

# **The efficacy of graphic imagery in HIV/AIDS-prevention campaigns:**

**A case study of *loveLife* outdoor material**

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# DECLARATION

I, the undersigned, hereby declare that this dissertation is my own independent work and that the dissertation, or parts thereof, has not previously been submitted by me to any other institution for purposes of a degree.

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Date

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Signature

# ABSTRACT

*The aim of health communication campaigns and visual communication material (VCM) is to positively influence audience health behaviour and attitude. VCM has been used in this respect effectively as a vehicle to convey information about HIV/AIDS over the past three decades. It has been used to promote health knowledge and awareness in order to reduce the transmission of the virus.*

*The aim of this study was to determine the efficacy of graphic imagery in HIV/AIDS VCM. To realise this aim, the researcher set the following objectives:*

- *To review relevant literature in order to isolate key features and process those that communicators must consider/follow when developing HIV/AIDS VCM;*
- *To determine the comprehension of selected outdoor HIV/AIDS messages, the graphics used in these messages, illustration preferences, and an evaluation of the self-efficacy of selected loveLife outdoor visual messages; and*
- *To propose a model that communicators can use as a guideline when developing VCM.*

*The outcome of the review suggests a compilation of features, design guidelines and variables that may contribute to the effectiveness of VCM. The results of the empirical study indicate that suitable graphic imagery fosters message comprehension, while inappropriate imagery inhibits comprehension, and realistic and appropriate imagery is preferred to abstract and representational imagery. Familiar images can contribute towards improved comprehension of HIV/AIDS messages. These findings also gave birth to the proposed 'O' communication model, which is a reflection of the results of the empirical study.*

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## DEFINITIONS OF TERMS, ABBREVIATIONS AND ACRONYMS

<b>AIDS:</b>	Acquired immune deficiency syndrome
<b>Appropriate:</b>	Suitable for a particular person or place or condition, etc.
<b>Comprehensible:</b>	Capable of being comprehended or understood
<b>Comprehension:</b>	(1) Using graphic imagery and illustrations to create meaning from a message during and after reading (2) The act of grasping the meaning and importance of a message or understanding a message
<b>Culture:</b>	Generally refers to patterns of human activity and the symbolic structures that give such activities significance and importance
<b>Cultural vogue:</b>	The prevailing fashion or symbolic structures and activities of a group or community
<b>Efficacy:</b>	The ability to produce a desired amount of an effect or result
<b>Harmonise:</b>	Go together/ bring into consonance or accord
<b>HIV:</b>	Human immunodeficiency virus
<b>Imagery:</b>	A set of mental pictures or images / representative images, particularly figures
<b>Readable:</b>	Interesting or easy to read / likely to be read with pleasure
<b>Self-efficacy:</b>	The belief that one is capable of acting in a certain manner or achieving certain goals; the belief that one has the ability to execute the courses of actions required to manage prospective situations
<b>Vogue:</b>	The prevailing fashion, trend or style
<b>Suitable graphic Imagery:</b>	Appropriate or correct visual illustration

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## STRUCTURE OF THE DISSERTATION

This dissertation is submitted in the format of two publishable articles and one conference presentation. It is composed in a five-chapter report.

- Chapter one provides the introduction and background to the study.
- Chapter two provides a review of the literature and this is presented as a publishable article: *The efficacy of visual communication material in combating HIV/AIDS – A literature review.*
- The empirical work is presented in chapter three as a publishable article: *Comprehension of HIV/AIDS messages: A case study of loveLife outdoor media*
- Chapter four is a conference presentation, namely: *Design solutions to community health communication.*
- Chapter five contains the summary, conclusions and recommendations of the study.

The bibliography of sources cited in each chapter is given at the end of each chapter.

# CHAPTER

# 1

## Introduction and background to the study

### 1.1 Introduction

Ignorance and misinformation are amongst the main contributors to the spread of HIV worldwide (Torabi, Crowe, Rhine, Daniel & Jeng 2000; Lew-Ting & Hsu 2002). It is estimated that close to 40 million people are living with HIV globally (Piot 2004) and that Eastern and Southern Africa have 17 million people living with HIV. There are more than 11 million orphaned children and the majority of them are in Eastern and Southern Africa (UNAIDS 2004). South Africa has the largest number of people living with HIV, which was estimated at 5.3 million at the end of 2004 (UNAIDS 2004), with the number rising to an estimated 5.5 million people living with HIV by 2005 (UNAIDS 2006). Currently, according to UNAIDS, South Africa has the largest number of people living with HIV in the world—approximately 5.7 million and HIV prevalence in adults aged 15 to 49 is 18% (UNAIDS 2008).

Lesotho is no exception, and in an effort to combat this pandemic, the Lesotho government in 2001 declared HIV/AIDS a national disaster. It subsequently rolled out the National AIDS Strategic Plan (NASP) and established a coordinating authority to manage all national HIV/AIDS activities (UNAIDS 2004). This effort is in line with the view held by Singhal (2003) who stated: “...one key element in controlling the spread of AIDS is strong political action by government leaders because they can reach a wider audience.”

Visual materials have been the foremost means of providing information and creating awareness about the human immunodeficiency virus (HIV) and acquired immune deficiency syndrome (AIDS) and creating prevention messages worldwide (Bush & Boller 1991; Myhre 2000). Previous studies have also indicated that multiple media channels, of which the outdoor campaign is one, may be most effective in improving health knowledge, attitudes and behaviour (Bessinger, Katende & Gupta 2004).

In another study, Sims-Knight (1992) advocated a way forward for designers in order to reduce the probability of making errors when generating visual images. One of the methods suggested is to conduct a scientific investigation into the visual representation and the users. This approach is similar to another finding by Pott, Toppich and Christiansen (1996) who found that scientifically based and validated AIDS prevention campaigns can be effective.

Bonnici (1999) explains that the structure of the message and the way in which it is communicated are factors that differentiate between images or illustrations that will be used for the same or a different subject. How descriptive and without distraction the images are in a design, will determine whether they are appropriate or inappropriate. He goes on to explain that if appropriate imagery and other communication elements are effectively used, the result is like adding idioms to language. However, for effective use of graphic imagery in any design or campaign, the designers must demonstrate adequate knowledge and skills from planning to execution. State-of-the-art equipment can facilitate effective rendering in the generation of graphic imagery, which can create heightened appeal and a positive graphic solution.

