mick use three levels to categorize rhetorical figures. The first level of the framework is called ‘figuration’ and consists of all rhetorical figures. The second level is called ‘figurative mode’ and corresponds to two different modes of figuration, namely schemes and tropes. Schemes and tropes differ in two ways with respect to how they deviate from expected language. Schemes are stylistic decorations that are meaningless (Van Enshot-Van Dijk 2006, p.16). Schemes represent deviation focused on surface-level or sensory aspects, as when one repeats sounds to achieve a rhyme. For example ‘Drinking Red Bull makes that you are cool’. In addition schemes involve excessive order or regularity in the way that multiple, redundant cues communicate the intended meaning. As a result, schemes do not have to be interpreted. Tropes involve irregularity in such a way that existing cues do not fully communicate the
intended meaning or communicate multiple possible meanings. They are created by the substitution of one meaning for the other or by implying more than is said. Van Zandvoort (2004, p. 11) gives the following example of a trope, which she found in a Love Life campaign against AIDS: ‘Too smart for just any body’. A picture of a black woman in her underwear accompanies this slogan. The part that creates the double meaning is any body. Any body can firstly refer to a male body and secondly to everyone. Tropes are incomplete in the sense of that they lack closure. In order to understand a trope the reader must reinterpret the message. In other words: tropes invite readers to elaborate. The last level of the framework is the level of rhetorical operation, which distinguishes simple from complex schemes and tropes. The present study only focuses on one rhetorical figure, namely the metaphor. In the section 2.7 theoretical support will be provided to demonstrate that metaphors have been used in health education, which is the focal point of this study.

Figure 1: taxonomy of rhetorical figures in advertising (McQuarrie and Mick, 1996)

Health education deals with complex concepts – like AIDS and HIV- which are difficult for people to understand. With regard to this, the use of metaphors in those educational texts might be effective in a way that can facilitate understanding. In order to investigate this claim, the first step is defining what metaphors are exactly.

2.3 What is a Metaphor?

As Vroon and Draisma (1985) state, the word metaphor has been inferred from the Greek word *metapherien* (assign), meaning that the unknown is described in terms of the known. Through a metaphor, characteristics and their bilateral relationships are being projected from one object upon the other. “Characteristic of metaphors is that similarities between two contexts are indicated, or that an equality among differences is pointed out” (Vroon and Draisma, p. 67). Consistent with this description, Kovecses (2002) defines metaphors as understanding one conceptual domain in terms of another conceptual domain. Metaphors are used to make a concept more concrete. Steger (2007) also
draws upon the same concept; he defines metaphors as means of representing one aspect or experience in terms of another.

The vision of Lakoff and Johnson (2003) on metaphors is in line with the description above: metaphors provide means of understanding one kind of thing or experience in terms of another kind. But Lakoff and Johnson take the effect of metaphors to another level. According to them, people structure their lives in terms of metaphors, that is, metaphors are pervasive. Metaphors may play such a strong role in structuring reality, that people base their everyday perceptions and actions upon them. Everyday perceptions play an important role in people’s conceptual system, but it must be noted that they play this role because of the experiences with them. These experiences differ from one culture to another and are dependent on understanding one experience/ thing in terms of another experience/ thing. As noted by Lakoff and Johnson (2003), this does not only imply that experiences are metaphorical by nature but that our conceptual system is inherently metaphorical; people think, understand and function on the basis of metaphors.

These views all imply that in metaphors (unknown) things/ experiences are described in terms of other (known) things/ experiences. Based on the insights provided by Vroon and Draaisma (1985), Kovecses (2002), Steger (2007) and Lakoff & Johnson (2003), the definition which is used in the present study is the following: metaphors are expressions that provide means of understanding by describing one thing or experience in terms of another thing/ experience.

2.4 How to Identify Metaphors

In order to conduct research on the use of metaphors in HIV-AIDS documentation, a method needs to be found to identify those metaphors. Forceville (1998) shows that in order to identify metaphors, it is best to use Black’s interaction theory of metaphor. Black states that in each metaphor one or more features are projected from the domain of the secondary subject (Lakoff and Johnson call this the source domain) onto the domain of the primary subject (which Lakoff and Johnson call the target domain). The so-called primary subject draws on the literal, conventional use of language, and can be seen as the literal, conventional subject. The secondary subject is used unconventionally, and can be regarded as the metaphorical subject. According to Black’s theory, the process of mapping features from the secondary subject on the primary subject involves foregrounding adoption or modification of certain features in the primary subject. Thus, there is a match between the elements of the source and target domains. This match is required for making a certain principle (the target domain) recognizable and understandable by referring to something that is more familiar (the source domain). For example: the functioning of the heart is difficult to understand. In order to make this target domain (the functioning of the heart) more recognizable, it can be compared to a piston pump. The chosen source domain - in this example the piston pump - acts as a source of inspiration for the functioning of the heart (the target domain). It guides perception.
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?
- Which of the two terms is the metaphor’s primary subject, and which is its secondary subject?
- Which features are projected from the domain of the secondary subject onto the domain of the primary subject?

To answer these questions, various contextual factors must be taken into account.

2.5 How Do Metaphors Work? - The (possible) effects of using metaphors

The focus of this study is the (in)effectiveness of metaphor use in written HIV/AIDS education in South Africa. As mentioned before, if a health education campaign is to be effective, it should result in behavioural change. This can be accomplished by focusing on attitude change. In section 2.1, three routes were presented which all lead to attitude change. To match these processing routes to the topic of the present study, it could be stated that metaphors could be processed through all three routes. This is described in more detail in section 2.5.3.

Van Zandvoort (2004) describes several theories on how metaphors may influence central processing. All these theories state that metaphors can affect central processing in situations where the reader is expected to elaborate on information. The superior organization theory, for example, suggests that the associations evoked by the metaphor help to structure the arguments. The process of structuring the arguments might be seen as systematic processing. Further on in this section, the superior organization theory will be explained in more detail. Additionally, Van Zandvoort argues that metaphors could also serve as a peripheral cue that triggers heuristic inference. She refers to McQuarry and Mick (1996) to explain the heuristic processing of metaphors. The form of a metaphor deviates from expected (literal) language use: it does not state literally what is intended to be said but makes a comparison between two objects to pass on meaning. This deviation is a factor that attracts and holds the attention of the readers. In other words, this deviation will serve as a heuristic cue. Finally, Van Zandvoort describes how metaphors could affect persuasion via the experiential strategy. When a message is processed experientially, its form and content have little or even no effect. Metaphors can influence this process only by the emotions or mood they invoke. These might include a sensation of familiarity caused by prior exposure to a metaphor in the persuasive message or the reward of pleasure or relief for relieving the negative tension associated with the recognition of the metaphor.

The following section will describe the possible (negative and positive) effects of metaphor use in written health documentation. Hoeken (1998, p.12) argues that the effectiveness of a text does not only depend on the text itself. He states: “Understanding, attractiveness and persuasion are a product of reader- and text characteristics”. This implies that research on the effectiveness of texts should
take into account these three factors. Therefore, the present study focuses on the effects metaphors might have on the understanding, attractiveness and persuasiveness of an educational text on HIV/AIDS. However, it will only focus on text characteristics, reader characteristics will not be taken into account. In section 2.5.1 ‘understanding’ will be elaborated on, and sections 2.5.2 and 2.5.3 will discuss ‘persuasiveness’ and ‘attractiveness’.

2.5.1 Understanding
Several researchers presume that metaphors can be helpful in health education because they facilitate understanding. For instance, according to Liebert (1999), metaphors are powerful linguistic tools for understanding and comparing complex systems like diseases. In pursuing their social and professional aims, doctors often adopt metaphors such as ‘fighting against cancer’. Larson et al. (2005) also suggest that metaphors “are important, not only because they facilitate understanding, but also because they do so by transporting meaning across the ‘boundary’ of science and society” (Larson et al., 2005, p. 245). Ortony (1975) agrees with this claim, but ascribes the effect to another factor. He states that because metaphors can enhance the liveliness of a text, a better understanding and retention of information presented in a text might be accomplished. According to him, this is accomplished because “the process of particularisation is focused and because, in some words, a complete chain of characteristics is implemented without having to convert it into discrete language. For this reason, metaphors bring people closer to reality. Metaphors derive their educational strength from the fact that they ensure more detailed visual conceptions. Because of this, metaphors ensure a better understanding and a better retention” (retrieved from Simons, p. 60). According to Hoeken and Poulssen (1991), the liveliness of metaphors could also function as a stimulation to use the central route of the ELM in order to process the message. In this case readers will think more thoroughly about the arguments in the message. As a result, the readers might activate more relevant foreknowledge. They refer to Jonassen (1985) to link this liveliness of metaphors to understanding: “When the liveliness functions as a stimulation to process via the central route, readers could understand the text better and have a better retention” (Hoeken and Poulssen, p. 216). Examples of the liveliness of metaphors are ‘He showered her with gifts’ instead of ‘he gave her a lot of presents’, or ‘That woman is the sunshine of my life’ instead of the less lively variant ‘I like that woman very much’.

Moreover, when people understand a message, information transfer takes place. According to Hoeken (1998), this is often an important step in order to persuade people. Since persuading people is essential in health education, this will be the second factor covered in this study. The next section discusses the literature on the persuasiveness of metaphors.

2.5.2 Persuasiveness
Are metaphors effective persuasion devices? Sopory and Dillard (2002) reviewed several theoretical explanations of the persuasive effects of metaphors, in order to determine which explanation is supported most nowadays. The results of this analysis showed that the so-called superior organization
theory received the most support. This theory suggests that a metaphor helps to structure and organize the arguments of a message. The key idea here is that a metaphor provides relevant semantic associations. If these associations are consistent with the metaphor, the arguments become more coherently linked. These links ‘highlight’ the arguments, making them more salient. Consequently, more coherent organization and the resulting highlighting of the arguments improves the comprehension of message arguments. It is likely that this would increase persuasion. Sopory and Dillard also conducted a meta-analysis in which the impact of seven moderator variables was tested. Based on this study Sopory and Dillard (2002) conclude that, in general, metaphorical messages produce a greater attitude change than their literal counterparts. This supports the claim that metaphors may enhance persuasion. Specifically, the results show that the use of metaphors in the introduction of a text was more persuasive than the use of metaphors in other parts of a text. Apart from that, it was shown that persuasion is directly related to metaphor novelty. The research revealed that novel metaphors were more persuasive than non novel ones. Thus, these results suggest that the persuasive impact of a metaphor is maximized if the audience is familiar with the metaphor target, the metaphor is novel (e.g. creates new information about the target), is used at the start of a message, and is single. The subject of metaphor novelty will be discussed on page sixteen. The issue of metaphor novelty is discussed in more detail in section 2.5.4.

McQuarrie and Phillips (2005) note that there is a tendency in advertising to use indirect persuasion attempts, such as metaphors, instead of direct ones. For example, the following direct phrase can be used to refer to the performance of a ballet dancer: ‘Her arms were long, thin and graceful’. An indirect attempt to convey the same message could be for instance: ‘Her arms were like swans’. McQuarrie and Phillips tried to find out, if and how, these indirect attempts could be advantageous. Their findings suggest, “that the use of metaphorical claims in ads appears to make consumers receptive to multiple, distinct, positive inferences about the advertised brand, while still conveying the main message of the ad” (McQuarrie and Phillips, p. 17). Moreover, verbal metaphors appear to generate these additional inferences only on reflection when provoked, while pictorial metaphors are able to elicit them spontaneously at the time of advertisement exposure, rendering the positive impacts of message elaboration. These results imply that it is the openness of indirect metaphorical claims - the lack of constraints on their interpretation - that is the source of their persuasive advantage. However, it must be noted that the researchers studied advertisements and not health educational texts. Therefore more research is needed to find out whether or not metaphors in HIV/AIDS documentation can make texts more persuasive.

In short, the superior organization theory explains why a message with a metaphor is easier to understand and how this could lead to higher persuasion. Thus, it links two major elements of the present study, namely ‘understanding’ and ‘persuasiveness’. The theory below discusses another factor which is closely related to these elements and also discusses the issue of metaphor novelty in more detail.
2.5.3 Attractiveness

The assumption can be made that metaphors could affect persuasion through several processing routes. An effect of the elaboration of metaphors via the experiential strategy is, according to Meyers-Levy and Malaviya (1999), that - because of the pleasure - the advertisement is found more attractive. Dingena (1994) also found that advertisements which used rhetorical figures (in this case metaphors, metonymies and repetitions) were found more attractive than advertisements without rhetorical figures. Schilperoord and Maes (2003) draw the same conclusion: in their study advertisements with (visual and verbal) rhetorical figures were found more attractive than their non-rhetorical opponents. Thus, these results suggest that advertisements that include metaphors are more attractive than those that do not.

Up until now, it has been stated that metaphors – although they cost more effort to interpret – could have positive effects on attractiveness. But Meyers-Levy and Malaviya (1999) also point out that the opposite can be the case. It is possible that readers could become frustrated if they do not know how to interpret a trope. Readers had expected optimal relevance; they expected that the effort it took to interpret the trope would be compensated by the effect. In other words: they expected the trope to be relevant enough for it to be worth the effort to process it. However, when readers do not know how to interpret a certain trope, the effort is not compensated by the effect. According to these authors, this frustration could lead to a lower appreciation. Van Enschot-van Dijk (2006) builds upon this assumption by stating that advertisements which include a trope are, when understood, more attractive than advertisements which include schemes or those without rhetorical figures. However, if tropes (for instance metaphors) are not understood, this might lead to negative effects on the attractiveness of a trope. Moreover, this implies that understanding a trope (for instance metaphor) might be a criterion for a positive effect on the attractiveness of a trope. Further research is needed to determine whether or not this finding is also applicable for metaphor use in South African health education.

2.5.4 Metaphor Novelty

As noted before, Sopory and Dillard (2002) showed that persuasion is directly related to metaphor novelty. The issue of metaphor novelty is also of key interest for McGlone (2007) and Gentner and Bowdle (2001)\(^2\). According to these authors, metaphor novelty is of great importance when considering the effectiveness of metaphor use. They state that previous studies did not take into account the novelty of metaphors, which might have consequences for the theory of conceptual metaphor. McGlone states that the theory of the conceptual metaphor that is put forward by, for instance, Lakoff and Johnson (2003) does not carry sufficient empirical nor theoretical support. According to McGlone (2007): “Lakoff and his colleagues base the metaphoric representation claim

\(^2\) 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.
solely on their intuition about how certain idioms cohere thematically” (p. 114). He states that the theory of conceptual metaphor does not take into account the differences between the way novel metaphors and 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 (conventional). According to McGlone, metaphorical expressions with which a reader is familiar can be understood without recourse to conceptual mappings: they appear to be understood directly and literally. An example of a conventional 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 might very well involve inferring a conceptual mapping (between source and target). McGlone explains the processing of a novel metaphor with the following example: the novel expression ‘Rush Limbaugh’s bloated ego gobbled up his integrity and then used the airwaves as a toilet’ might involve a conceptual mapping between arrogance and digestion.

Gentner and Bowdle (2001) agree with McGlone that conventional metaphors are processed differently from novel metaphors. Gentner and Bowdle state that novel metaphors involve source domains that refer to a domain specific concept (e.g. a literal concept), but are not (yet) associated with a domain general category (e.g. an associated metaphoric category). For example, the novel source domain glacier (as in ‘Science is a glacier’) has a literal sense – ‘a large body of ice spreading outward over a land surface - but no related metaphoric sense (e.g. ‘anything that progresses slowly but steadily’). In contrast, conventional metaphors involve source domains that refer to both a domain specific concept as well as to a domain general concept. For example, the conventional source domain blueprint (as in ‘A gene is a blueprint’) has two closely related senses: the literal sense ‘a blue and white photographic print in showing an architect’s plan’ and the metaphoric sense ‘anything that provides a plan’. In general, Gentner and Bowdle state that all metaphors involve structural alignment of the source and target domain. According to them, these alignments can be akin to either comparisons or to categorizations and can be computed either directly or indirectly. In case of comparisons, the reader will attempt to find common ground between the source and target domain. For example, in order to understand the metaphor ‘Time is a river’, the reader will seek to find common properties of river (source domain) and time (target domain).

In the case of categorization, the source domain derives a metaphorical category of which it represents a prototypical member. When this metaphoric category has been abstracted, the target domain is understood as being part of that category. For example, in order to understand the metaphor ‘Time is a river’, the reader will use the concept of ‘river’ (which is the source domain) to derive an ad hoc metaphoric category in which it represents a prototypical member (e.g. ‘things that flow forward’). Once this metaphoric category has been abstracted, ‘time’ is also understood as being a member of the category ‘things that flow forward’. In case of direct comprehension, a metaphor is
processed the same way as a literal expression: no conceptual mapping of source and target is needed. Indirect comprehension means that the reader has to derive the meaning of the metaphor via the source domain. Whether the alignments can be akin to comparison or to categorization and whether they are computed directly or indirectly, depends on two factors; the type of representation invoked by the source domain and the linguistic form of the metaphor. Considering the differences between novel and conventional metaphors, there is reason to assume that these factors might be different, implying that the alignments and comprehension of both types of metaphors could also differ. Gentner and Bowdler endorse this, and state that because novel source domains refer only to a domain specific concept, they can only be interpreted as comparisons. As a result, Gentner and Bowdler state that comprehension of novel metaphors will be indirect: the reader has to reinterpret the metaphor as a comparison between source and target domain. However, in conventional metaphors the source domain refers to both a domain specific concept (e.g. a literal concept) as well as to a domain general category (e.g. an associated metaphoric category). Conventional metaphors may therefore be interpreted as either comparison or categorization. Gentner and Bowdle state that the comprehension of conventional metaphors is direct: the metaphor invites categorization, and the source domain provides a metaphoric category to align with the target domain. Thus, novel metaphors are assumed to be indirectly processed through comparison, while conventional metaphors are assumed to be directly processed through comparison or categorization.

Relating the theories of McGlone and Gentner & Bowdle and the conceptual theory of metaphors to the present study results in diverging expectations with regard to the effects metaphors in an educational text might have on the effectiveness of that text. When the theory of Lakoff and Johnson is taken as a starting point, it may be expected that there is no difference in the processing of various metaphors. As a result, the processing of metaphors is indirect and involves a conceptual mapping of source and target. Therefore, metaphors (of whatever kind) in an educational text might have an effect on the effectiveness of that text: they might affect the attractiveness, understanding, and persuasiveness of a text.

When the theories of McGlone and Gentner & Bowdle are taken as a starting point, it may be expected that the way metaphors are processed depends on their novelty: novel metaphors are processed indirectly (for which conceptual mapping is needed), while conventional metaphors are processed directly, which is not different from the processing of a normal literal expression. A consequence for conventional metaphors is that because of this direct and literal comprehension no conceptual mapping is needed, and therefore possible effects such as the enhancement of ‘understanding’, ‘attractiveness’ and ‘persuasiveness’ might not apply.

Gibbs and Tendahl (2006) also looked at the possible effects of both novel and conventional metaphors. They state that although both novel and conventional metaphors take extra effort to comprehend compared to non metaphorical expressions, there may be cases where especially novel,
creative, poetic metaphors take a great deal of effort to understand. However, these authors also acknowledge that metaphors can be understood as quickly as literal speech, when they are encountered in rich linguistic contexts.

2.6 Stigma
The main assumptions in the previous section draw upon the idea that metaphors can be beneficial in health education. However, not all researchers agree with that. Sontag (1978) warns of the negative implications (in her study AIDS-) metaphors may have on people. She stresses that the use of metaphors in AIDS education can to a large extent falsify and distort the truth about AIDS. According to Sontag, the societal and cultural responses to AIDS create a second illness in addition to the original affliction, which is called the "double": the layers of stigma, rejection, fear, and exclusion that are attached to diseases. For example, AIDS implies a ‘sexual plague’. The disease and its double (e.g. the stigma) force the patient, now twice victimized, further into the cage of his or her illness: shunned, silenced, and shamed in addition to being very ill. Because of this, Sontag pleads for a de-metaphorization of diseases. She advocates that diseases must be understood for what they are: biological entities alone. Bharat (2000) also stresses that the metaphoric use of language with AIDS related topics is a powerful indication of the stigma attached to it; AIDS has been strongly associated with moral denigration and lifestyles involving deviant and perverse sex, intravenous drug use and promiscuity. Subsequently, Perloff (2001) states that people with AIDS are given a ‘label’ which is attached with negative meanings to whatever characteristic the individual possesses. In other words: “people with AIDS bear a psychological mark that defines them as deviant or flawed in the eyes of many people” (Perloff, 2001, p. 132). Because stigma is such a large problem in South Africa, it is of interest to investigate whether the use of metaphors indeed contributes to stigmatization.

2.7 Metaphors in AIDS Education
Several researchers have tried to reveal which metaphors are commonly used to refer to AIDS. The subject of how AIDS is commonly metaphorically embodied, accounted for, and communicated will be discussed below.

Lean (2000) adapted a study in order to determine what metaphors are used to describe AIDS. To this end, selected extracts from the Times magazine were used. Lean states that a glance at these extracts leaves no doubt that reporting of AIDS is characterised by the language of evil. Li described the metaphorical representations of AIDS as a form of evil under the following five headings:

- The contamination of AIDS: This metaphor is extended to the victims of AIDS, who are seen as the carriers of the disease and the cause of its widespread. AIDS is personified as an evil intention seeking to infect its victim. This metaphor creates the illusion that only certain types of people are afflicted with AIDS, thus generating prejudices and casting blame. People with AIDS are blamed for their own illness because the causes are regarded as under their potential control (drug use, deviant sexual behaviour). When AIDS contaminates the body, the patient is given a new identity,
turning him into ‘one of them’. This thought is reflected in a rich vocabulary associated with AIDS: pervert, pollute, stigma, decay, corrupt, taint.

- **AIDS as an evil force**: AIDS is seen as a curse. AIDS is the century’s evil. The disease has the ability to reveal itself in certain forms, to travel from wife to lover, and extend its reach. Besides being the century’s evil, there are other negative references like slim disease, mysterious disease, witchcraft, tragedy, and an ancient curse.

- **AIDS as a form of moral pollution or plague**: metaphors of the moral nature form a bridge among morality, AIDS, and homosexuals in general. Re-diseasing homosexuals are considered to be a disease by themselves. The disease is seen as a moral scourge that threatens the existence of the homosexual community. The homosexuals are equated to wicked sinners – the sodomites - and are being judged by God for their immoral ways.

- **AIDS as a killer**: AIDS is seen as a terrifying killer that has left a horrifying trail of destruction in its murder path. It is a killer with human abilities. It is also a killer so petrifying that doctors do not give the killer its name. There are many metaphors for the damage caused by the disease – and who thus fall under the “category” AIDS as a killer - :
  - metaphor of destruction (e.g. flesh and muscle melt from the bones of the ill);
  - metaphor of horror (e.g. nightmare);
  - metaphor of bleakness (e.g. the rest of society looks away).

- **AIDS and the metaphor of decay**: in this case, metaphors of monsters are often used. AIDS is metaphorically described as a disease caused by an outsider, lodging itself in a healthy body, and then transforming the state of health into a state of illness. AIDS victims are seen as being near deaths door. The victim is half human as the other part is decaying, succumbing to the disease slowly but surely.

The way in which AIDS is described metaphorically, was also studied by Bharat (2000). Bharat states that social perception of an illness impacts people’s ways of responding to the sick and to the illness itself. In particular, illnesses that are given to moral interpretations such as AIDS elicit more negative than positive responses. Bharat tried to determine how AIDS is perceived and interpreted and found out that at least seven metaphors have been used to interpret the meaning of AIDS, which Bharat has based on Gilmore & Somerville (1994): AIDS as death; AIDS as punishment; AIDS as crime; AIDS as war; AIDS as otherness; AIDS as horror and AIDS as a villain.

### 2.8 AIDS Metaphors and Culture

As shown in the previous section, metaphors are often used to describe AIDS. Several researchers claim that there is a broad tendency across different cultures and languages for abstract, non-physical concepts to be metaphorically understood in terms of concrete concepts. An important question that arises is to what extent the same metaphors are used universally. According to Emaniat (1996), "such general tendencies and the universalizing effect on metaphorical expression that our shared physiologies and experiences as humans have, appear to be offset by various culturally specific
factors, the nature of which is not well understood. Obviously, some source domains will be available in some cultures and not in others; for example, those having to do with geographical or meteorological features. Beyond that, culture itself constrains the ways in which even panhuman domains will be viewed” (Emanatian, 1996, p. 199, 200). Emanatian’s vision is supported by several other researchers. Lakoff and Johnson (2003) state that not all humans live by the same metaphors, but that metaphors depend on culture and on what people focus on in life. A culture may be thought of as providing a pool of available metaphors for making sense of reality. Many conceptual metaphors are based on physical experiences as they are given to people in their culture. Bharat states that several metaphors are used in different cultural settings. These metaphors all include the perception of AIDS as a dreaded, shameful disease. But Bharat argues that the interpretation of these metaphors is guided by the social construction of the illness which might vary per culture. For example, in India AIDS is seen as a women’s disease which is associated with prostitution, while in Thailand AIDS is seen as a men’s disease (Bharat, 2000). In conclusion, their might be metaphors that are used universally but their interpretation seems to depend on the culture.

These findings could have serious implications for health communication in South Africa, because of its cultural diversity. South Africa has many different cultures/ethnic groups, each with their own beliefs, their own sets of values, and their own traditions. There are substantial cultural differences between three major ethnic groups in South Africa: the Blacks, Whites, and Coloureds. It would be impossible to describe all these differences in finer detail, but an example can be given to illustrate it.

Black cultures are described as being collective cultures. Roughly said, this means that members of collective cultures are part of a larger family (which often exceeds blood relations) and that the identity of the individual is derived from the identity of the group. De Stadler (2002) states that ‘we’ seems to be the dominant concept in collective cultures. A mistake leads to shame and loss of face for the individual and the group. White cultures on the other hand, are often described as being individualistic. Roughly said, this means that members of an individualistic culture are part of a smaller family in which they develop their own identity. According to de Stadler, ‘I’ seems to be the dominant concept in individualistic cultures. Unlike collective cultures, a mistake leads to feelings of guilt and loss of self respect.

In general, it can be said that the different ethnic groups have a diverse cultural orientation. Differences in cultural orientation can, according to Gudykunst (1991), lead to different perceptions of textual information. Because of the substantial cultural differences between the African ethnic groups and their consequences on perceptions regarding textual information, it seems reasonable to assume that not every metaphor might be successful in every culture. Therefore, research is required among the White, Coloured and Black population.
Moreover, the NMF/HSRC\(^3\) (2002) report mentions that looking at the different ethnic groups in South Africa is relevant in general. The report shows that AIDS is not proportionally divided among the different groups: Black South Africans are worst affected by the HIV/AIDS pandemic. This might suggest that metaphors could have different effects for Black South Africans than for, for instance, the White or Coloured South Africans. Therefore, all three ethnic groups need to be taken into account in order to reveal possible differences between them. The present research focuses on the Black population, while Van Nistelrooij focuses on the Coloured population and Van Sambeek focuses on the White population.

**Black South Africans**

The black population consists of nine ethnic groups. The biggest group is called the Zulus (5 million people), followed by a group called the Xhosas (two million people); the Northern Sothos (2.2 million people); the Southern Sothos (two million people); the Tswanas (1.1 million people), the Sjangaan-Tsongas (1 million people), the Swazis (800,000 people), the Southern-Ndebele (375,000 people), the Northern-Ndebele (260,000 people), the Vendas (125,000 people) and proximally 100,000 others (www.landweb.net). This research only focuses on the Xhosas.

### 2.9 Research Questions

Based on the theories discussed in the previous sections, the present research will concentrate on the following research questions:

1. *Under which conditions and to what extent do metaphors in written AIDS communication have an effect on a text’s attractiveness, understanding and persuasiveness to the Xhosa high school students in South Africa?*

2. *Under which conditions and to what extent do metaphors affect stigmatization among the Xhosa high school students in South Africa?*

The results of this research will be compared to the results of similar studies focusing on Coloured high school students (by Van Nistelrooij) and White high school students (by Van Sambeek). Because of this, it is possible to determine whether or not metaphors are effective for South African high school students in general and whether or not metaphors have stigmatizing effects. Additionally, the representation of the various ethnic groups makes it possible to determine whether or not there are differences between the groups concerning the effectiveness and stigmatization of metaphors. For this comparison the following research questions will be concentrated on:

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

4. *To what extent do ethnic group and text version affect stigmatization caused by the use of metaphors?*

\(^3\) Nelson Mandela Foundation/ Human Sciences Research Council
**Expectations based on diverging theories**

The diverging theories on the processing of metaphors (described in section 2.5) should be taken into account when forming expectations on the outcomes of the answers to the research questions. Relating the theories of McGlone (2007) and Gentner & Bowdle (2001) and the theory of conceptual metaphor of, for instance, Lakoff and Johnson to the present study may result in diverging expectations with regard to the effects that metaphors in an educational text might have on the effectiveness of that text. When the theory of conceptual metaphor of, for instance, Lakoff and Johnson is taken as a starting point, it may be expected that metaphors will be processed indirectly, and therefore might have possible effects such as the enhancement of the ‘understanding’, ‘attractiveness’, and ‘persuasiveness’. However, when the theories of McGlone and Gentner & Bowdle are taking as a starting point, it may be expected that the way metaphors are processed depends on their novelty: novel metaphors are processed indirectly, while conventional metaphors are processed directly. Consequently, it may be expected that conventional metaphors might not lead to the same effects, such as the enhancement of ‘understanding’, ‘attractiveness’ and ‘persuasiveness’, as novel metaphors will. In short, both views lead to diverging expectations for the present study: according to the theory proposed in Lakoff and Johnson, the probability that beneficial effects of metaphor use will be found is much higher than might be expected from the views proposed in McGlone and Gentner & Bowdle.
3 Method

3.1 Overview
This present study is part of a greater research project which is carried out in cooperation with Van Nistelrooij and Van Sambeek, and has the aim of investigating whether or not metaphors are an effective tool in South African HIV/AIDS communication. In order to achieve this goal, the effects of metaphors were tested on South African high school students of three different ethnic groups; Xhosas, Whites, and Coloureds. This way, conclusions can be drawn for the ethnic groups separately as well as for the effects metaphors might have on South African high school students in general. The present thesis describes the results of the Xhosa high school students, while Van Nistelrooij describes the results of the Coloured high school students, and Van Sambeek describes the results of the White high school students. All three theses report the results for the South African students in general.