From the above, the following deductions are made with regard to the effectiveness of multimedia campaigns:

- AIDS prevention campaigns and interventions can be effective if the design addresses the objective – that is, if the campaign is meant to increase the perception of the risk of HIV transmission routes or reduce the perception of the risk of casual transmission routes (Lew-Ting & Hsu 2002).
- AIDS prevention campaigns can be effective if images are appropriate, not distracting and if combined with well structured messages Bonnici (1999).
- The designs must be based on the scientific investigation's findings on how people understand and learn from the graphic imagery (Sims-Knight 1992; Pott, Toppich & Christiansen 1996).

## ***loveLife***

*loveLife* is a nongovernmental organisation (NGO) consisting of three units, namely (i) international foundations working on HIV/AIDS prevention, (ii) major South African media organisations and private corporations, (iii) the South African government organisations. Their focus is on the development and communication of HIV/AIDS prevention messages, aimed at the youth of South Africa. Their messages are of an informative and educational nature where the target group is encouraged to make their own decisions. They have youth-friendly health services and a hotline that young people can call (Thetha Junction 0800 121 900) and they also distribute a youth magazine called *S'camtoPRINT*. Seven hundred thousand of these magazines are distributed every two weeks. Their informative communication material appears on national television, on the popcorn containers in movie theatres and on outdoor displays, to mention a few (*loveLife* 2005). One of their most prominent visual identities is the outdoor billboard (see Figure 1).



**Figure 1. 2005 *loveLife* outdoor campaign (billboard)**

The question that can now be asked is whether the targeted audience, especially young people from rural areas, are able to comprehend the outdoor media campaigns of *loveLife*.

## **1.2 The problem**

Targeted audiences do not always comprehend the visual communication material (VCM) that is meant to educate and inform. This has been so because of the possible inappropriate use of graphic imagery and other visual elements in many of these campaigns (Unnava & Burnkrant 1991; Sims-Knight 1992; Waddill & McDaniel 1992). Bonnici (1999) argues that the cost of the ineffective use of graphic images in information and awareness campaigns might be difficult to calculate, especially when it comes to health-related problems in which lives are involved. He goes on to explain that failure to use graphic imagery where necessary, may also cause misunderstanding and hamper future learning.

In a seminal report by Shisana and Simbayi (2002) on South African HIV prevalence, the authors identified areas of concern and recommended that there should be more detailed information about HIV/AIDS in visual media and also that visual campaigns should be oriented towards the understanding of HIV/AIDS information, while interactive communication approaches must be supported.

Therefore this study addresses the problem of graphic imagery and visual messages in VCM which are not always being understood, particularly visual messages about HIV/AIDS targeted at rural and deep-rural communities.

## **1.3 Hypotheses**

The general hypotheses that guided this study were the following:

1. Rural subjects do not comprehend the graphic imagery and text of the outdoor campaign material as effectively as their urban counterparts.
2. Suitable graphic imagery can contribute to comprehension. Aspects such as realism and photographs can contribute to improved comprehension.
3. Subjects prefer visual signs where the resemblance between the visual sign and the referent is high (e.g a photograph) to those where the resemblance between the visual sign and the referent is low (e.g. a convention-based abstract imagery).

## **1.4 Aim of the study**

According to Yarber (1995) the evaluation of newly created HIV/AIDS messages are important in determining their suitability. Establishing the effectiveness of such messages is considered to be the aim of an assessment in order to improve on such messages. He also states that "...pilot testing of material can identify the strengths and weaknesses so that refinements can be made". He goes on to explain that two methods of assessment can be adopted to establish a campaign's effectiveness – the first being process evaluation, which is conducted during the use of the material, and the second being an outcome evaluation to determine whether the objectives have been met.

This study is limited to a literature review and an outcome evaluation process of eleven *loveLife* outdoor campaign posters.

This dissertation is presented in the format of two publishable articles and a conference presentation. The titles of the publishable articles and the conference presentation are as follows:

1. *The efficacy of visual communication material in combating HIV/AIDS: A literature review*
2. *Comprehension of HIV/AIDS messages: A case study of loveLife outdoor media*
3. *Design solutions to community health communication: the development of a model that communicators can use as a guideline when developing VCM.* This model was presented at a conference.

## **1.5 Methodology**

The methodology for this study consisted of three phases. First phase, the researcher consulted forty-six sources for the literature review, consisting mostly of scientific articles, some project reports, books and unpublished academic dissertations. The researcher identified key design factors that can contribute to VCM. These factors are presented in a summarised format as a figure. This review has been prepared as a publishable article.

The second phase consisted of a process of evaluation of eleven outdoor posters in which three hundred and one subjects participated. This section tested the comprehensibility of the messages, the graphic imagery and illustration method preferences, and evaluated the material for self-efficacy. This part of the study is also presented as a publishable article. The third phase is a conference paper about a communication model that communicators can use as a guideline when developing VCM.

The third phase consists of the development of a model that communicators can use as a guideline when developing VCM. This section of the research was prepared in conference paper format and was presented at a conference.

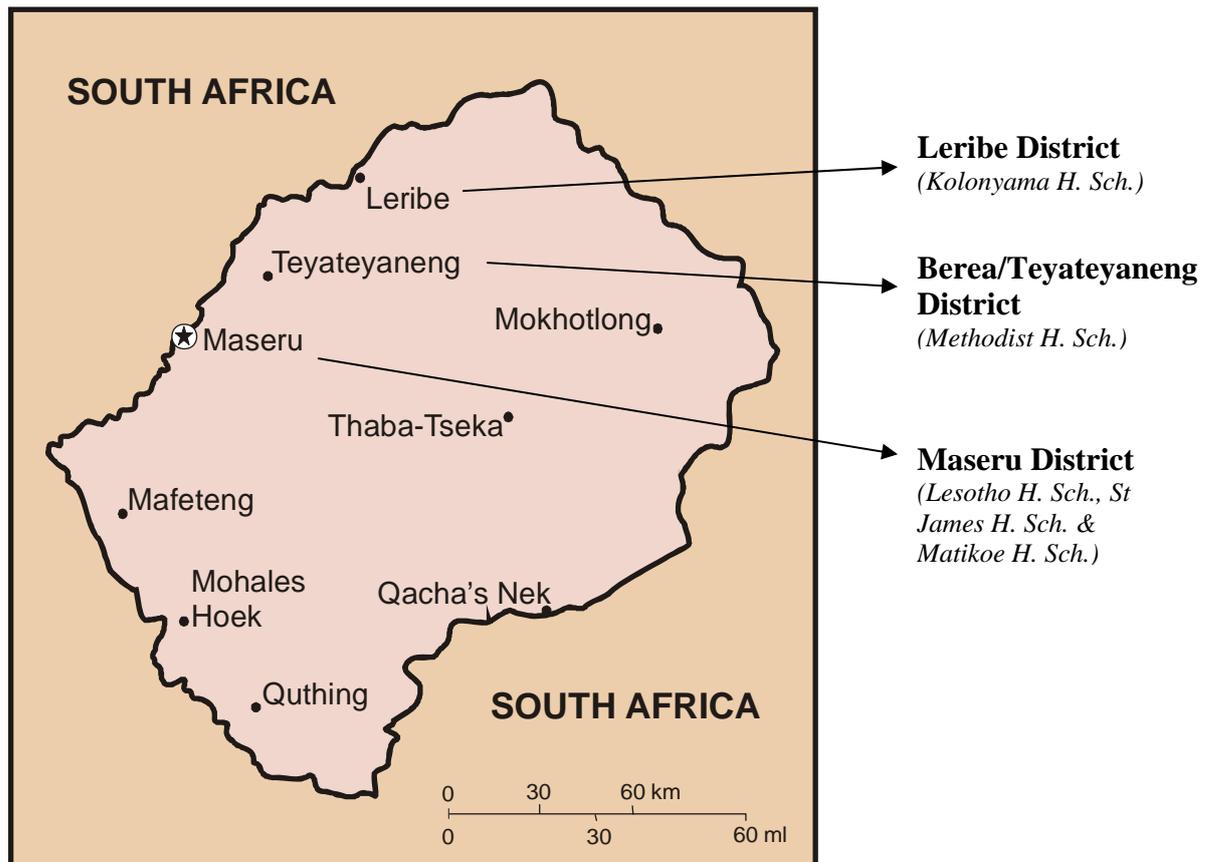
### **1.5.1 Site selection for the second phase (evaluation)**

Lesotho has a literacy rate of over 85% and is a democratic society. It is the largest exporter in sub-Saharan Africa of textiles to the United States (US) market (Sekhamane 2004). According to a UNAIDS (2004) report, Lesotho is faced with many short- and long-term predicaments, amongst which HIV/AIDS is prominent and has become a severe hazard to the nation and its people with a 31% infection rate in a population of 2.2 million people.

Most of the community HIV/AIDS awareness campaigns in Lesotho are being run by NGOs and some community-based organisations (UNAIDS 2004).

The reason for selecting schools in Lesotho was that the *loveLife* campaigns are not targeted at young people in Lesotho, and prior exposure to the outdoor media and the campaign would thus be minimised. These schools were conveniently selected from schools close to Maseru so that they would be representative of both rural and urban schools (Maseru, Berea/Teyateyaneng and Leribe districts of Lesotho). The locations of the areas are indicated on the map in Figure 2 on the next page.

## Lesotho



**Figure 2. Map of Lesotho indicating location of test sites**  
(Simpleworldmaps 2005)

### Conclusions

In this chapter it was recorded that ignorance and misinformation are amongst the main contributors to the spread of HIV worldwide. Southern Africa has more people living with HIV therefore it is more affected than other parts of the African continent.

It was also noted that visual materials have been the foremost means of providing information, creating awareness and prevention messages about HIV/AIDS worldwide, but the problem is that some of these visual materials are not comprehensible.

Therefore, the need for this research is crucial because it investigates why targeted audiences do not always comprehend the visual communication material (VCM) that is meant to educate and inform.

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# CHAPTER

# 2

## The efficacy of visual communication material in combating HIV/AIDS: A literature review

### 2.1 Overview

This chapter critically examines and reviews the broad range of literature, models and theories used for HIV/AIDS visual communication material (VCM). Some key design factors in developing effective VCM were found. These key factors were analysed, and suggestions on how to originate and implement effective VCM have been presented in article format.

### 2.2 Abstract

*Visual communication material (VCM) has been used as a vehicle to convey information about HIV/AIDS over the past three decades. It has been used to promote health knowledge and awareness in order to reduce the transmission of the virus. The aim of health communication campaigns and VCM is to positively influence audience health behaviour and attitudes. This review evaluates the effectiveness of VCM in combating HIV/AIDS. It also examines how well visual language elements can buttress HIV/AIDS prevention messages to bring about positive results and inhibit the ongoing spread of HIV/AIDS in our society.*

*The outcome of this review is a compilation of the comprehensive features, design guidelines and variables that build on or hamper the effectiveness of VCM. A number of the key design factors found were analysed, while suggestions on how to originate and implement effective VCM are offered.*

**Keywords:** *visual communication material (VCM), visual language, imagery, comprehension, HIV/AIDS*

### **2.3 Introduction and background**

Visual communication is described as a process that uses visual means to communicate information in a visible manner, and is associated mainly with two-dimensional images (Bonnici 1999). It is part of a social interactive communication process where the sender and the receiver share a common set of semiotic systems (Pettersson, 1993). It is a process of understanding what others say with signs or in writing and the translation process of these sounds and symbols into meaning (McQuail & Windahl 1993). Visual communication material (VCM) speaks through visual language, which is an embodiment of colour, typography, shape, proportion, tone and texture, as well as imagery (Bonnici 1999). Images can be used to create emotional appeal to stimulate and evoke feelings of happiness, love, fear and amusement (Bonnici 1999; White 2005). Bonnici (1999) also argues that if sound and music, which cannot be seen, can have such a powerful influence on decisions, then the language of images and visuals that can be seen would be more influential in decision-making. A combination of different visual media could be remarkably effective if a particular behavioural trait that needs to be changed in a society is well highlighted (Qakisa 2003).