In order to find out whether or not metaphors could be advantageous, three phases were implemented. The first phase was a corpus analysis, followed by the second phase which consisted of a focus group discussion. Both phases were conducted in preparation for the experiment, which was the last phase that had to be carried out. The results of both the corpus analysis and the focus group discussion were used to design well-considered material for the experiment. Both corpus analysis (see section 3.2) and focus group discussion (see section 3.3) were carried out in cooperation with Van Nistelrooij and Van Sambeek, since they did similar studies. Both phases will be discussed in this chapter, in which the results for all three ethnic groups will be described. The experiment will be discussed in section 3.4 and will only describe the procedure for the Xhosa high school students. Please refer to the thesis of Van Nistelrooij for an elaborate report on the Coloured high school students and to the thesis of Van Sambeek for an elaborate report on the White high school students.

3.2 Corpus Analysis

3.2.1 Relevance
A corpus study is an objective way to see what people have done in the past and which decisions they have made. A corpus study was conducted to get an overview on whether or not health educators have used metaphors in their HIV/AIDS communication. The results of the corpus analysis were utilized in the second step; the focus group discussion.

3.2.2 Material and Procedure
In order to get an idea on 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. The brochures that were used were all different, but 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 Centre. Also, an available collection of HIV-AIDS
brochures that had been collected over the years by the Language Centre of the University of Stellenbosch was used. The material that was used for the analysis had only been collected in certain areas in South Africa. However, the brochures had been distributed nationally and were released in a time period ranging from 1992 until 2006, except for one brochure which was dated from 1986.

Every brochure was thoroughly read and analyzed by all three researchers individually. The metaphor-identification method by Forceville, presented in section 2.4, was used to identify possible metaphors. The three questions Forceville designed were used to determine whether or not a verbal expression should be termed a metaphor. The main aim of these questions was to identify the source and target domains, and to find out which features of the source domain were projected upon the target domain of the metaphor. Cohen’s Kappa was used to measure the inter-rater reliability.

3.2.3 Cohen’s Kappa
In order to measure the inter-rater reliability the same method was used as in Hornikx (2003, p. 213). This method involves three decisions: is a certain expression a metaphor (referred to as decision ‘one’); what is the source domain of the metaphor (referred to as ‘decision two’); what is the target domain of the metaphor (referred to as ‘decision three’). The first decision reveals which expression is a metaphor. The second and third decisions look solely at the metaphors that both researchers found. It reveals whether the researchers identify the same source and target domains. All this was calculated with Cohen’s Kappa. After independent analysis by the three researchers, the results of these analyses were compared per couple per decision.

The Cohen’s 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 did not find a metaphor. The findings of the researchers were compared to each other, and as can be seen in figure 3.1 all the values were > .80. This indicates that the reliability per couple was more than adequate (Neuendorf, 2002). Researcher 1 is Van Sambeek, researcher 2 is Olislagers, and researcher 3 is Van Nistelrooij.

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<th>Cohen’s Kappa</th>
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<td>Researcher 1 and researcher 2</td>
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<tr>
<td>Researcher 1 and researcher 3</td>
<td>.89</td>
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<tr>
<td>Researcher 2 and researcher 3</td>
<td>.81</td>
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<tr>
<td>Average of three researchers 1,2,3</td>
<td>.84</td>
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For the cases in which the researchers identified the same expressions as metaphors, the ‘second’ and ‘third decision’ had to be made. These decisions were made in order to determine to what extent the researchers specified the same source and target domains. It appeared that among the three researchers twenty different kinds of source domains and ten different target domains were discovered (see table 3.2 and table 3.3).

Table 2  

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<th>Source Domains</th>
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<td>Army</td>
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<td>Boxer</td>
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<td>Bus of uninvited friends</td>
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<td>Crazy killer</td>
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<td>Garbage men</td>
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<td>Invaders</td>
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<td>Killer cells</td>
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<td>Monster</td>
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<td>Person</td>
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<tr>
<td>Plan in the sand</td>
</tr>
<tr>
<td>Process of building a house</td>
</tr>
<tr>
<td>Shield</td>
</tr>
<tr>
<td>Soccer game</td>
</tr>
<tr>
<td>Soldier</td>
</tr>
<tr>
<td>War</td>
</tr>
</tbody>
</table>
Table 3  
**Target domains**

<table>
<thead>
<tr>
<th>Target domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
</tr>
<tr>
<td>CD8</td>
</tr>
<tr>
<td>Condom</td>
</tr>
<tr>
<td>HIV</td>
</tr>
<tr>
<td>Immune system</td>
</tr>
<tr>
<td>Microphages</td>
</tr>
<tr>
<td>Process of a virus getting into a cell</td>
</tr>
<tr>
<td>Rules you live by</td>
</tr>
<tr>
<td>Viruses</td>
</tr>
<tr>
<td>White blood cells</td>
</tr>
</tbody>
</table>

The Cohen’s Kappas concerning ‘decision two’ and ‘decision three’ were measured by comparing the sources and targets per couple per metaphor. Table 3.4 shows that the Kappas for ‘decision two’ as well as the Kappas for ‘decision three’ appeared to be one. This implies that the researchers identified the exact same sources and targets.

Table 4  
**Comparison between researchers 1, 2, and 3 concerning ‘decision two’ and ‘decision three’**

<table>
<thead>
<tr>
<th></th>
<th>Cohen’s Kappa regarding source (decision two)</th>
<th>Cohen’s Kappa regarding target (decision three)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher 1 and</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>researcher 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Researcher 1 and</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>researcher 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Researcher 2 and</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>researcher 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average of three</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>researchers 1,2,3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

After the Kappas were calculated, a session took place in which differences in results between the researchers were discussed. Researchers 1 and 2 had seven cases in which one of them had not identified a metaphor. Researchers 1 and 3 had four cases in which one of them had not identified a metaphor. Researchers 2 and 3 had seven cases in which one of them had not identified a metaphor. Consensus was achieved on which expressions should be termed as metaphors and which should not. It turned out that all the metaphors that were found 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.
A frequency analysis revealed that several metaphors occurred more often than others. These metaphors are presented in section 4.1. The three most frequently used metaphors were presented to and discussed with the participants of the focus group discussion, which was the next phase of the research. These particular metaphors were chosen because they appeared to be most popular to use in educational brochures on HIV/AIDS, possibly implying that they could be most effective.

3.3 Focus group discussion

3.3.1 Relevance
Besides determining which metaphors occur in existing material, it is also important to find out which metaphors are used in oral communication for the different ethnic groups. The reason for this is that the metaphors that have been used in the brochures might not be used in oral communication for a certain ethnic group, or might not be used at all. In order to get a more detailed view on metaphors in HIV/AIDS communication, a focus group discussion was conducted. A focus group discussion is a suitable method to get an idea of the underlying 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, which could be used to design the materials for the experiment.

3.3.2 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 & 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, seven participants were asked to participate in the focus group discussion. All of these participants were health workers at the HIV-testing Centre in Stellenbosch, of which three were male and four were female. All ethnic groups were represented in the discussion; two men were Xhosa-speaking, one man and one woman were Afrikaans-speaking Whites, and the other three women were Afrikaans-speaking Coloured.

Health workers were chosen to participate in the focus group because they are experienced in talking about HIV/AIDS, unlike many South Africans for whom HIV/AIDS might still be a taboo topic to talk about. Additionally, health workers often engage in dialogues with people from different ethnic groups, and therefore have a good idea on how people talk about HIV/AIDS, and whether or not these people use and/or understand metaphors. Moreover, since they use oral HIV/AIDS communication they also know what metaphors are being used when educating people on HIV/AIDS and how people in general react to these metaphors. Taking all this into account makes it reasonable to assume that sufficient information would be gained when having a focus group discussion among health workers. Time-wise it was not possible to also arrange focus group discussions among the different target groups. But taking into consideration that this phase was only conducted as
preparation for the experiment, it was decided that one focus group among health workers would be sufficient.

3.3.3 Time and Location
The focus group discussion took place at the HIV-testing Centre in Stellenbosch on Friday the 24th of August 2007. It was held in the morning during a regular meeting of the health workers. The session lasted for 68 minutes. The tables in the room were set up in a so called U-shape, so that everybody could see each other during the discussion (see figure 2).

![Focus group setting diagram](image)

**Figure 2: Focus group setting**

3.3.4 Tasks
Before the session began, the three researchers designed a script (see Appendix 8.3). In order to make the researchers feel comfortable with their tasks and to test the method of research, a pre-test session was implemented. Five international students of the University of Stellenbosch were asked to participate in this practice round in order to simulate a real focus group discussion. This pre-test session revealed two main problems. The first problem concerned the general introduction. It seemed uncomfortable to talk about HIV/AIDS and its metaphors immediately. Therefore, it was decided to start with a small introduction in which the researchers introduced themselves and their home country. This would also break the ice for the rest of the conversation. The second problem concerned the introduction of metaphors in general. It became clear that the participants had problems with understanding what a metaphor was and how it worked. 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 their own task. Researcher 3 was the moderator, researcher 2 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 minute secretaries thoroughly documented who said what. A voice recorder was used
to record the session, so the session could be replayed during the analysis. The researchers wrote an elaborate report on the session (see Appendix 8.4) and discussed the final results.

3.3.5 Content
The focus group discussion started with an introduction of the researchers. After that, the topic of the research and the aim of the focus group discussion were presented to the health workers. This introduction was necessary, to ensure that 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 address the moderator. After the introduction, the participants were asked to introduce themselves by telling something about their work and their experience. This was followed by a conversation on the following subjects; examples of metaphors, the use of metaphors by health workers, and their opinion on the most effective metaphors for high school students in 8th to 11th 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 of working with metaphors. Besides, the participants were asked if they used different metaphors for the different ethnic groups. Kitzinger (1995) advises group exercises in order to encourage people to start a discussion on a certain topic. He states: “A common exercise consists of presenting the group with a series of statements on large cards. The group members are asked collectively to sort these cards into different piles depending on, for example, their degree of agreement or disagreement with that point of view or the importance they assign to that particular aspect of service. For example, I have used such cards to explore public understandings of HIV transmission [....] Such exercises encourage participants to concentrate on one another (rather than on the group facilitator) and force them to explain their different perspectives” (p. 300). This method was used in the third step of the focus group discussion. In this step, the metaphors that were revealed by the corpus analysis were presented on several cards. The participants were collectively asked to rank these cards from the most effective metaphor to least effective. This had to be done for every ethnic group, which eventually resulted in a top three of most effective metaphors per ethnic group. These metaphors were discussed in order to reach consensus among the participants.

3.3.6 Results
The results of the focus group discussion was essential to design the material for the next phase of this research; the experiment. The top three of the most effective metaphors revealed by the focus group discussion was compared to the top three that was brought to light in the corpus analysis. Together, these results were used to design metaphorical texts. These texts have been integrated in the experiment.
3.4 Experiment

The experiment was the last phase of the research. This phase was carried out to reveal the effectiveness of metaphors in HIV/AIDS documentation aimed at high school students.

3.4.1 Material

The results of both the focus group discussion and the corpus analysis revealed several metaphors which might be useful in HIV/AIDS documentation. The results of both methods are presented in section 4.1 and 4.2. In order to test the effectiveness of these metaphors, educational texts which portrayed these metaphors were designed. Five text versions were designed in cooperation with Van Nistelrooij and Van Sambeek. Four of the texts used metaphorical language and one text used non-metaphorical language. All texts explained (the process of) how HIV affects your immune system. This subject was chosen because the functioning of ones immune system and the process of getting infected with HIV is important in the South African context. Added to that, the immune system is difficult to understand especially for high school students. However, the use of metaphors might enhance the effectiveness of such educational texts; it might make them easier to understand, make them more attractive and/or more persuasive.

Four text versions were used per ethnic group; one non-metaphorical text and three metaphorical texts. For the Xhosas the metaphorical texts described the immune system by referring to an army (text B), a boxer (text C), and a fire station (text E) (see appendix 8.7). All texts were about the same length and the metaphorical weight in all metaphorical texts was kept the same. Various metaphors were used, because in this way the metaphors could be compared to the non-metaphorical version (e.g. the neutral version) as well as to one another. Comparing them 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 on in section 3.4.4, was designed to measure possible effects of the various text versions. Both the questionnaire and the text versions were written in English. This language was chosen because, even though many different languages are spoken in South Africa, much public health education is often only provided in English and because English is considered to be the lingua franca of South Africa. In order to find out if the texts and the questionnaire were of good quality to use for the research, two different pre-tests were held.

**Pre-test**

The first pre-test was held among experts. The two experts that participated were employees of the Language Centre of the University of Stellenbosch, and had obtained a degree in Document Design. The pre-test concerned two steps. Firstly, the quality of the texts was tested. Secondly, a manipulation check was done to find out whether the differences between the four metaphorical texts and the non-metaphorical text would be noticed.
Both experts were asked to read all five text versions and were asked to answer questions with regard to the quality of the texts. These questions concerned the understanding and readability of the texts. Besides evaluating the understanding and readability of the texts, it was also important to find out if the content of the different texts was the same. Only the style of the texts was different, not the content. Therefore, after the experts had read all texts, an additional question was posed in which 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 reveal if the style difference between the metaphorical texts and non-metaphorical texts was noticed. The second question tried to reveal whether or not the metaphorical and non-metaphorical texts differed in the use of metaphorical language (see appendix 8.5.1). This method of pre-testing was based on Laanstra (2005).

Results pre-test experts
Both experts indicated that the non-metaphorical 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. On the texts with the ‘boxer metaphor’, the ‘house/ security system metaphor’ and the ‘fire station metaphor’, a general comment was made that sometimes the distinction between reality and metaphor was vague. The text with the ‘boxer metaphor’ seemed most problematic. Both experts indicated that this metaphor was the most difficult. Apart from that, the experts indicated that all texts were quite 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 disagreed that metaphorical language was used in text A (the non-metaphorical text). They both agreed that metaphorical language was used in text B, C, D, and E. This implied that the experts noticed that there was one non-metaphorical and there were four metaphorical texts.

Pre-test target group
Besides a pre-test among experts, an additional pre-test was needed among the target group itself. It was relevant to find out if high school students thought that the texts and questionnaire were of good quality and especially if they were clear and understandable. Five high school students were asked to participate. This group consisted of three White students, one Xhosa student, and one Coloured student. The students had to read one of the texts and then fill in the questionnaire. After that, they had to answer three questions about the text. The first question tried to reveal whether the text in general was understandable. If words or expressions were difficult to understand, the students were asked to indicate what 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 tried to find out if the text was clear, and if not, which part was not clear. Additionally, the students had to answer two questions about the questionnaire. The first question tried to reveal whether or not the students found the questions
understandable. The second question tried to reveal whether or not the students understood the language that was used in the questionnaire. If they had not understood the questions or the language, they were asked to indicate what was difficult and why (see appendix 8.5.2).