VCM is one of many channels used to reach a target population with information and discussions on HIV/AIDS and all health-related matters. In a comprehensive behavioural change strategy, multiple channels are used to ensure that consistent messages are delivered and reinforced through many different media (PATH and Save the Children 2003). Researchers have found that the use of multiple media channels is effective in improving health knowledge, attitudes and behaviour (Bessinger, Katende & Gupta 2004) and is a means of providing information and creating awareness worldwide (Bush & Boller 1991; Myhre 2000; Shisana & Simbayi 2002). UNAIDS (2004) reported, however, that information and knowledge alone are not enough to minimise the spread of HIV and AIDS.

Other researchers have reported that the appropriateness of information within the cultural and social customs of a given community (Piotrow, Kincaid, Rimon & Rinehart 1997; Hugo & Smit 1998; De Lange 1999; Hugo & Smit 1999; Finan 2002) can contribute to, or distract from, the success of a campaign that uses VCM. Stewart

(2002) found that VCM has been used to raise awareness levels and to inform and educate people about HIV/AIDS. VCM has also been used to influence viewers' sexual behaviours with messages about monogamy, abstinence and condom usage (*loveLife* 2006). It is therefore a combination of multiple channels, different visual media, the emotional appeal of images, the highlighting of traits that need changing in the messages, culturally appropriate messages, and images that can contribute to the effectiveness of communication material.

The aim of this paper is twofold, namely to identify the key factors that can contribute to the efficacy of visual communication material and to recommend a process to improve such material in order to combat HIV and AIDS.

## **2.4 Research methodology**

A number of key design factors that contribute to the efficacy of VCM in combating HIV and AIDS were identified through a review of published research. Peer-reviewed journal articles, research reports, conference publications, health promotion manuals and books were consulted. Seven key factors that contribute to the effectiveness of VCM are discussed. A further analysis of health communication models and the VCM development process, synthesised with the key design fundamentals, provides a generic process to potentially improve the efficacy of VCM in combating HIV and AIDS.

## **2.5 Key design factors for effective visual communication material**

Key design factors for effective VCM are segmented into two parts, namely the development of content or textual elements and the layout or graphical elements (FHI/PATH 2002; PATH and Save the Children 2003; Carstens 2004). Prior to the development of any VCM, the goals and objectives of such must be established beforehand in order to bring behavioural tactics and messages together. The objectives could be to modify attitudes, provide information to form new attitudes where none existed, reinforce existing attitudes, or change existing attitudes. Good objectives are further described by Pauwels (2005) as being simple and specific,

measurable and achievable, realistic and reliable, and time-delimited. Once the objectives have been established, the target public/audience must be identified.

### **2.5.1 Development of the message contents or textual elements of VCM**

Carstens (2004) argues that understanding the socio-demographic characteristic differences amongst audiences is the most important factor that can contribute to the development of effective VCM. According to FHI/PATH (2002) VCM should be developed only after thorough research of the target audience and the community, where it will be used and after any pertinent issues have been resolved. This first step in developing VCM involves research to gather qualitative and quantitative information on the target audience's knowledge, level of education, attitudes, and reasons for their current behaviour and practices. This step will also investigate their media habits, the most appropriate way to reach them, their hopes, dreams and fears for the future, as well as their access to health services and information.

#### **2.5.1.1 Using appropriate health communication models**

An effective communication tactic is imperative in designing HIV/AIDS prevention and education information (Airhihenbuwa & Obregon 2000). Using the appropriate approach or strategy can motivate the audience to take action based on the information provided. There are many communication theories that can be applied to different communication problems (McQuail & Windahl 1993). Prior to designing any VCM that could bring about a behavioural change capable of minimising the spread of HIV/AIDS, it is necessary to follow a certain communication model or theory (Murray-Johnson, Witte, Boulay, Figueroa, Storey & Tweedie 2001). The following is a brief synopsis of relevant VCM.

The most commonly used theories and models are the Health Belief Model (HBM), the Theory of Reasoned Action (TRA), Social-Cognitive Theory (SCT), the Theory Diffusion of Innovation Model (TDIM), the Social Marketing Model (SMM) (Murray-Johnson *et al.* 2001; Smith 2003), the Participatory Model (PM) (Hugo 1996; Gaede

1999; Smith 2003) and the Extended Parallel Process Model (EPPM) (Murray-Johnson *et al.* 2001).

The HBM suggests that behaviour changes can only occur if an individual perceives himself or herself to be at risk due to a particular lifestyle or action (Mankayi 2003). Murray-Johnson *et al.* (2001) explain that this model suggests that health behaviour is influenced by factors such as the difficulty of doing the suggested action, the benefits of doing the suggested action, receptiveness to a health danger, and the severity of a health risk and the proposed action. They found that the Health Belief Model (HBM) is one of the most commonly used and researched health communication models. This model is based on the principle that health deeds are a function of an individual's characteristics, knowledge and attitudes. It makes the individual consider the benefits of adopting a new action that could reduce the chance of contracting a disease.

The Theory of Reasoned Action (TRA) is based on the assumption that the adoption of certain behaviour is based on personal intention that is determined by the belief in and expected value of performing the action (Murray-Johnson *et al.* 2001; Mankayi 2003). The Social-Cognitive Theory (SCT) is another model based on the assumption that new behaviours are learned, either by modelling the behaviour of others, or by direct experience, while the Theory Diffusion of Innovation Model (TDIM) subscribes to the notion that if an idea is communicated by respected individuals in a society, people are more likely to adopt new behaviours. Another commonly used theory is the Social Marketing Model (SMM), which is an organised approach that is also used in commerce and advertising. This model is used to plan, execute, analyse, evaluate and promote an idea or programme in order to influence the behaviour of the target audience (Mankayi 2003). This model is often used in fundraising for health-related matters (McQuail & Windahl 1993).

Hugo (1996) and Gaede (1999) found the Participatory Model and the Theory Diffusion of Innovation Model to be the most effective. The Participatory Model is described as a development communication process, whereby the message designer or communicator will first listen, observe, examine, study, and interact with the subject and then present draft messages in the form of a storyboard, script, photographs or

sketches to ascertain whether the material or information conforms to the current situation, needs, cultural sensitivity and religion (Gaede 1999; Hugo 2000).