Results pre-test target group

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

The evaluation of the questionnaire revealed that three students understood all the questions. Two students indicated that they understood most questions, but that there were some difficult parts. All five students found the language in the questionnaire easy to understand. In order to find out which questions 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’ 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’. These questions could be left out because there were plenty of other questions measuring the same variables. Additionally, three of the ten 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 of the ten questions was impossible to change and could not be left out because of its importance and its integration in the theoretical chapter. It concerned the following question: ‘in the text the immune system is explained by using examples that make the immune system more concrete’.

3.4.2 Respondents

This research was done among the Xhosas. The respondents were high school students of the Kayamandi High School in Stellenbosch. In total 285 respondents participated of which 61% was female and 39% male. The average age of these respondents was 18 years (SD= 1.66). The grades these respondents were in were evenly distributed among grades ten and eleven. 46% of the respondents were in grade ten and 51% were in grade eleven. The remaining 3% were respondents from grades eight and nine. Most respondents (98%) had Xhosa as their mother tongue.

In order to get a more detailed picture of the South African high school students in general, all the ethnic groups (e.g. the Whites, Coloureds, and Xhosas) that had participated in this project were put together in one database. A total of 936 respondents participated. All respondents were high school
students of grades eight to eleven, and their average age was 16 (SD= 1.78). 524 of the respondents were female (equal to 56%) and 405 were men (equal to 44%). Most of the respondents (66%) had Afrikaans as their mother tongue. The ethnic group that was represented best was the Coloured group: 369 respondents (40%), followed by the Xhosas: 285 respondents (31%), the Whites: 261 respondents (28%), and lastly the group that is referred to as ‘other’: 18 (2%).

3.4.3 Design

It was decided to use a within subject design for this research. The respondents would receive the metaphorical text as well as the non-metaphorical text. Half of the respondents would receive the non-metaphorical 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 this one 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 subject design was not appropriate. During the first data collection session, the design immediately appeared to be too difficult for South African high school students. It was too much to read for the students and they were incapable of concentrating long. The design of the research was immediately changed into a between group design because it was expected that a within subject design would only lower the quality of the results. The respondents received only one text and they had to fill out one questionnaire. It was noticed that for some students even this was a tough task to complete.

As shown in section 3.4.1, four text versions (per ethnic group) were designed in order to conduct research on the possible effects of metaphors on ‘attractiveness’, ‘understanding’, ‘persuasiveness’, and ‘stigma’. Within each target group all text versions had to be equally divided among the high school grades. For the Xhosa target group, it turned out that the Kayamandi High School only had two high school grades available for participation, namely grades ten and eleven. All text versions were equally divided among students of these two grades: 20% of the Xhosa high school students received text A; 21% received version B; 18% received version C; and 21% received version E. For the South African high school students in general (the three ethnic groups taken together) the text versions were also equally divided among the respondents. 28% received text A; 23% received version B; and 23% received version E.

Additionally, in order to draw conclusions on the stigmatizing effects of HIV/AIDS texts there also had to be a measurement of the stigma that is already attached to (people living with) HIV/AIDS. This measurement is referred to as the ‘stigma zero measurement’. Comparing the data of the respondents who had read one of the texts to baseline information of respondents who had to answer the same questions on stigma, but did not read any text made it possible to draw such conclusions. Therefore, 20% of the Xhosa high school students received the stigma zero measurement (stigma no text). 21%
of the South African high school students in general (the three ethnic groups taken together) received the ‘stigma zero measurement’ (e.g. the version without text).

3.4.4 Instrumentation

This section will explain in detail which variables were measured and how these variables were operationalized. The independent variables will be elaborated on in section 3.4.4.1 and the dependent variables will be elaborated on in section 3.4.4.2.

3.4.4.1 Independent variables

The independent variables were ‘text version’, ‘ethnic group’, ‘mother tongue’, ‘age’, ‘gender’ and ‘high school grade’. All these variables (and also the dependent variables) were measured by asking the high school students to fill in a questionnaire. This questionnaire started with questions about the independent variables. The respondent’s level of education (grade) was revealed by presenting a semantic differential existing of grades eight to eleven. After that, the respondents were asked to write down their exact age and they had to 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, the respondents 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 is.

3.4.4.2 Dependent variables

The present study focused on four dependent variables. These were: ‘attractiveness’; ‘understanding’; ‘persuasiveness’; and ‘stigma.’ The section below describes these dependent variables. Also ‘metaphor recognition’ and ‘perception of realism’ are discussed. Additionally, in this section the internal consistency of each dependent variable will be discussed for the Xhosas as well as the South African high school students in general. The internal consistency determined to what extent the various questions measured the same variable by calculating Cronbach’s Alpha (van Wijk, 2000, p.217).

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Evaluation of Cronbach’s Alpha (van Wijk 2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Value</strong></td>
<td><strong>Qualification</strong></td>
</tr>
<tr>
<td>&gt;.80</td>
<td>Good</td>
</tr>
<tr>
<td>.70-.80</td>
<td>Adequate</td>
</tr>
<tr>
<td>.60-.70</td>
<td>Moderate</td>
</tr>
<tr>
<td>&lt;.60</td>
<td>Insufficient</td>
</tr>
</tbody>
</table>

Taking into consideration that the target group of the present research consists of high school students, it was decided to use five-point Likert scales in order to facilitate the measuring of the dependent variables. These scales were chosen because it is expected that it is less complicated for
high school students to choose from five possibilities than from, for instance, seven possibilities. The values of the five- point Likert scale varied from ‘totally disagree’ (1) to ‘totally agree’ (5).

1 Attractiveness
The dependent variable ‘attractiveness’ was operationalized in a similar way as in Laanstra (2005). ‘Attractiveness’ was operationalized by subdividing this variable into ‘interest in the text’ and ‘judgement of the text’. In short, figure 3 shows how ‘attractiveness’ was measured.

![Figure 3: Operationalization ‘attractiveness’](image)

**A. 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 to the text’ was measured by posing questions about four statements. The first question measured to what extent the text gave enough incentive to read. The second and third question revealed the motivation to finish the text. The last question tried to find out if the respondent would be motivated to read the text on his or her own initiative. The ‘opinion on the attractiveness of the tone and the style of the text’ was measured by posing questions about seven statements. These 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; if the text was interesting; and the likeability of the style of the text.

**B. Judgement of the text**
The ‘judgement of the text’ was measured by using a combined item variable and by asking the respondents to mark the texts. Eight 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; formality; seriousness; and to what extent the reader agreed with what was 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 reveal what mark the respondents would give the text. This mark varied from one to
ten. This implies that this question was not measured on a five-point Likert scales, but on a ten point scale, and therefore had to be analyzed separately (and is referred to as ‘attractiveness: average mark’).

For the Xhosas, the Cronbach’s Alpha of the questions measuring ‘attractiveness’ turned out to be good (.88). For the three ethnic groups together, the Cronbach’s Alpha of these questions turned out be good as well (.83).

2 Understanding
The variable ‘understanding’ was measured by using the same six questions as in Laanstra (2005). The first four questions tried to reveal the text’s clearness; conciseness; readability and; the degree to what extent the high school students 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 what 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.

For the Xhosas, the Cronbach’s Alpha of the questions that measured ‘understanding’ turned out to be adequate (.79). For the three ethnic groups together, the Cronbach’s Alpha of these questions turned out to be adequate as well (.77).

3 Persuasiveness
According to Aristotle, persuading someone implies 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 the present research, the persuasiveness of the text was measured by 18 questions which covered the three categories ‘ethos’, ‘pathos’, and ‘logos’. All questions were based on Feltham (1994) and Ohanian (1990). Figure 4 below shows in short how ‘persuasiveness’ was measured.

![Diagram of persuasiveness categories](image)

**Figure 4: Operationalization ‘persuasiveness’**
The first nine questions measured the ‘ethos’ of the text. According to Hoeken (1998) the credibility of the source (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 of the sender’ and the ‘expertise of the sender’. The ‘trustworthiness and reliability of the sender’ was measured by posing four questions about the believability; the credibility; the trustworthiness; and the reliability of the text. The ‘expertise of the sender’ was measured by posing five questions about 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 what 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 texts inspiring; the respondent found the texts exciting.

For the Xhosas, the Cronbach’s Alpha of the questions that measured ‘persuasiveness’ turned out to be good (.82). For the three ethnic groups together, the Cronbach’s alpha of these questions also appeared to be good (.83).

4 Stigma
The last dependent variable was ‘stigma’. Six questions which are based on Plaat (2005) were designed in order to measure what influence the various metaphors might have on stigma. The first two questions tried to reveal if after reading the text the respondents were less likely to hug a HIV infected person, and if they were less likely to share their water bottle with a HIV infected person. The third and fourth question revealed 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 a HIV infected person. The fifth question measured if the text made the respondent feel that HIV infected people had done something wrong. The last question tried to reveal whether or not the text made the respondent think that he or she would feel ashamed if he or she was infected with HIV.

For the Xhosas, the Cronbach’s Alpha of the questions that measured ‘stigma’ turned out to be adequate (.78). For the three ethnic groups together, the Cronbach’s Alpha of these questions also appeared to be adequate (.75).
A zero measurement was done in order to be able to compare stigma after reading one of the texts, to stigma that is already attached to HIV/AIDS (see section 3.4.3). The same six questions on stigma were posed to the respondents, but the respondents did not have to read any text and ‘after reading the text’ was left out of the question.

For the Xhosas, the Cronbach’s Alpha of the questions of the stigma zero measurement turned out to be adequate (.77). For the three ethnic groups together, the Cronbach’s Alpha of these questions also appeared to be adequate (.72).

5 Metaphor Recognition
For the present research it is important to measure whether or not the respondents recognized the use of metaphors in the different metaphorical texts. If the expressions were not recognized as metaphors then this would imply that possible differences between the texts might not be due to the use of metaphorical language. Five questions were presented on 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 reveal to what extent the text made the target domain more concrete. The third question tried to reveal 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.

For both the Xhosas and the three ethnic groups taken together, the Cronbach’s Alpha of these questions turned out to be adequate (.78).

6 Perception of Realism
It is important to measure the extent to which the respondents think that the texts that are presented to them are realistic. Previous research of Jansen, Croonen en de Stadler (2005) showed that the extent to which the respondents find the texts realistic influences the evaluation of the text. The standard of realism of the texts was measured by confronting the respondents with the item ‘I think that the text is realistic’ and the item ‘I think that the text is common’. Both items were retrieved from Jansen et al.

For the Xhosas, the Cronbach’s Alpha of these two items turned out to be insufficient (.30). For the three ethnic groups together, the Cronbach’s Alpha of these items also appeared to be insufficient (.14). Since both Alphas were insufficient, one item had to be chosen for further analyses. 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’ was that ‘common’ could be interpreted as ‘vulgar’.
3.4.5 Procedure
The Kayamandi High School agreed on handing out the questionnaires during the classes of the students. The three researchers started off with introducing themselves and after that they explained what the students needed to do. The questionnaires and text versions were handed out after this introduction. The researchers stayed in the classroom in case there were any questions and to observe the situation. The whole process took about 20 minutes per class.

3.4.6 Analyses
In order to answer the research questions, all the collected data were entered into SPSS. Before any analyses could be done, there were two questions that needed to be recoded by reversing them (1=5, 2=4, 3=3, 4=2, and 5=1). These were questions 32 and 41 (see appendix 8.6.1). Additionally, Pearson’s correlation coefficients were calculated to find out to which extent ‘perception of realism’ cohered with the dependent variables ‘attractiveness’, ‘understanding’, ‘persuasiveness’, and ‘metaphor recognition’. Also Univariate Analyses of Variance (ANOVA) and Multivariate Analyses of Covariance (MANCOVA) were carried out. 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 (Hair, Black, Babin, Anderson, Tatham, 2006). The MANCOVA and ANOVA enabled that various text versions and different ethnic groups could be compared on the dependent variables that are mentioned in section 3.4.4.2.
4 Results

4.1 Corpus Analysis

The main aim of the corpus analysis was finding out whether or not health educators have used metaphors in their HIV/AIDS communication. And if so, which metaphors have been used and what were their source and target domains. Descriptive analysis showed that 8.93% of all analyzed brochures contained one or more metaphor(s). As shown in tables 3 and 4 in section 3.2.3, twenty different source domains and ten different target domains were found. Table 6 shows what source domains were used to refer to a specific target domain. For instance, both the army and defence force were used to refer to the immune system. Table 6 also shows that one source domain was used to refer to various target domains. For instance, an army was used to refer to the immune system as well as to white blood cells.

<table>
<thead>
<tr>
<th>Target domains</th>
<th>Source domains</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Boxer; bus of uninvited friends; and a crazy killer</td>
</tr>
<tr>
<td>CD8-cells</td>
<td>Killer cells</td>
</tr>
<tr>
<td>Condom</td>
<td>Shield</td>
</tr>
<tr>
<td>HIV</td>
<td>Attackers; boxer; dragon; enemy; invaders; monster; and war</td>
</tr>
<tr>
<td>Immune system</td>
<td>Army, defence force</td>
</tr>
<tr>
<td>Microphages</td>
<td>Garbage men</td>
</tr>
<tr>
<td>Process of a virus getting into a cell</td>
<td>Process of building a house</td>
</tr>
<tr>
<td>Rules you live by</td>
<td>Soccer game</td>
</tr>
<tr>
<td>Viruses</td>
<td>Figures; person; and plan in the sand</td>
</tr>
<tr>
<td>White blood cells</td>
<td>Army; boxer; and soldier</td>
</tr>
</tbody>
</table>

A frequency analysis revealed that several metaphors occurred more than others. This analysis showed that the metaphors used most were:

- the ‘army metaphor’ (e.g. explaining the target domain in terms of an army);
- the ‘soldier metaphor’ (e.g. explaining the target domain by referring to soldiers);
- the ‘boxer metaphor’ (e.g. explaining the target domain by referring to a boxer/boxing game).
4.2 Focus Group Discussion

The main aim of the focus group discussion was to find out which metaphors are used in oral communication for the different ethnic groups. Do the three ethnic groups use different metaphors? And do these metaphors differ from the ones used in existing HIV/AIDS documentation?

The health workers indicated that the ethnic groups use different kinds of metaphors. According to them, especially the Xhosa people use a lot of metaphors in their oral communication. The health workers also gave their perspective on metaphors they have heard or used in their work. A few metaphors they portrayed were not found in the corpus analysis. These are the following:

- checking for fire (metaphor for VCT);
- burgling a house (metaphor for VCT);
- policemen (metaphor for condom and immune system);
- eating sweets with wrappers on (metaphor for safe sex);
- jacket (metaphor for a condom);
- umbrella (metaphor for a condom);
- missing a match (metaphor for having a period);
- someone’s blood is dead (metaphor for being HIV positive).

The health workers were asked to make a top three of most effective metaphors for high school students of the 8th to 11th grade. They had to do this for every ethnic group. They could choose from the metaphors that were revealed by the corpus analysis or they could think of one themselves. The first aspect they pointed out regarding the results of the corpus analysis was that the soldier and the army metaphor are similar: they both drew on the concept of war. The second aspect was that the health workers thought there were no differences between the Coloured South Africans and the White South Africans concerning their metaphor use. As a result, the top three for these two ethnic groups turned out to be similar. The health workers’ top three of most effective metaphors for Xhosas turned out to be as follows:

1. ‘army/soldier metaphor’;
2. ‘boxer metaphor’;
3. ‘fire station metaphor’.