Smith (2003) describes the benefits of the Participatory Model (PM) to be decision-making in the hands of the audience, the protection of tradition and cultural values, and the involvement of the target audience in their own development. The PM allows inputs from the stakeholders from the planning to the execution of the campaign, thus minimising the possibility of miscommunication between the sender and the receiver (Gaede 1999; Kiwanuka-Tondo & Snyder 2002; Smith 2003). According to FHI/AIDSCAP (2003), "...people are reached more effectively when information is adapted to their particular needs". The PM is an interaction between the message designer and the receivers, while the TDIM is more about the transmission and persuasion of messages (Gaede 1999).

Rogers (2003) describes the Theory Diffusion of Innovation Model as a process whereby a new idea is conveyed through certain channels over time amongst the members of a social organisation. He goes on to explain that information flows through networks. The nature of networks and the roles opinion leaders play in them determine the likelihood of the innovation being adopted. The diffusion of innovation is the study of how, why, and at what rate new ideas or information spread through cultures.

Fear-based HIV/AIDS prevention campaigns have been found by many authors to be a fruitless, inconsequential, inappropriate and ineffective tool for health promotion and potentially dangerous (Batrouney 2004; Slavin, Batrouney & Murphy 2007). Batrouney (2004) explains how some social critics, clinical practitioners, politicians and community leaders have suggested a return to a fear-based strategy in order to shock communities that have become complacent about the treatment of HIV and its consequences.

Other authors have suggested that if fear appeals are used with cautions and complemented with information and recommended actions for avoiding or addressing the fear, they could work (Ruiter, Verplanken, Kok & Werrij 2003). Stephenson and Witte (1998) argued that "highly threatening fear appeal messages were most effective when combined with strong efficacy message emphasizing the effectiveness of the

recommended behaviours”. Witte (2001) suggests that appropriate fear messages consist of a high threat that is personalistic and vivid (language and pictures) and a high-efficacy message that explains how to implement the suggested response, addresses barriers to the suggested response and gives evidence of the suggested response’s effectiveness, and which may role-play (i.e. simulate) the suggested response.

Apart from a fearful approach, shocking content in an advertisement has been found to be efficacious in increasing attention, benefiting memory and positively influencing behaviour amongst a group of university students (Manchanda 2003). Likewise, the Extended Parallel Process Model (EPPM) maintains that a health message must have a threat element and an efficacy element in order to be effective in changing behaviour. The EPPM can also promote persuasive messages that stimulate fear in order to encourage people to adhere or respond to the suggested options. The perceived threat element of the message makes the viewer feel prone to the risk, whilst the efficacy element makes the viewer feel that he/she will be protected from danger if he/she follows the recommended option (Witte, Cameron, Lapinski & Nzyuko 1998).

The models and theories reviewed above, with reflection on developing effective HIV/AIDS communication material, emphasise the following:

- Behavioural changes can occur if the individual perceives himself or herself to be at risk due to a particular lifestyle or action (Health Belief Model).
- Health behaviour is influenced by the difficulty of performing the suggested action and the benefits of performing the proposed action (Health Belief Model).
- Theory of Reasoned Action is based on the assumption that the adoption of certain behaviours is based on personal intention, which is determined by the belief in and expected value of performing the action.
- Social-Cognitive Theory is based on the assumption that new behaviours are learned either by mimicking the behaviour of others or by direct experience thereof.

- The Participatory Model allows inputs from the stakeholders, from the planning to the execution of the campaign, thus minimising the possibility of miscommunication.

#### **2.5.1.2 Using pre- and post-testing to validate the effectiveness of visual communication material**

Sims-Knight (1992), Yarber (1995), Pott, Toppich and Christiansen (1996), Hugo and Smit (1998) and FHI/AIDSCAP (2003) recommended that, in order to improve the effectiveness of any visual material, it must be pre- and post-tested. FHI/PATH (2002) explained that pre-testing precedes the finalisation of VCM, so that it can be revised based on the pilot audience's reactions and suggestions. VCM can be pre-tested and revised several times to ensure that visually and graphically communicated messages will be comprehended and well received by targeted audiences. The essence of this process includes checking for the appropriateness of all the elements used – for example, whether the illustrations and drawings comprehensively resemble what they represent and also whether the text is simple enough for the intended audience to understand. It must also be ensured that all the graphic elements, such as colour, are used correctly in term of the cultural context and visual literacy of the audience. FHI/PATH (2002) summarised that visual materials should be pre-tested for comprehension, reading level, visual attractiveness, acceptance and involvement.

FHI/PATH (2002) suggested that for an effective pre-test, the following factors should be considered before the first, subsequent and final drafts are presented to the target audience: (i) Developing a profile of the target population amongst whom the pre-test will be conducted; (ii) Selecting times that suit the target population; (iii) Determining and scientifically selecting the size of the pre-test sample or an approximation thereof; (iv) Selecting the interviewer(s) who will be conducting the pre-test interviews; (v) Selecting the note-taker(s) who will be taking notes during the pre-test interviews; and (vi) Involving the artist/graphics team in the pre-test process.

Much of the negative public reaction to visual health promotion messages can be linked to inadequate pre-testing or insufficient reaction to comments emanating from the test sample (Piotrow, Kincaid, Rimon & Rinehart 1997). Enough time must be

allocated for pre-testing, revising and retesting, until the material is satisfactory. In other words, reaction to all issues arising from the pilot testing can ensure the suitability and functionality of such material. Therefore, to successfully measure the effectiveness of any VCM for meaningful learning or understanding, such material must be tested for comprehension and, if possible, for retention.

Post-testing, on the other hand, assesses the success or failure of the material.

### **2.5.2 Layout and the use of graphical elements**

In presenting a visual communication message, the illustration or pictures can be crafted with the text and other design elements to attract and motivate people to respond to the messages. Such design or VCM can be either effective or ineffective. FHI/PATH (2002) suggests that positive messages are effective and encourage individuals' ability to choose positive health behaviour. Moreover, such messages can help the audience to resist the temptation to indulge in risky and unhealthy behaviour. Carstens, Maes and Gangla-Birir (2006) argue that the audience's understanding of health information can influence their decision on whether or not to change their behaviour. White (2005) maintains that what works and what does not in any functional design varies from one context to another. A message designer must determine what the target audience needs to know and present that information to them as simply and straightforwardly as possible. He goes on to state that audiences are primarily lookers and they become readers only if one has revealed a good reason for them to do so. Pettersson (1993) argues that eye-catching visuals, which are preferred by people, have a greater impact when it comes to conveying messages.