Their top three of most effective metaphors for the Whites and Coloureds turned out to be as follows:

1. ‘army/soldier metaphor’,
2. ‘house/ security system metaphor’;
3. ‘fire station metaphor’.
Material for the experiment

The results of both the corpus analysis and focus group discussion had to be combined in order to choose three metaphors, which will be used as material for the experiment. Both the corpus analysis and the focus group discussion concluded that the army metaphor was mostly used, was expected to be most effective for all three ethnic groups. Consequently, this will be the first metaphor that is going to be used for the experiment. The corpus analysis showed that the soldier metaphor was second in line. However, the focus group discussion revealed that this metaphor draws on the same concept as the army metaphor, namely on the concept of war, and therefore is similar. As a replacement of this metaphor, the participants of the focus group discussion suggested that a boxer metaphor might be most effective. In accordance with this suggestion, also the corpus analysis showed that this metaphor was the next most used. Therefore, the boxer metaphor was the second metaphor which was chosen for the experiment. However, it is important to note that the focus group discussion revealed that the boxer metaphor is only effective to use among Xhosas because boxing is a popular sport in this culture. It is not that popular, however, among Coloureds and Whites. Therefore, the participants of the focus group discussion came up with an alternative metaphor that was supposed to be effective among Coloureds and Whites; the house/security system metaphor. Because of the health workers’ knowledge of the different African cultures, it was decided to follow their advice regarding the next most effective metaphor. Consequently, the metaphor which explains the immune system by referring to a fire station will be used, for all three groups, to design material for the experiment.

4.3 Experiment

The following sections present the results of the experiment. First, the results for the Xhosas will be discussed. Secondly, a comparison will be made between the Xhosas and two other major African ethnic groups; the Whites and Coloureds.

4.3.1 Target Group

This section describes the results of the experiment for the Xhosa high school students. First it will reveal the results regarding ‘perception of realism’. After this, the analyses on the dependent variables will be covered in order to provide answers to the research questions.

Cohen’s Power was calculated for all analyses which appeared to be insignificant. This was done to find out if the number of respondents could be the cause of insignificance. According to Cohen (1991) the only specification for power is .80, a convention proposed for general use. A materially smaller value than .80 would incur too great a risk of a Type II error. A Type II error occurs when an assumption is rejected when in reality it should have been accepted. Therefore in the present research .80 will be regarded as a standard for adequacy.
4.3.1.1 Perception of Realism

Previous research by Jansen, Croonen en de Stadler (2005) showed that the possible effects of style elements were due to differences in ‘perception of realism’. Therefore, correlations had to be carried out between ‘perception of realism’ and all the dependent variables in order to reveal if ‘perception of realism’ is indeed of influence. Table 7 presents the results of these correlations.

Table 7 Correlations perception of realism and dependent variables (measured with Pearson Correlation)

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metaphor recognition</td>
<td>.53**</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>.42**</td>
</tr>
<tr>
<td>Attractiveness:</td>
<td>.21**</td>
</tr>
<tr>
<td>Average mark</td>
<td></td>
</tr>
<tr>
<td>Understanding</td>
<td>.37**</td>
</tr>
<tr>
<td>Persuasiveness</td>
<td>.37**</td>
</tr>
</tbody>
</table>

* =p < .05
** = p < .01

Since ‘perception of realism’ seemed to significantly correlate with all dependent variables, it was reasonable to assume that the ‘perception of realism’ could have influenced the evaluation of the effectiveness of the texts. Therefore, it was decided to use this variable as a covariate throughout all analyses which are described below.

4.3.1.2 Multivariate Analysis of Covariance

A Multivariate Analysis of Covariance (MANCOVA) was carried out with the independent variable ‘text version’ (text A,B,C,E), and the dependent variables ‘metaphor recognition’ (M=3.92, SD=.66); ‘attractiveness’ (M=3.97, SD=.48); ‘attractiveness: average mark’ (M=7.81, SD=1.84); ‘understanding’ (M=3.97, SD=.71); and ‘persuasiveness’ (M=3.75, SD=.47), and with the covariate ‘perception of realism’. This analysis showed that there was a significant overall effect of ‘text version’ (F(3, 169)=1.85, p<.05, η²=.06). A significant effect of the independent variable ‘text version’ on the dependent variable ‘persuasiveness’ was found (F(3, 169)=3.75, p<.05, η²=.06). A Bonferonni post hoc test showed that the Xhosa high school students found metaphorical text C (M=3.94, SD=.45) significantly more persuasive than metaphorical text B (M=3.72, SD=.5) (p<.05). Additionally, text C did not differ from A and E. Also, text B did not differ from A and E as well as text A and E did not differ from each other regarding their persuasiveness. There was also a significant effect of the covariate ‘perception of realism’ (F(1, 169)=15.33, p<.001, η²=.32).

4.3.1.3 Univariate Analysis of Variance

An Analysis of Variance (ANOVA) was carried out in order to find out if there were differences between the stigma after reading text A, B, C, E, and the stigma that was identified without having to read a text (e.g. the stigma zero measurement). The independent variable was ‘text version’ (text A,
B, C, E, and no text⁴), and the dependent variable was ‘stigma’ (M= 2.41, SD= .97). This analysis showed no significant main effect of the independent variable ‘text version’ on the dependent variable ‘stigma’ (F(4, 263)=.79, p=.54, η²=.01).

Cohen’s power analysis showed that if in reality the effect of the independent variable ‘text version’ on the dependent variable ‘stigma’ 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>.95; and ES=.25, power>.95). This implies that the chance that a Type II error occurred is low (1-.95) and therefore the chance that metaphors do have stigmatizing effects for a target group such as in this study is low. The power was inadequate, however, to detect a possible small effect which might occur in reality (ES=.10, power=.77). This implies that there is a slight chance that a Type II error occurred (1-.77) and therefore there is a slight chance that in reality there is a significant effect of ‘text version’ for a target group such as in this study, that was not detected here (for definitions of large, medium and small effect sizes, see Cohen, 1991).

4.3.2 Comparison between three ethnic groups

There are two other ethnic groups among whom the research was done; Whites and Coloureds. Analyses were carried out in order to reveal possible differences between the Coloureds, Whites and Xhosas, and to draw conclusions on South African high school students in general. These analyses were done in cooperation with Van Nistelrooij and Van Sambeek. Because not all respondents had read the same texts, not all texts could be used for the analyses. The Xhosa respondents had read a metaphorical text on boxers, which both the Whites and Coloureds did not read. Instead of the boxer text, both the Whites and Coloureds had read a metaphorical text that referred to a (security system of a) house. Because of this, these two texts (text C and D) could not be included in the analyses.

4.3.2.1 Perception of Realism

Again, correlations had to be carried out between ‘perception of realism’ and all the dependent variables in order to find out whether or not ‘perception of realism’ could be of influence. Table 8 on the next page presents the results of these correlations.

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⁴ No text e.g. stigma zero measurement e.g. the stigma measurement without having to read a text on HIV/AIDS.
Table 8  
Correlations perception of realism and dependent variables (measured with Pearson Correlation)

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>r</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metaphor recognition</td>
<td>.48**</td>
</tr>
<tr>
<td>Attractiveness</td>
<td>.37**</td>
</tr>
<tr>
<td>Attractiveness:</td>
<td>.17**</td>
</tr>
<tr>
<td>Average mark</td>
<td></td>
</tr>
<tr>
<td>Understanding</td>
<td>.25**</td>
</tr>
<tr>
<td>Persuasiveness</td>
<td>.32**</td>
</tr>
</tbody>
</table>

* = p < .05  
** = p < .01

Again, ‘perception of realism’ seemed to correlate significantly with all the dependent variables. Therefore, it was reasonable to assume that this variable could have influenced the evaluation of the effectiveness of the texts. Consequently, it was decided to use this variable as a covariate throughout all analyses which are described on the next pages.

4.3.2.2 Multivariate Analysis of Covariance

A Multivariate Analysis of Covariance (MANCOVA) was carried out with the independent variables ‘text version’ (text A, B, and E) and ‘ethnic group’ (Xhosa, Coloureds, Whites), with the dependent variables ‘metaphor recognition’ (M=3.82, SD=.63); ‘attractiveness’ (M=3.71, SD=.61); ‘attractiveness: average mark’ (M=7.81, SD=1.84); ‘understanding’ (M=3.99, SD=.65) and ‘persuasiveness’ (M=3.55, SD=.48), and with the covariate ‘perception of realism’. This analysis showed no significant overall effect of ‘text version’ (F(2, 568)=1.12, p=.35, $\eta^2=.01$). Cohen’s power analysis showed that if in reality the effect of the independent variable ‘text version’ on the dependent variables would be large, medium, and 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, $power>.995$; and ES=.25, $power>.995$; and ES=.10. $power=.95$). This implies that the chance that a Type II error occurred is low (1-.995 and 1-.95) and therefore the chance that in reality there is a significant effect of ‘text version’ for a target group such as in this study is low. Thus, in other words, this implies that there is no reason to assume that South African high school students perceived differences between the different texts.

The Multivariate Analysis of Covariance did show a significant overall effect of ‘ethnic group’ (F(3, 565)=9.94, p<.001, $\eta^2=.10$). In total, four main effects were revealed. Firstly, a significant main effect of the independent variable ‘ethnic group’ on the dependent variable ‘metaphor recognition’ was found (F(3, 538)=3.51, p<.05, $\eta^2=.02$). A Bonferonni post hoc test showed that the Xhosa high school students (M=3.92, SD=.63) had a higher score on ‘metaphor recognition’ than the Whites (M=3.72, SD=.58) (p<.05). Additionally, Coloureds (M=3.86, SD=.61) did not seem to differ from
Whites or Xhosas. Secondly, a significant main effect of the independent variable ‘ethnic group’ on the dependent variable ‘attractiveness’ was found (F(3, 518)=30.35, p.<.001, η²=.17). A Bonferroni post hoc test revealed that the Xhosas (M=3.95, SD=.50) found the texts significantly more attractive than the Whites (M=3.38, SD=.64) (p.<.001). The difference between the Xhosas and Coloureds (M=3.82, SD=.54) was not significant. Added to that, it was shown that the Coloureds found the texts significantly more attractive than the Whites (p.<.001). Thirdly, the MANCOVA showed a significant main effect of the independent variable ‘ethnic group’ on the dependent variable ‘attractiveness: average mark’ (F(3, 542)=18.51, p.<.001, η²=.11). A Bonferroni post hoc test revealed that the Xhosas (M=8.38, SD=1.81) gave the texts a significantly higher mark than the Whites (M=6.93, SD=1.61) (p.<.001). The difference between the Xhosas and Coloureds (M=7.90, SD=1.84) was not significant. Added to that, it was shown that the Coloureds were the second most positive: they gave the texts a significantly higher mark than the Whites (p.<.001). Fourthly, the MANCOVA showed a significant main effect of the independent variable ‘ethnic group’ on the dependent variable ‘persuasiveness’ (F(3, 526)=21.17, p.<.001, η²=.13). A Bonferroni post hoc test revealed that the Xhosas (M=3.67, SD=.46) found the texts significantly more persuasive than the Whites (M=3.31, SD=.44) (p.<.001). The difference between the Xhosas and Coloureds (M=3.64, SD=.46) was not significant. Added to that, it was shown that the Coloureds found the texts significantly more persuasive than the Whites (p.<.001).

The effect of the independent variable ‘ethnic group’ on the variable ‘understanding’ turned out not to be significant (F(3, 544)=2.19, p=.09, η²=.02). Cohen's power analysis showed that if in reality the effect of the independent variable ‘ethnic group’ on the dependent variable ‘understanding’ would be large, medium, and 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; and ES=.25, power=.995; and ES=.10, power=.95). This implies that the chance that a Type II error occurred is low (1-.95 and 1-.95) and therefore the chance that in reality there is a significant effect of ‘ethnic group’ for a target group such as in this study is low. In other words, this implies that there is no reason to assume that the ethnic groups differed in their perception on the understanding of the different texts.

The Multivariate Analysis of Covariance (MANCOVA) also showed a significant effect of the covariate ‘perception of realism’ (F(1,552)=27.05, p.<.001, η²=.24). The analysis, however, did not show a significant overall interaction effect of the independent variables ‘ethnic group’ and ‘text version’ (F(6, 565)=.96, p=.53, η²=.01). Cohen's power analysis showed that if in reality the interaction effect of the independent variables ‘text version’ and ‘ethnic group’ would be large, medium, and 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; and ES=.25, power=.995; and ES=.10, power=.95). This implies that the chance that a Type II error occurred is low (1-
.995 and 1-.95) and therefore the chance that in reality there is a significant interaction effect of 'text version' and 'ethnic group' for a target group such as in this study is low.

4.3.2.3 Univariate Analysis of Variance

This section tries to determine whether or not there are differences between the ethnic groups and the text versions concerning the effects of metaphors on stigma. An Analysis of Variance was carried out in order to fulfil this aim. The independent variables were 'ethnic group' (Xhosa, Whites and Coloureds) and 'text version' (text A, B, E, and no text), and the dependent variable was 'stigma' (M= 2.47, SD=.63). This analysis showed that there was no significant main effect of 'ethnic group' on 'stigma' (F(3, 734)=.21, p=.89, η²=.00). Cohen's power analysis showed that if in reality the effect of the independent variable 'ethnic group' on the dependent variable 'stigma' would be large, medium, and 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; and ES=.25, power> .995; and ES=.10. power=.99). This implies that the chance that a Type II error occurred is low (1-.995 and 1-.99) and therefore the chance that in reality there is a significant effect of 'ethnic group' for a target group such as in this study is low.

Also, no significant main effect of the independent variable 'text version' on the dependent variable 'stigma' was found (F(3, 734)=1.16, p=.33, η²=.01). Again, Cohen's power analysis showed that if in reality the effect of the independent variable 'text version' on the dependent variable 'stigma' would be large, medium, and 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; and ES=.25, power> .995; and ES=.10. power=.99). This implies that the chance that a Type II error occurred is low (1-.995 and 1-.99) and therefore the chance that in reality there is a significant effect of 'text version' for a target group such as in this study is low. In other words, the fact that no effects were found for both 'ethnic group' and 'text version' implies that there is no reason to assume that South African high school students perceived differences between the stigma of the different text versions nor is there reason to assume that there were differences between the various ethnic groups regarding this perception.

Moreover, the Analysis of Variance showed that there was no significant interaction effect of the independent variables 'text version' and 'ethnic group' on the dependent variable 'stigma' (F(9, 734)=1.12, p=.34, η²=.01). Cohen's power analysis showed that if in reality the interaction effect of the independent variables 'text version' and 'ethnic group' would be large, medium, and 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; and ES=.25, power> .995; and ES=.10. power=.99). This implies that the chance that a Type II error occurred is low (1-.995 and 1-.99) and therefore the chance that in reality there is a significant interaction effect for a target group such as in this study is low.
In this research Xhosa high school students were asked to judge a HIV/AIDS educational text on ‘attractiveness’, ‘understanding’, ‘persuasiveness’, and ‘stigmatization’. In an experiment four text versions, of which three used metaphorical language and one used non-metaphorical language, were evaluated to measure the effectiveness of metaphors in HIV/AIDS documentation in South Africa and to determine to what extent metaphors might enlarge stigmatization in South Africa. In this chapter the four research questions are answered, section 5.2 discusses the results for the Xhosa high school students and in section 5.3 conclusions will be drawn for the three ethnic groups together. But first, ‘perception of realism’ will be elaborated on in section 5.1.

5.1 Perception of Realism
As could be expected from the research conducted by Jansen et al. (2005), the perception of realism of the texts correlated with all the dependent variables indicating that differences between the text versions might be due to differences in perception of realism. For the Xhosa high school students as well as for the South African high school students in general the correlations between the perception of realism and the variables that measured the ‘metaphor recognition’ and the effectiveness of the texts (‘attractiveness’, ‘average mark’, ‘understanding’, and ‘persuasiveness’) were significant. A MANCOVA also showed significant effects of the covariate ‘perception of realism’ for the Xhosas as well as for the South African high school students in general. These findings indicated that the perception of realism influences the effectiveness of the texts. This might imply that document designers should test their documents to ensure that they are as realistic as possible.

5.2 Xhosa High School Students
The manipulation check indicated that the respondents did not recognize the metaphors in texts B, C, and E. The ‘metaphor recognition’ of these metaphorical texts did not differ from the ‘metaphor recognition’ of non-metaphorical text A.

The first research question is aimed at determining the effectiveness of metaphors. This research question reads: “Under which conditions and to what extent do metaphors in written AIDS communication have an effect on a text’s attractiveness, understanding and persuasiveness to the Xhosa high school students in South Africa?” The results show that under no condition and to no extent metaphors had an effect on ‘attractiveness’ and ‘understanding’ for the Xhosa high school students in South Africa. The Xhosa high school students perceived no differences between the attractiveness and understanding of the metaphorical texts and the non-metaphorical text or between the various metaphorical texts. However, the results did show an effect of metaphors on persuasiveness. It was found that the Xhosa high school students found metaphorical text C (which referred to a boxer) significantly more persuasive than metaphorical text B (which referred to an
army). This implies that there is reason to assume that in case of metaphor use in HIV/AIDS documentation aimed at Xhosa high school students it might be more persuasive to use a metaphor which refers to a boxer instead of using a metaphor referring to an army.

The second research question is aimed at determining whether metaphors increase stigma. This research question reads: “Under which conditions and to what extent do metaphors affect stigmatization among the Xhosa high school students in South Africa?”

The results showed that metaphors did not under any condition or to any extent have stigmatizing effects. The Xhosa high school students did not perceive differences between the stigmatization of the different text versions indicating that there is no reason to assume that one text might be more stigmatizing than the other texts. Additionally, there is no reason to assume that texts on HIV/AIDS (metaphorical as well as non-metaphorical) contribute to a larger stigma of people with HIV/AIDS. Moreover, this might indicate that metaphors can be used in HIV/AIDS documentation for Xhosa high school students without initiating more stigma than neutral texts.

5.3 Comparison between Three Ethnic Groups
Since the present research was also carried out among White and Coloured high school students, it is possible to combine all data and draw conclusions for the South African high school students in general. The third research question is aimed at revealing possible differences between the three ethnic groups regarding the effectiveness of metaphors, and revealing possible differences between the non-metaphorical and metaphorical text versions. This question reads as follows: “To what extent do ethnic group and text version affect the attractiveness, understanding, and persuasiveness of various types of metaphors in written HIV/AIDS documentation?”

**Effects of ethnic group on effectiveness of the texts**
The results show that ‘ethnic group’ did not under any condition or to any extent affected the understanding of the different text versions. No differences were found between the Xhosas, the Coloureds and the Whites regarding their perception of the understanding of the different texts. However, significant effects of ‘ethnic group’ were found for ‘metaphor recognition’, ‘attractiveness’ and ‘persuasiveness’. This indicates that there were differences between the ethnic groups. The first difference concerns the recognition of metaphors. Xhosas scored higher on the variable ‘metaphor recognition’ than the Whites. No differences were found between Coloureds and Xhosas, and Coloureds and Whites. The second difference between the ethnic groups occurred for the variable ‘attractiveness’. The Xhosas and the Coloureds seem to find the texts significantly more attractive than the Whites. The Xhosas and Coloureds did not seem to differ from one another. Another difference between the ethnic groups with regard to the attractiveness of the texts occurred at the comparison between the average marks the respondents had to give the texts. The Xhosas and the Coloureds gave the texts a significantly higher mark than the Whites. However, no difference occurred between the Xhosas and Coloureds. The last difference between the ethnic groups occurred for the
variable ‘persuasiveness’. The Xhosas and the Coloureds found the texts significantly more persuasive than the Whites. Again, the difference between the Xhosas and Coloureds was not significant. It is rather surprising that, for the variables that measured the effectiveness, no differences were found between the Xhosas and the Coloureds. Additionally, it is interesting to note that for these variables the same tendency occurred of the Xhosas giving the most positive judgement, followed by the Coloureds and lastly by the Whites.

Effects of text version on effectiveness of the texts
The results show that ‘text version’ did not under any condition or to any extent affected the effectiveness of a text. This implies that there is no reason to assume that South African high school students perceived differences between the attractiveness, understanding, or the persuasiveness of the metaphorical- and non-metaphorical texts. Additionally, no interaction effect between text version and ethnic group occurred, which indicates that there was no specific text version that was preferred by any of the specific ethnic groups.

The last research question was aimed at determining whether or not there were differences between the ethnic groups regarding the stigmatizing effects of metaphors. Additionally, it was aimed at determining whether or not there were differences between the stigmatization of the metaphorical and the non-metaphorical text. This question reads: "To what extent do ethnic group and text version affect stigmatization caused by the use of metaphors?"

The results show that both ‘ethnic group’ and ‘text version’ did not under any condition or to any extent affected stigmatization. The fact that no effects were found for both ‘ethnic group’ and ‘text version’ implies that there is no reason to assume that South African high school students perceived differences between the stigma of the different text versions nor is there reason to assume that there were differences between the various ethnic groups regarding this perception. Moreover, the results imply that texts on HIV/AIDS (of whatever kind) do not enlarge the stigmatization of (people living with) HIV/AIDS. This might indicate that metaphors can be used in HIV/AIDS documentation for South African high school students without initiating more stigma than neutral texts. Additionally, no interaction effect between text version and ethnic group occurred, which indicates that there was no specific text version that was evaluated more or less stigmatizing by any of the specific ethnic groups.

These results give reason to assume that when educating South African students about HIV/AIDS the differences between the ethnic groups should be taken into account. This might mean that each text should be adjusted to the specific ethnic group instead of designing one text for all South Africans. This research does not find support for the effects of metaphorical language over non-metaphorical language. However, also no effects of non-metaphorical language over metaphorical language are found. This indicated that both types of writing can be used.
6 Discussion

This chapter discusses possible explanations of the findings presented in chapter five. Additionally, it will be reviewed what implications these findings might have for the theory presented in chapter two. This chapter starts with the expectations of the results followed by possible explanations of the actual findings. Section 6.3 discusses the limitations, and suggestions will be made for further research.

6.1 Expectations

Based on the theories presented in chapter two, diverging expectations occur with regard to the effectiveness of metaphors. According to the conceptual theory of metaphors it is expected that all metaphors are processed indirectly and therefore might affect the effectiveness of a text. For instance, according to the theory of Kovesces (2002) it might be expected that metaphors could enhance the effectiveness of a text by initiating a better understanding of difficult abstract concepts, like HIV/AIDS, by making those concepts more concrete. Based on other studies conducted by for instance Dingena (1994) or Schilperoord and Maes (2003), it was expected that metaphors might have positive effects on the attractiveness and persuasiveness of a text. However, according to the theories of McGlone (2007) and Gentner & Bowdle (2001) the processing of a metaphor depends on its novelty. Novel metaphors are processed indirectly, while conventional metaphors are processed directly. Therefore, positive effects might only occur if metaphors are novel.

Based on the theory of Sontag (1978), which is presented in chapter two it is expected that metaphors might have negative implications for people living with HIV. Sontag stresses that the use of metaphors in AIDS education can to a large extent falsify and distort the truth about AIDS.

An additional expectation concerns the effect of metaphors in different cultures. Based on the theories of for instance Emanatian (1996) and Bharat (2000) it is expected that the interpretation of metaphors depends on people’s culture. These authors argue that the interpretation of metaphors is guided by the social construction of the illness which might vary per culture. Based on these theories it is expected that there might be differences between the Xhosas, Coloureds, and Whites concerning the effects metaphors might have on the effectiveness of a text.

6.2 Explanations

6.2.1 General Explanations

The results of the present research do not support the expectations based on the conceptual theory of metaphors. No differences were found between the attractiveness, persuasiveness and understanding of the metaphorical- and the non-metaphorical text. Thus, there is reason to assume that the results of the present study support the theories of McGlone and Gentner & Bowdle. These authors argue that a lot of metaphors are conventional, implying that their processing does not differ from
processing normal literal expressions. Consequently, only few metaphors may enhance the understanding, persuasiveness and attractiveness in written communication.

It is conceivable that the metaphors which were used in this research were conventional. Perhaps the students had already seen the metaphorical expressions several times before indicating that the processing of these expressions was direct and did not differ from processing normal literal expressions. Consequently, no beneficial effects were found. In order to determine if the metaphors could indeed be conventional, it is necessary to take a closer look at them. The most profound difference, according to Gentner and Bowdle, between novel and conventional metaphors concerns the source domain. The source domain of a novel metaphor only refers to a domain specific concept (e.g. a literal concept), and is not (yet) associated with a domain general concept (e.g. an associated metaphoric category). The source domain of a conventional metaphor, however, refers to both a domain specific domain as well as to a domain general domain. According to McGlone, the most profound difference between novel and conventional metaphors concerns their familiarity. Conventional metaphors are metaphorical expressions with which a reader is familiar, and can be understood without recourse to conceptual mapping. Novel metaphors, however, are metaphorical expressions with which a reader is not familiar, and which involve inferring a conceptual mapping (between source and target) in order to be understood.

The source domains that were used in the present research compared the immune system to: an army; a boxer; a fire station; a house/security system. Considering to the theory of Gentner and Bowdle, it might be stated that all source domains referred to a domain specific concept, e.g. they all have a literal sense/ a literal meaning. For example, the novel source domain ‘boxer’ has the following literal sense ‘someone who takes part in the sport of boxing’. Additionally, all source domains might also be associated with a domain general concept. ‘Army’, ‘boxer’, ‘fire station’, ‘house/security system’, and might all be grouped in the category ‘things that protect me’. Because of this, these metaphors might be considered as conventional.

Considering the theory of McGlone, the metaphors which were used in the present research, might also be considered conventional. All metaphors were based on the results of the focus group discussion and the corpus analysis. Both methods revealed metaphors which were frequently used in current HIV/AIDS communication in South Africa. Thus, there might be a reasonable chance that the respondents have already been exposed to metaphors such as ‘the immune system is like an army that protects you’. Consequently, no conceptual mapping is required in order to understand this metaphor, indicating that the metaphor might indeed be conventional.

Moreover, Gentner and Wolff (1997) present an overview (see table 1) in which they give clear examples of conventional and novel metaphors.
### Table 1: Metaphors divided by their conventionality (Gentner and Wolff, 1997)

<table>
<thead>
<tr>
<th>High Conventionality</th>
<th>Low Conventionality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High similarity</strong></td>
<td><strong>Low similarity</strong></td>
</tr>
<tr>
<td>That argument is a war</td>
<td>That conversation is a war</td>
</tr>
<tr>
<td>That lie is a boomerang.</td>
<td>That statement is a boomerang.</td>
</tr>
<tr>
<td>That horoscope is a map.</td>
<td>That book is a map.</td>
</tr>
<tr>
<td>That sauna is an oven.</td>
<td>That room is an oven.</td>
</tr>
<tr>
<td>That ferry is a bridge.</td>
<td>That boat is a bridge.</td>
</tr>
<tr>
<td>That suburb is a parasite.</td>
<td>That town is a parasite.</td>
</tr>
<tr>
<td>That giraffe is a skyscraper.</td>
<td>That busboy is a skyscraper.</td>
</tr>
<tr>
<td>That audition is a door.</td>
<td>That play is a door.</td>
</tr>
<tr>
<td>That baby is an angel.</td>
<td>That child is an angel.</td>
</tr>
<tr>
<td>That librarian is a mouse.</td>
<td>That receptionist is a mouse.</td>
</tr>
<tr>
<td>That salesman is a bulldozer.</td>
<td>That merchant is a bulldozer.</td>
</tr>
<tr>
<td>That philanthropist is a fountain.</td>
<td>That casino is a drug.</td>
</tr>
<tr>
<td>That dancer is a top.</td>
<td>That island is a cork.</td>
</tr>
<tr>
<td>That can is a cork.</td>
<td>That detective is a ferret.</td>
</tr>
<tr>
<td>That student is an eagle.</td>
<td>That mosquito is a dart.</td>
</tr>
<tr>
<td>That nurse is a dart.</td>
<td>That fisherman is a spider.</td>
</tr>
<tr>
<td>That mariner is a spider.</td>
<td>That moat is a fence.</td>
</tr>
<tr>
<td>That river is a fence.</td>
<td>That slum is a tumor.</td>
</tr>
<tr>
<td>That neighbourhood is a tumor.</td>
<td>That camel is a cactus.</td>
</tr>
<tr>
<td>That vase is a cactus.</td>
<td></td>
</tr>
</tbody>
</table>

This table presents metaphorical expressions, which are divided by their conventionality. The right side of the table presents metaphorical expressions with low conventionality, e.g. novel metaphors. For example the metaphor ‘the casino is a drug’ refers to the casino as being addictive. Not many people will use this comparison, e.g. it is not common. Therefore, there is a reasonable chance that people do recognize the use of a metaphor in this expression. Moreover, conceptual mapping is needed to understand this expression. The left side of the table presents metaphors with high conventionality, e.g. conventional metaphors. For example the metaphor: ‘that baby is an angel’ refers to a baby as being, for example, sweet or beautiful. For many people this is a common expression and, therefore, there is a reasonable chance that they might not recognize the use of a metaphor in this expression.

The metaphors which were used in the present research are similar to the metaphors presented at the left side of the table, e.g. the conventional metaphors. Take for instance the expression ‘this army is a protector’. Again, for many people this is a common expression, they often associate ‘army’ with ‘protection’. Because of this, there is a reasonable chance people would not recognize the presence of a metaphor in this expression. Therefore, it is likely that the respondents that participated in the present research associated the source domains (‘army’, ‘boxer’, ‘fire station’, ‘house/security system’, and ‘police men’), in one way or another, with a category that could be something like: ‘protection’. This indicates that all source domains that were used in the present research refer to both a domain specific concept and to a domain general concept, as pointed out in the theory of Gentner and
Bowdle. Because of this, the metaphors of the present research might be considered conventional, instead of novel.

Additionally, the results of this research (for both Xhosas and South African high school students in general) do not support the expectations based on Sontag and Bharat. In fact, this research proved the opposite: no differences between the stigma of the metaphorical texts and the non-metaphorical text were found. This implies that the metaphors in this present study did not enlarge the stigmatization of (people living with) HIV/AIDS in South Africa. A possible explanation concerns the manipulation check. It was found that respondents did not recognize the metaphors in text B, C, D, and E. Because of this, possible stigmatizing effects might also not be noticed.