Carliner (2001) argues that information design and development is more than just "wordsmithing". FHI/AIDSCAP (2003) describes it as involving the translation of imagination or an idea into a simple visual format that can be accessed and understood by laymen and low-literate people. Carliner (2001) mentions that strong graphic design cannot be substituted for poorly structured information. The visual communication process needs a campaign-like approach for effectiveness in health promotion. This process is known as the Social Marketing Model and requires many

communicators and information design experts that are audience minded (McQuail & Windahl 1993).

Carliner (2001) noticed that these responsibilities are taken for granted these days, because of technological development in publishing software and computer design tools where three jobs are combined under one title. In some cases a copywriter will do the copywriting, design and illustration, instead of allowing each aspect to be handled by a specialist. Finan (2002) explains that some health-related visual materials are designed by experts, and some not. He explained that those that are not designed by qualified people are either misleading or poorly rendered. Pauwels (2005) argues that there is more to health communication than production and audience exposure to information, and its effectiveness in changing the risky and unhealthy behaviours of the audience will depend on its suitability. This means that the effectiveness of any VCM will depend on a number of factors such as the planning, the design, and the presentation.

Carliner (2001) and Pauwels (2005) explain that to ensure the effectiveness of any information or communication product, the information designers need adequate knowledge to be able to analyse communication problems, establish measurable goal(s), work out a strategic action plan, check whether this plan is achievable, consider the time factors, and evaluate the outcome. This concept was revised once the VCM had been pre-tested.

### **2.5.2.1 Using appropriate visual language to create emotion**

Visual language was identified by Bonnici (1999) as the 'look and feel' of an item of design created by structures like imagery, colour, font, shape, texture, space and proportion. It communicates emotional messages on a level independent of the descriptive elements, either literally or symbolically, of the imagery. Bonnici (1999) also explained that these mentioned graphic structures could be used on a different independent level to convey messages directly without the use of words and can be meaningful with or without any association with imagery.

Several authors have indicated that appropriate visual images (graphic imagery) can contribute to the comprehension of VCM (Bonnici 1999; Gaede 1999; Finan 2002). Bonnici also mentioned that, because information is accepted by the 'heart' and not the 'head', only the correct use of visual language can open the heart. FHI/PATH (2002) stated that visual messages about HIV/AIDS should touch the hearts as well as the minds of the viewers, for example by making the audience feel happy and relieved at the thought of adopting the suggested behaviour. Bonnici (1999) mentioned that mastering effective use of visual language in visual communication is like adding idioms to grammar. That means an effective use of visual language can create the necessary emotional feelings that could influence action.

Many authors have found that the strengths of several VCM rest on appropriate imagery (Gaede 1999; FHI/PATH 2002). Bonnici (1999) found images to be fully formed expressions in which the visual elements are used to convey information to the viewers. He explained that the positioning of these elements in a given space is another factor that could cause conflict if misused. He also argued that the feelings created by these elements can influence the reception and comprehension of information.

A study by Gaede (1999) found that in designing pictorial messages for an audience with low levels of verbal and visual literacy, the etiquette that must be observed is as follows: (1) Familiar or known images must be used; (2) The images should not contain too much detail that can distract attention away from the message, which may hamper attentiveness and impair comprehension; (3) All representation and rendering must be faultless and accurate; and (4) The pictorial rule must be followed to the letter, i.e. unusual camera angles, distortions, bubbles and exaggerations must be avoided. In a nutshell, the basic design principles must be carefully observed.

In the realm of advertising, Stewart (2002) also argued that before any advertisement or public announcement about HIV can be considered comprehensible, it must be clear and strengthened with appropriate imagery. The images used should not be horrific, as this could distract the viewer's attention and cause him/her to tune out completely from the message. However, if the viewer can associate with any character in the simple message, there is a tendency for the viewer to display interest in said

message. Since the aim of every health promotion advertisement is to promote a change in behaviour, understanding the message is essential.

### **2.5.2.2 Using appropriate visual language to highlight and emphasise**

Shape is another visual element that can create different meanings when combined with information (Bonnici 1999). This means that shapes can add aesthetic value to information and afford such information greater visual impact in the eyes of the viewers, and as a result, attract their attention and allow them to read and process such information. He also argued that apart from these elements, there are still many convincing channels that a visual communicator could use to access the audience. Graphic imagery in messages can make viewers calm and peaceful, while some can cause worry, alarm and fear or open the heart. This statement conforms to the suggestions made by Lew-Ting and Hsu (2002), who also advocated that public information campaigns and interventions will be achieved if the design addresses the objective.

Pettersson (1993) suggests that in order for viewers to have a total interpretation and understanding of a visual message in terms of subject, design, presentation and comprehension, pictorial visual campaign messages must have passed the picture readability test – that is, the viewer should be able to follow the order of the picture and read it appropriately. Thus, all the components of such a VCM must be proportionate and appropriately positioned.

### **2.5.2.3 Using appropriate typeface in visual communication material**

Visual communication is about laying out the text, as well as the integration of text with graphics on different media. Many authors have found that some typefaces and colours are more legible and easier to read than others (Bonnici 1999; De Lange 1999; Alan 2001). Black lettering against a white background is considered to be more legible than the other way around when it comes to some serif letter types (De Lange 1999; Alan 2001). According to FHI/PATH (2002), text printed all in uppercase (or capital) letters is more difficult to read, and bold typeface and underlining could be

used for emphasis. Some typefaces are “funky” and associated with youth and trendy fashions, while some typefaces are found to be childlike in nature and associated with children.

Bonnici (1999) also argued that typeface is seen more as a graphic shape than as a linguistic symbol, with its feature becoming even more noticeable. For effective communication, the right typeface must be used for a precise target audience to evoke association, as well as the necessary outlook that can influence the attention needed and the action expected as a result of the impact of the message. When it comes to messages aimed at the youth, it is best to use trendy typefaces in the colour that have been pre-tested amongst the intended audience and found to be legible.