Another possible explanation concerns the content of the text. It was an informative text on the process of HIV infection. A more personalized approach, for instance presenting an exemplar in which a story is told about a person who becomes infected with HIV, might have revealed more stigmatizing effects.

A last possible explanation for not finding effects concerns the linguistic context. Gibbs and Tendahl (2006) claimed that metaphors can be understood as quickly as literal speech when they are encountered in rich linguistic contexts. This might also account for the metaphors which were used in the present research. All metaphors were encountered in a long rich text. Because of this rich context the metaphors could be understood as quickly as literal speech. Consequently, no effects were found such as the enhancement of the effectiveness of the texts.

6.2.2 Explanations for the Xhosa High School Students
There are several possible explanations why no differences between the metaphorical and non-metaphorical text versions were found for ‘attractiveness’ and ‘understanding’. The first possible explanation concerns the manipulation check. It was shown that the metaphor recognition of text B, C, E (the metaphorical texts) did not differ from the metaphor recognition of text A (the non-metaphorical text). This could imply that the difference between the neutral and the metaphorical text was not noticeable enough. If the metaphor use would have been more obvious, the differences between these texts and the non-metaphorical text might have been clearer, possibly leading to different results. However, the fact that no style differences were noticed could also be a matter of reading and/or language skills with regard to the recognition and processing of metaphors. This is a profound skill which is not present with everyone at the same level. Especially considering the level of education of high school students, they may not have acquired the skill to consciously deal with the difference between figurative and non-figurative language yet.

The second possible explanation which could account for not finding an effect of metaphors was the information in general. The information in the texts was on HIV/AIDS, which is a serious subject that
attracts the attention regardless of the level of involvement. It might be possible that the information in the text was interesting and appealing without the use of metaphors (ceiling-effect).

The third possible explanation is that metaphors simply are not effective tools to enhance a better understanding; more attractiveness; and more persuasive power of educational texts on HIV/AIDS in South Africa. And finally, the respondents were high school students of grades eight to eleven and seemed to have problems concentrating. They could not concentrate for a long time and their teacher did not always stimulate them nor did he/she gain control over the classroom. This might have affected the results in a way that the respondents did not read the text with complete attention or think thoroughly about the questions. Moreover, one also needs to be very sensitive to the fact that research which includes questionnaires may not always work because the respondents’ attention might be distracted by the difficulty of dealing with the instrument itself.

A last possible explanation concerned the language of the material. All texts were written in English, which was not the mother tongue of most of the students. If the material would have been in their own language (in isiXhosa) the respondents might have recognized the style differences between the texts better, which may have lead to other results.

The results did not show differences between the stigmatization of the texts. A possible explanation for not finding stigmatizing effects concerns the number of Xhosa respondents. Power analysis showed a power of .77, this implies that given a small effect size in reality, there is a slight chance that metaphors do have stigmatizing effects. The fact that no differences were found might be due to the fact that the number of respondents was too low.

The results did show an effect of metaphors on persuasiveness. The Xhosa students found the metaphorical text which referred to a boxer more persuasive than the metaphorical text referring to an army. An explanation for this might again be found in the novelty of metaphors; the boxer metaphor could be more novel than the army metaphor. Or it could simply be that Xhosas found the boxer metaphor indeed more persuasive.

6.2.3 Explanations for the South African High School Students
The possible explanations for not finding differences between the texts versions which are described in the previous section could also be applicable for the South African high school students (except for the one that concerned the stigmatizing effects). However, the present research did find differences between the ethnic groups for attractiveness, average mark, and persuasiveness. When it came to evaluating the texts, Xhosas and Coloureds tended to be more positive than the Whites. Several possible explanations can be found for these differences.
The most obvious and simple explanation for the differences between the ethnic groups is that the Xhosa and Coloured students were more inclined to give higher scores than the White students. It might also be possible that the texts that were used in this research are in reality more effective for Xhosa and Coloured students than for White students. Another possible explanation for these differences can be found in the theories of Emanatian (1996) and Bharat (2000) who argue that the interpretation of metaphors depends on people’s culture. However, it does not elucidate why no difference appeared between the Xhosa and Coloureds. A last possible explanation might be that both Xhosas and Coloureds might be more susceptible to adhering to the social standards and norms of society which could lead to more positive results.

For the variable ‘understanding’ there appeared to be no difference between the different ethnic groups. It is feasible that no differences occurred because most of the present brochures do not address the ethnic groups separately, indicating that all groups might have about the same exposure to HIV/AIDS texts. The respondents might have been too familiar with the subject of the text, implying that they might already know how the immune system works exactly.

6.3 Limitations and Future Research

There are a few limitations which might have influenced the results of the present research and which need to be taken into account for further research. The first (and maybe most important) limitation concerns the subject of metaphor novelty. The fact that no effects of metaphors were found might be due to the fact that the metaphors in the texts were conventional instead of novel. In retrospect, it is hard to determine if the metaphorical expressions which were used for this research can be considered conventional or novel. The respondents should have been asked if they were familiar with the expression/ if they had heard the expression before. Further research should take this into account. Additionally, it would be interesting to use both novel and conventional metaphors in order to test if this indeed leads to different results.

Additionally, another limitation concerned the design of the research. The problems the target group had with concentration lead to a change of design. However, research in another setting with another target group might be appropriate for a within subject design. Maybe if the respondents read a metaphorical as well as a non-metaphorical text, they will be more inclined to notice the style difference because they can compare the texts. It is interesting to find out if this might also lead to other results. Moreover, the content of the texts only addressed one aspect of HIV/AIDS, namely the process of HIV infection. Other subjects, for instance living with HIV or VCT, might lead to other results. As noted before, with regard to stigma more personalized approaches might reveal stigmatizing effects. For example, a personal story about how someone got infected with HIV and what he/she has to do to control the disease and not infect other people can be compared to a neutral text on (the spread of) HIV infection and the measurements needed to control the disease.
Additionally, the effectiveness of the texts was measured by the variables ‘attractiveness’,
‘understanding’ and ‘persuasiveness’. Since no effects were found, future research should also
investigate other variables that might have the potential to moderate the effectiveness of
metaphorical messages. Two such variables, initial attitude towards the metaphor target and
involvement with the message topic (Ottati et al., 1999), may play an important role in the derivation
of metaphorical meaning as well as the extent to which this meaning impacts evaluations.

The present study looked solely at verbal metaphors. It might also be of interest to find out if pictorial
metaphors do affect the attractiveness, understanding and persuasiveness of texts.

It is also of interest to investigate the differences between the ethnic groups more thoroughly. More
knowledge is needed to find an elucidation for the differences and for the fact that this research only
found differences between the Xhosas and the Whites and the Coloureds and the Whites. Does
another target group, for instance Xhosa, Coloured and White adults, give the same results?
Moreover, will the same results be found in other countries?

If this research is replicated it also might be interesting to consider cultural dimensions. Gudykunst
(1991) argues that communication is mostly influenced by the dimensions individualism and
collectivism. It is interesting to find out whether these cultural differences also influence the effects of
metaphors. Or even more interestingly, do these differences affect the stigmatization caused by
metaphors?

6.4 Final Note
The present research contributed to the knowledge about the effects of metaphors, especially in
HIV/AIDS communication in South-Africa. The most profound finding is that the theories of McGlone
and Gentner & Bowdle seemed to be supported, indicating that different processing of conventional
and novel metaphors could indeed exist. Further research is needed to investigate the exact
differences between these processes and the effects they might have on the effectiveness of a text.


## Appendices

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### 8.1 Alphabetically Ordered List of Analyzed HIV-AIDS brochures