#### **2.5.2.4 Cultural sensitivity of visual communication material**

FHI/PATH (2002) explained that culture affects how people communicate, comprehend, and react to health promotion campaigns. Hugo and Smit (1999) argued that culturally inappropriate messages could lose their credibility and cause more harm than good. Hugo (2002) explained that graphic design elements such as colour combination, typeface, images and their rendering should be clothed culturally. Hugo and Smit (1998) and De Lange (1999) also recommended in their studies that VCM be fashioned in a way that is relevant to the intended users' cultural contexts. Research has shown that locally relevant images and messages used in visual materials are found to be effective, because they are culture and religion compliant (FHI/PATH 2002). Involving a community in the planning process through to the presentation stage is likely to prevent the violation of norms and traditions particular to a specific community. Acknowledgement and respect of cultural differences are factors that can contribute to the success of VCM. Some examples of attitudes and values that are interrelated with culture include the accepted roles of men and women, the value of traditional medicine versus western medicine, favourite and forbidden foods, manner of dress, and body language, particularly whether touching or proximity is permitted in specific situations (Hugo 2002). Hugo and Smit (1998) and Hugo (2002) made some suggestions for improving the appropriateness of health education messages to suit multicultural communities, namely:

- Allowing the participation of target audience representatives in the process of designing health messages;
- Properly investigating the socio-cultural consequences and difficulties of using specific symbols or media; and
- Adapting messages that mirror the multicultural audiences of different communities.

In summary, visual communication material or health messages that are culturally inappropriate could fail to achieve their purpose.

### **2.5.2.5 Presentation and exposure**

In addition to all the factors discussed above, presentation has also been found to be important in the dissemination of health information (Pauwels 2005). Presentation involves the use of the correct media and modern technologies (Hugo & Smit 1999; Pauwels 2005). Outdoor media appropriately positioned at the right location (Pauwels 2005) or broadcasts aired at the right time (Karlyn 2001) for a specific audience in a manner that will reach them irrespective of their location can achieve maximum results. Pauwels (2005), for example, noticed a billboard with the caption “God forgives but AIDS does not” positioned about thirty metres away from a church in Lesotho. According to him this demonstrated a cooperative approach with the existing belief system and not one going against it. He explained that this message could reach every church member and attendee individually before and after every church activity and sermonise to them accordingly (Pauwels 2005).

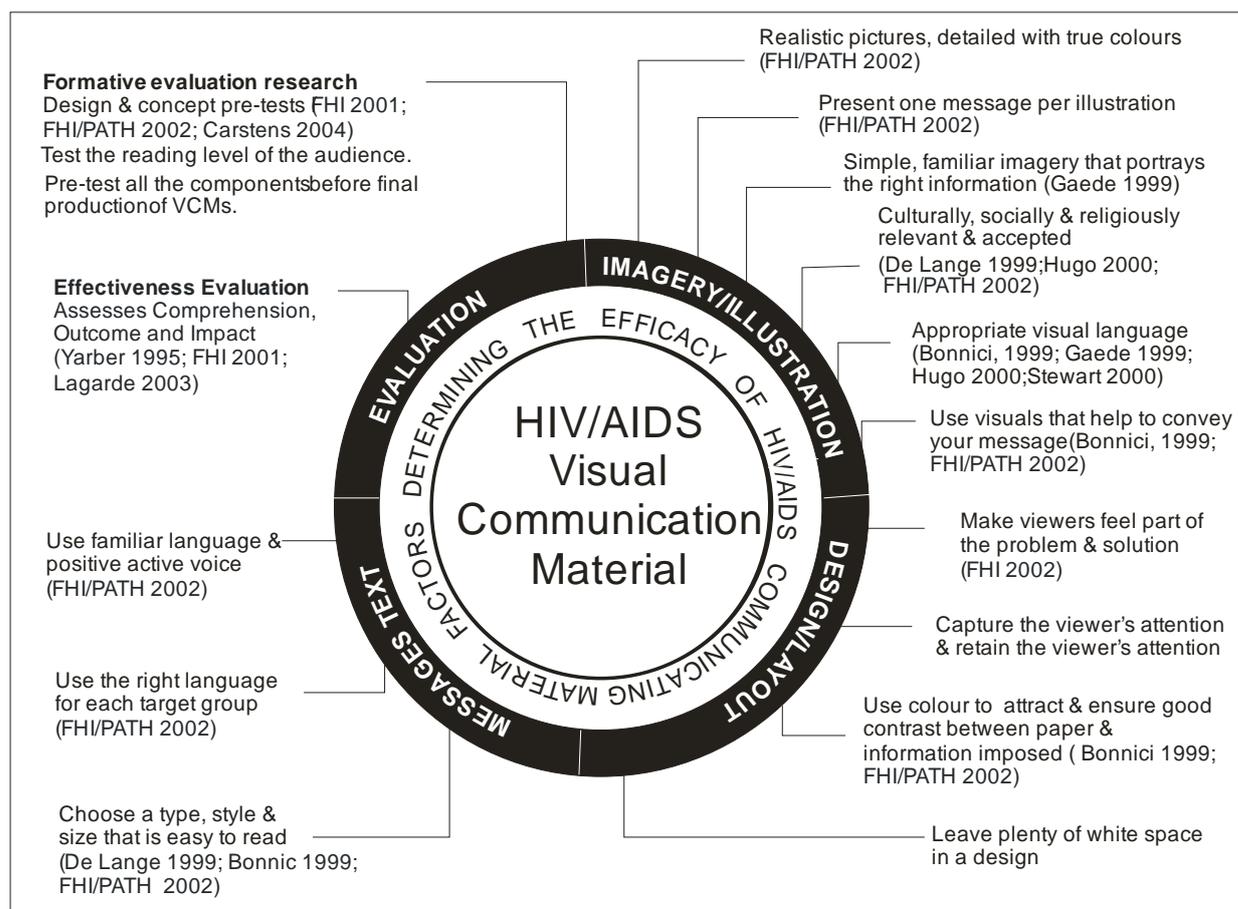
FHI/PATH (2002) suggested that all components of the presentation should grab the viewer’s attention as soon as he or she sees the material. The visual material should be rendered in such a way that the viewer feels part of both the problem and the solution.