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<tr>
<th>Title brochure</th>
<th>Number of pages</th>
<th>Language</th>
<th>Subject</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>A real life story... looking for love in a world of AIDS</td>
<td>6</td>
<td>English</td>
<td>A story about a woman that had the nerves to stand up for herself by asking the man questions and insisting on using condoms.</td>
<td>Wellness project management</td>
</tr>
<tr>
<td>A real life story...Looking for love in a world of AIDS 2</td>
<td>6</td>
<td>English</td>
<td>Discussing AIDS (to a partner).</td>
<td>Wellness Project Management</td>
</tr>
<tr>
<td>An AIDS-free life</td>
<td>6</td>
<td>English</td>
<td>Basic information about what AIDS is, how to protect, ABCD.</td>
<td>CLF</td>
</tr>
<tr>
<td>Anti-retroviral treatment for life!</td>
<td>41</td>
<td>English</td>
<td>Information on ART.</td>
<td>Soul City Institute and Khomanani Caring Together</td>
</tr>
<tr>
<td>Anti-retrovirale behandeling</td>
<td>6</td>
<td>Afrikaans</td>
<td>Answer to questions regarding ARB (ART).</td>
<td>Soul City Institute and Khomanani Caring Together</td>
</tr>
<tr>
<td>Are you pregnant and HIV positive?</td>
<td>6</td>
<td>English</td>
<td>PMTCT (what is it, how does it work, getting support, after birth).</td>
<td>Department of Health, Provincial Administration of the Western Cape Health (PAWCH)</td>
</tr>
<tr>
<td>Battles in the blood.. HIV &amp; the immune system</td>
<td>6</td>
<td>English</td>
<td>Information about what happens to the cells inside the human body when someone is HIV positive.</td>
<td>Wellness project management</td>
</tr>
<tr>
<td>Borstvoeding &amp; MIV</td>
<td>4</td>
<td>Afrikaans</td>
<td>MNKO (moeder na kind oordraging), education for HIV positive- mothers.</td>
<td>Department of Health, PAWCH</td>
</tr>
<tr>
<td>Breaking the male mould</td>
<td>8</td>
<td>English</td>
<td>Stereotyping about male and female characteristics.</td>
<td>Khomani, caring together RKWO/  Garamond Uitgewers</td>
</tr>
<tr>
<td>Brenda het 'n drakie in haar bloed</td>
<td>40</td>
<td>English</td>
<td>Story about a little girl that is HIV positive.</td>
<td></td>
</tr>
<tr>
<td>Campus Peer Educators</td>
<td>6</td>
<td>English</td>
<td>Information on peer educators on US (what is it, what to expect, how to apply.</td>
<td>University of Stellenbosch</td>
</tr>
<tr>
<td>Caring for people with HIV and AIDS</td>
<td>8</td>
<td>English, Afrikaans, IsiXhosa, Setswana</td>
<td>How to deal with and care for people who are living with HIV/AIDS.</td>
<td>department of health: HIV/AIDS and TB chief Directorate Soul City</td>
</tr>
<tr>
<td>Caring together for children</td>
<td>37</td>
<td>English</td>
<td>How to care for (HIV-positive) children.</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>Page No</td>
<td>Language</td>
<td>Description</td>
<td>Source</td>
</tr>
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<td>----------------------------------------------------------------------</td>
<td>---------</td>
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<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Condoms</td>
<td>8</td>
<td>English, Afrikaans, IsiXhosa, Setswana</td>
<td>Information about condoms.</td>
<td>Department of health: HIV/AIDS and TB chief Directorate CLF AIDS Trust/VIGS Trust</td>
</tr>
<tr>
<td>Dear pastor, do you know that AIDS is a killer?</td>
<td>4</td>
<td>English</td>
<td>How pastors should deal with PHLA.</td>
<td>Department of health: HIV/AIDS and STD Directorate Centre for disease control and prevention UNISA, UNAIDS, World Health Organization, International Council of Nurses and Advanced Nursing Sciences Higher education HIV/AIDS Programme Stellenbosch AIDS action Living and Loving Health Western Cape University of Stellenbosch Soul City and Khomanani Caring Together Soul City</td>
</tr>
<tr>
<td>Get tested fo HIV</td>
<td>6</td>
<td>English</td>
<td>VCT</td>
<td>Department of health: HIV/AIDS and TB chief Directorate CLF AIDS Trust/VIGS Trust</td>
</tr>
<tr>
<td>Getting Him to use a condom</td>
<td>8</td>
<td>English</td>
<td>Information about persuading the man to use a condom.</td>
<td>Department of health: HIV/AIDS and STD Directorate Centre for disease control and prevention UNISA, UNAIDS, World Health Organization, International Council of Nurses and Advanced Nursing Sciences Higher education HIV/AIDS Programme Stellenbosch AIDS action Living and Loving Health Western Cape University of Stellenbosch Soul City and Khomanani Caring Together Soul City</td>
</tr>
<tr>
<td>Health Western Cape</td>
<td>2</td>
<td>English</td>
<td>How &quot;health Western Cape&quot; can help PLWA.</td>
<td>Department of health: HIV/AIDS and STD Directorate Centre for disease control and prevention UNISA, UNAIDS, World Health Organization, International Council of Nurses and Advanced Nursing Sciences Higher education HIV/AIDS Programme Stellenbosch AIDS action Living and Loving Health Western Cape University of Stellenbosch Soul City and Khomanani Caring Together Soul City</td>
</tr>
<tr>
<td>HIV and AIDS and Treatment</td>
<td>49</td>
<td>English</td>
<td>HIV (infection, prevention, treatment, talking about it, places to go for help).</td>
<td>Department of health: HIV/AIDS and STD Directorate Centre for disease control and prevention UNISA, UNAIDS, World Health Organization, International Council of Nurses and Advanced Nursing Sciences Higher education HIV/AIDS Programme Stellenbosch AIDS action Living and Loving Health Western Cape University of Stellenbosch Soul City and Khomanani Caring Together Soul City</td>
</tr>
<tr>
<td>HIV and AIDS. Prevention care and treatment</td>
<td>56</td>
<td>English</td>
<td>Information about HIV and Aids, prevention, care and treatment.</td>
<td>Department of health: HIV/AIDS and TB chief Directorate CLF AIDS Trust/VIGS Trust</td>
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<tr>
<td>HIV The Answers</td>
<td>7</td>
<td>English</td>
<td>General facts about HIV, VCT.</td>
<td>Department of health: HIV/AIDS and TB chief Directorate CLF AIDS Trust/VIGS Trust</td>
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<tr>
<td>HIV What if I'm positive</td>
<td>6</td>
<td>English</td>
<td>What you can do if you have HIV, sex, protection.</td>
<td>Department of health: HIV/AIDS and TB chief Directorate CLF AIDS Trust/VIGS Trust</td>
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<tr>
<td>HIV, AIDS, and rights</td>
<td>8</td>
<td>English, Afrikaans, IsiXhosa, Setswana</td>
<td>Rights people living with AIDS have.</td>
<td>Department of health: HIV/AIDS and TB chief Directorate CLF AIDS Trust/VIGS Trust</td>
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66
<table>
<thead>
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<td>Antiretroviral drugs.</td>
<td>Cape technikon, student welfare and health</td>
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<td>Relationships and HIV/AIDS.</td>
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<td>Counselling for people living with HIV/AIDS.</td>
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<td>HIV/AIDS workplace resource Guide</td>
<td>English</td>
<td>Practical guide on how to deal with HIV/AIDS at work.</td>
<td>Department of Health Wellness project management</td>
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<td>HIV-positive... What is a CD4 count</td>
<td>English</td>
<td>Information about CD4.</td>
<td>Tabeisa</td>
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<td>How 2b AIDS Aware</td>
<td>English</td>
<td>Book for schools, colleges about many topics regarding HIV/AIDS, HIV/AIDS projects.</td>
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<td>How to Protect Yourself From AIDS</td>
<td>English</td>
<td>Ways to protect yourself against AIDS.</td>
<td>Department of Health and Human Services Bergen County Department of Health Services Metro district Khomanani Caring Together</td>
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<tr>
<td>HRD and training</td>
<td>English</td>
<td>Newsletter with HIV facts.</td>
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<tr>
<td>I had an HIV test-now what?</td>
<td>English</td>
<td>Dealing with the results of a HIV-test, Where to find more information.</td>
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<tr>
<td>Important facts about HIV/AIDS STD'S and TB</td>
<td>English</td>
<td>Information about HIV/AIDS, TB, STD's. What can be done about it, how you can look after yourself. Explain the process of HIV testing.</td>
<td>Cape town Administration Health department Wellness Project Management</td>
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<td>Important things to know about having an HIV test</td>
<td>English</td>
<td>Description of the common STD's, ways to reduce the risk.</td>
<td>Wellness Project Management</td>
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<tr>
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<td>English/Afrikaans</td>
<td>General information on HIV/AIDS.</td>
<td>Language groups, Western Cape</td>
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<td>Knowledge is power</td>
<td>English, Setswana IsiXhosa</td>
<td>Dealing with HIV/AIDS, VCT (what is it, where to go etc.)</td>
<td>Khomanani Caring Together Checkers</td>
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<tr>
<td>Kos en gesondheid</td>
<td>English, Afrikaans</td>
<td>General information on HIV and how to protect yourself.</td>
<td>Soul City</td>
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<tr>
<td>Leef positief saam met MIV en Vigs</td>
<td>Afrikaans</td>
<td>General information on AIDS and information on how you live with people who are HIV positive.</td>
<td>Soul City</td>
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<tr>
<td>Leef positief saam met MIV en VIGS</td>
<td>Afrikaans and English</td>
<td>MIV/VIGS, how to deal with a positive HIV status, caring/helping HIV positive people.</td>
<td>Department of Health. Republic of South Africa</td>
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<tr>
<td>Let's talk about it...</td>
<td>English</td>
<td>Information how to be firm about your choices, knowing yourself.</td>
<td>Department of Health: HIV/AIDS and TB Chief Directorate</td>
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<tr>
<td>Living with HIV and AIDS</td>
<td>English, Afrikaans, Setswana IsiXhosa</td>
<td>What people who are living with AIDS should do.</td>
<td>Department of Health: HIV/AIDS and STD Directorate as part of the beyond awareness campaign</td>
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<td>Living with HIV/AIDS</td>
<td>English, Afrikaans, IsiXhosa, Setswana</td>
<td>What people who are living with AIDS should do.</td>
<td>Department of Health: HIV/AIDS and STD Directorate as part of the beyond awareness campaign</td>
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<tr>
<td>Looking for love in a world of AIDS V LOVEFACTS</td>
<td>English</td>
<td>Story about a people who have AIDS.</td>
<td>Wellness project management LoveLife</td>
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<tr>
<td>Loving Life</td>
<td>English</td>
<td>Relationships, sex, HIV, pregnancy, protection, STI's.</td>
<td>SABC</td>
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<tr>
<td>Loving Safely</td>
<td>English</td>
<td>Information on AIDS, protection, improving quality of life.</td>
<td>Planned parenthood Association of South Africa</td>
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<tr>
<td>Male condoms</td>
<td>English, Afrikaans, IsiXhosa, Setswana</td>
<td>Information on male condoms.</td>
<td>Department of Health: HIV/AIDS and STD Directorate as part of the beyond awareness campaign</td>
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<td>MIV Geen toekomsnie, reg MIV- VIGS</td>
<td>Afrikaans</td>
<td>Protection and VCT.</td>
<td>Stellenbosch University Studentensake US</td>
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<td>MIV/VIGS &quot;ken jouw status projek&quot;</td>
<td>Afrikaans</td>
<td>Wat is VIGS en hoe kan ik het voorkomen.</td>
<td>Stellenbosch University Government</td>
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<tr>
<td>MIV/VIGS: Sit hand by my beautiful body</td>
<td>English</td>
<td>Programmes on HIV/AIDS prevention and a partnership. Special parts of the body should not be touched until god gives you the right person to marry.</td>
<td>CLF</td>
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<tr>
<td>My child is HIV positive</td>
<td>English</td>
<td>Information is given to parents whose child might have/ has HIV/AIDS.</td>
<td>CLF</td>
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<td>Nasionale jeugdige gesondheid studie</td>
<td>Afrikaans</td>
<td>Research on HIV/AIDS.</td>
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<td>No matter where you live or work you need to know about HIV and AIDS</td>
<td>English</td>
<td>HIV/AIDS overview, facts and fiction and HIV related to Sex/children/pregnancy.</td>
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<td>Play it safe</td>
<td>English</td>
<td>Live by the rules of God.</td>
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<td>Positive health (metropolitan)</td>
<td>English</td>
<td>The booklet is for people who are infected by HIV.</td>
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<td>Pregnancy and HIV</td>
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<td>Pregnancy and HIV - What you should know</td>
<td>English</td>
<td>Information for pregnant women who are HIV positive.</td>
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<tr>
<td>Prevention, protection, passion</td>
<td>English</td>
<td>General information on HIV/AIDS, testing and prevention methods.</td>
<td>Planned Parenthood Association of South Africa Unknown</td>
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<tr>
<td>Ripe and Ready for a Ride, but is it worth the risk?</td>
<td>English</td>
<td>Sex and the risk of getting HIV, how to use a condom</td>
<td>Sunday Times and LoveLife</td>
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<tr>
<td>S'camtoprint</td>
<td>English</td>
<td>Magazine for the young on several topics, like (sexual) relationships.</td>
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<td>Sexually Transmitted Diseases</td>
<td>English,</td>
<td>STD's.</td>
<td>Department of health: HIV/AIDS and STD</td>
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<td></td>
<td>IsiXhosa,</td>
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<td>Sexually Transmitted Infections</td>
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<td>STI's.</td>
<td>Directorate as part of the beyond awareness campaign</td>
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<td>Some important things to know....Germs and opportunistic infections</td>
<td>English</td>
<td>Explaining what opportunistic infections do a description on TB, Candida, Shingles, PCP, CMV and Cryptococcal meningitis.</td>
<td>Department of health: HIV/AIDS and TB chief Directorate</td>
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<tr>
<td>Soul Budyz.</td>
<td>Afrikaans</td>
<td>A magazine for parents on how to communicate with their kids.</td>
<td>Wellness Project Management</td>
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<tr>
<td>Tomorrow is ours</td>
<td>English</td>
<td>A magazine with all kind of information presented in different ways; cartoons, stories, fact sheets.</td>
<td>Soul City Institute</td>
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<td>Soul City George's story</td>
<td>English</td>
<td>A magazine with a range of information regarding HIV/AIDS.</td>
<td>Soul City</td>
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<td>Soul City HIV and AIDS affect all children</td>
<td>English</td>
<td>A magazine with guidelines for health workers.</td>
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<td>Soul City HIV and AIDS User Guide</td>
<td>English</td>
<td>Magazine about health, puberty, testing, preventing, human body.</td>
<td>Soul City Community Development Project</td>
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<td>Soul City Know your body your reproductive health book</td>
<td>English</td>
<td>Magazine with information on how to live with HIV/AIDS, there are questions and puzzles about HIV/AIDS.</td>
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<td>Soul City Living with AIDS</td>
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<td>Magazine covering all kind of topics on HIV/AIDS.</td>
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<td>Soul city. HIV and Aids... action now!</td>
<td>English</td>
<td>All kind of general information on HIV/AIDS.</td>
<td>Soul City (Community Development Project)</td>
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<td>Soul city. VIGS in ons gemeenschap</td>
<td>English, Afrikaans</td>
<td>All kind of general information on HIV/AIDS.</td>
<td>Soul City (Community Development Project)</td>
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<tr>
<td>Stop TB because you can</td>
<td>English</td>
<td>Information on TB (what is it, cure, treatment, living with TB and places to go for help).</td>
<td>Soul City and Khomanani Caring Together</td>
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<td>Description of the common STD's, protection, talking about STD's.</td>
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<td>Talking about HIV/AIDS</td>
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<td>English, Afrikaans</td>
<td>General information on HIV and how to protect yourself.</td>
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<td>Tell me more</td>
<td>20</td>
<td>English</td>
<td>Magazine covering topics that are related to sex, communication, respect.</td>
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<td>The best of friends</td>
<td>8</td>
<td>English</td>
<td>Supporting friends who are HIV positive.</td>
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<td>Thethanathi</td>
<td>7</td>
<td>English</td>
<td>Magazine for the young on several topics especially about fears.</td>
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<tr>
<td>ThethaNathi</td>
<td>8</td>
<td>English</td>
<td>Newspaper about love, relationship, sex, HIV/AIDS.</td>
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<tr>
<td>This is my life</td>
<td>47</td>
<td>English</td>
<td>Magazine with information on HIV/AIDS, protection, how to say no.</td>
</tr>
<tr>
<td>Ubungani</td>
<td>32</td>
<td>English</td>
<td>Information for parents on how to educate children on sex, relationships, AIDS.</td>
</tr>
<tr>
<td>UNCut</td>
<td>44</td>
<td>English</td>
<td>A magazine with all kind of information presented in different ways; cartoons, stories, fact sheets.</td>
</tr>
<tr>
<td>UNCut</td>
<td>28</td>
<td>Afrikaans</td>
<td>Magazine covering all kind of topics on HIV/AIDS.</td>
</tr>
<tr>
<td>UNCut</td>
<td>44</td>
<td>Afrikaans</td>
<td>A magazine with all kind of information presented in different ways; cartoons, stories, fact sheets.</td>
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<tr>
<td>UNCut, februari 2005, uitgawe 20</td>
<td>27</td>
<td>Afrikaans</td>
<td>Magazine for the young on several topics, also sex related topics.</td>
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<td>UNCut, januari 2005, uitgawe 18</td>
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<td>Magazine for the young on several topics, like sex related topics, sports and music.</td>
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<td>Afrikaans</td>
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<td>6</td>
<td>English, Afrikaans, IsiXhosa</td>
<td>Specific information on HIV/AIDS. Cells.</td>
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<tr>
<td>Vigs - Om liefde te deel</td>
<td>6</td>
<td>Afrikaans</td>
<td>Transmission facts and myths, facts on safe sex, proper</td>
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<td>Description</td>
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<td>English, Sesotho, Isizulu, Afrikaans</td>
<td>Information on voluntary testing.</td>
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<td>Voorkom MIV na verkragting</td>
<td>16</td>
<td>Afrikaans</td>
<td>Rights, What to do after rape (testing and medicine)</td>
</tr>
<tr>
<td>Wat is 'n SOS</td>
<td>6</td>
<td>English</td>
<td>STD's</td>
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<tr>
<td>What is right for me?</td>
<td>8</td>
<td>English</td>
<td>Information about the understanding of AIDS.</td>
</tr>
<tr>
<td>Whose right?</td>
<td>75</td>
<td>English</td>
<td>What is AIDS, how to prevent it and exposures to AIDS at work. General information on HIV/AIDS, and information on AIDS day.</td>
</tr>
<tr>
<td>Workplace basics...</td>
<td>8</td>
<td>English</td>
<td>What people can do on the AIDS day.</td>
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<tr>
<td>HIV &amp; AIDS World AIDS day. 2004</td>
<td>2</td>
<td>English</td>
<td>Teenagers, STD's, sex, alcohol and drugs.</td>
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<td>World AIDS day. How can you help You &amp; HIV/AIDS</td>
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<td>Being young, group behaviour.</td>
</tr>
<tr>
<td>You are one in a million</td>
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<td>English</td>
<td>Steps to maintain a healthy mouth for people who are HIV-positive.</td>
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<tr>
<td>Your Mouth &amp; HIV</td>
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</table>

Table 10: HIV/AIDS brochures
8.2 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?

1. 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:
  o 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:
  o 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:
  o The HIV comes into your body and a war is created between the body and the HIV.

2. **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:
  o AIDS is a virus-dragon, which makes people sick, tired and feverish;
  o 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:
  o White blood cells protect you body by patrolling in the bloodstream and by attacking invaders.

3. **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.
  o 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.
  o HIV is a monster that can fight and defeat your white blood cells.

4. 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:
  o The disease kills, has to ability to kill;
  o It literally kills people but also the youth culture; it is crazy because of this.

5. 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:
  o Protection (an army protects that body);
  o Healing the body from sickness;
  o Army can get weak if HIV attacks. After the army is weak it won’t be able to fight back as good as before, and therefore the health can get in danger.

6. Brochure: Vigs

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

• The two terms are HIV & 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 as 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 secretly hides in your body and has the ability to kill you.

7. 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.

8. 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:
  o 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:
  o 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:
  o It seems AIDS can be beaten, but in the end AIDS is the winner of the fight.

9. **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 the 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:
  o 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.

10. **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:
  o AIDS is like a bus full of uninvited friends, one is no problem but your not prepared for a whole group;
  o 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:
  o 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 white 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:
  o Protecting a the body;
  o 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:
  o 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;
  o 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:
  o Viruses are like living things.
- The two terms are figures and cells
- The primary subject is cells and the secondary subject is 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.

8.3 Script Focus Group Discussion 24-08-2007

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 with 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 ad that they will stay anonymous.
  o 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.
- Have you ever used such methods in your work on HIV/AIDS education, and do you use them often?
- And do you use them when addressing High School students?
- 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.
  - 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.**
o 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.
o Do you counsel all of these groups? Or are there different counsellors per group?
o Do you think that the different groups will use different metaphors for HIV/AIDS or related topics?
o 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)
o 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.
o 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.
o 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
8.4 Minutes Focus Group Discussion

Task partitioning during the session:
Kim Olislagers: 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
to break 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 a 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 Laprisha; the second best metaphor for the whites and the Colored is the house- metaphor.

Heidi and Nasi: We agree with Benjamin and Laphrisa.

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

-For the Whites and the Colored the top three is the same-  
  o army/soldier,  
  o security system in a house;  
  o 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.
8.5 Pre-test

8.5.1 Pre-test Experts

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.

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

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

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

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

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

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

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

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

10. Do you think text E is easy to read? Motive your answer please.
11. Do you think text all texts are quite similar in meaning? *Motivate your answer please.*

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

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
8.5.2 Pre-test target group

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?

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

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

Was the language easy to understand?
  - If not, could you indicate why it was hard?

*Thank you very much for you have been a great help to us!*
8.6 Questionnaires
8.6.1 Questionnaire

Questionnaire

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?
   o Grade 8
   o Grade 9
   o Grade 10
   o Grade 11

2. What is your age? ______

3. What is your gender?
   o Female
   o Male

4. Which language is mostly spoken in your home?
   o Afrikaans
   o Xhosa
   o English
   o Other

5. To what ethnic group do you belong?
   o Xhosa
   o Afrikaans speaking white
   o Colored
   o 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  [x] 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.

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 straightforward:
☐ 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 a 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! 😊
8.6.2 Questionnaire Stigma (zero measurement)

**Questionnaire**

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.

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!
8.7 Text versions

Text A

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 a 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

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

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 (not used for this thesis)

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**

**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.