## **2.6 Summary of findings**

A communication theory, such as the participatory or dialogue model recommended by Gaede (1999), FHI (2001) and Rawjee (2002), can be effective. Comprehensive, scientific-based research and the skilful merging of colour, culturally appropriate imagery and message, as suggested by McQuail and Windahl (1993), Gaede (1999), Hugo (2000) and Pauwels (2000), can also result in the success of such messages. By adhering to good design principles, visual designers will facilitate the creation of comprehensible visual material.

In addition to the aforementioned measures, the pre-testing and post-testing of materials with a checklist, as previously recommended by FHI/AIDSCAP (2003) and Lagarde (2003), can eliminate visual barriers. Effective use of VCM could contribute significantly towards a sustainable means of combating HIV/AIDS in our society. According to Lagarde (2003) the aim of every prevention message must be established first before the concept is developed and this must be addressed in the visual material. In order to prevent miscommunication of health material between the communicator and the target group, there must be scientific measurement of the target group's socio-cultural existence, level of literacy and any language barriers that might exist. The use of appropriate images must be ensured by pre-testing and post-testing the material, otherwise the inappropriate use of images can impede rather than foster the aim of the campaign.

Therefore, a functional VCM strategy should follow certain guidelines in order to succeed in principle. According to Pettersson (1993), Gaede (1999), FHI/PATH (2002), FHI/AIDSCAP (2003), PATH and Save the Children (2003) and STD Communication (2004), an effective VCM is one that reflects what works and does away with what does not work. An effective VCM is reflected in the figure on next page.



**Figure 3. Summary of the key design factors in the development of HIV/AIDS-related visual communication material**

## 2.7 Conclusions and recommendations

This study found that different forms of VCM have been used at different levels to create awareness and also to educate people about the prevention of HIV/AIDS worldwide. Although it is difficult to separate the effect of VCM that has been badly planned and executed from VCM that has been well planned and executed, it is possible to measure the extent of the audience's comprehension of any given VCM. The results obtained through the study, via a summative evaluation of all the components of the message – from the text and hidden messages to the imagery used – are used to explain the performance of such VCM. Such a result can be measured in terms of responses, reactions, comments, recalls and preferences. The results of such

evaluation determine whether or not the message in question accomplishes its purpose.

It was also found that if unskilled people (Finan, 2002) are given the task of generating VCM, the chances that all the identified key design factors would be considered, are slim. The consequences of viewers misinterpreting certain concepts could be difficult to measure, because the damage would have already been done by confusing the viewers. But one fact remains: An effort must be made to conduct the necessary research before designing any health promotion campaign. This has been reiterated by Gaede (1999), FHI/AIDSCAP (2003), Lagarde (2003) and STD Communication (2004). The socio-cultural barrier must be observed in order to minimise the possibility of miscommunication.

If any VCM is to be used effectively as a vehicle to pass on information about HIV/AIDS and leads to a reduction in the transmission of the virus, the viewer should not be allowed to misunderstand such a message. The right language has to be spoken to the right people in the right way. A different form of recall or the correct reproduction and association of the content of the message, such as text, picture or imagery, with the visual material can be used to measure comprehension. In summary, inappropriate use of visual language could cause the message to be lost and lead to miscomprehension.

This review also found that more efforts should focus on the correct use of visual language in information dissemination on HIV/AIDS in our society. For VCM to be more effective, the designers and producers of health promotion and educational messages must ensure that all the visual elements are appropriately utilised, as previously found by De Lange (1999), Gaede (1999), Hugo and Smit (1999), Hugo (2000) and Finan (2002). Communication theory such as participatory or dialogue models, supported by comprehensive, scientifically based research into the target audience, coupled with technical proficiency and using state-of-the-art design programs and sound design principles, can facilitate the production of comprehensible visual material.

More still needs to be offered via the VCM channel. There should be sufficient information available on the subjects' level of literacy prior to the design of any VCM. The designer should apply the basic design principles, such as the right colour and typeface and the use of appropriate imagery in a manner that would minimise distractions and miscommunication and aid comprehension. Using unskilled designers in order to cut costs can jeopardise the good intentions of the whole exercise. HIV/AIDS visual communication material must still be handled by a team of experts, based on the scientific information available on the problem, the social and cultural values of the audience, and the environment in which such VCM will be used. Effective visual communication can be a valuable component in the medical management of HIV/AIDS. It is the VCM designer's responsibility to be certain that the message tells the intended story and that the information is delivered in a clear, easily understood "language" with no possibility of misinterpretation. Thus, designers must first develop total knowledge (research) of what they are talking about, whether in a publication or an illustration. They must then decide exactly what they want to say and how they want the viewer to understand what is being said. The material must be pre-tested before the message is exposed to the audience, thus eliminating potential visual barriers and the possibility of inappropriate visual language that could cause miscommunication.

A combination of the Extended Parallel Process Model (EPPM) and the Participatory Model (PM) could possibly be the most appropriate communication model in any developing country. Considering the age group in which HIV/AIDS is most prevalent, an effort must be made to ensure that messages are understood by the target audience in terms of language, level of education and the object representations. Moreover, the message and visual elements must match the trends and language of the audience.

Finally, the systematic search conducted during this review helped to identify and isolate the aforementioned key design factors for effective VCM to combat HIV/AIDS. These factors should be considered in developing effective visuals for combating HIV/AIDS.

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## CHAPTER

## 3

### Comprehension of HIV/AIDS messages: A case study of *loveLife* outdoor media

#### 3.1 Overview

This chapter presents a post testing study of learners' comprehension evaluation of *loveLife* outdoor campaign material. The study and results were collated and presented in article format.

#### 3.2 Abstract

*Targeted audiences do not always comprehend HIV/AIDS visual campaigns that are meant to educate and inform, and thus do not result in a positive change in behaviour and attitude. This has been so because of the possibly inappropriate use of graphic imagery and other visual elements in many of these campaigns. The cost of ineffective use of graphic images in information and awareness might be difficult to calculate, especially with regard to health-related problems in which lives are involved. Therefore, the effectiveness of any visual health communication material in terms of meaningful learning, comprehension or retention can be determined through post-testing.*

*Consequently, the comprehension of the loveLife outdoor campaign material was post-tested amongst three hundred and one subjects from five high schools in both urban and rural areas. The study determined the subjects' comprehension of the messages and the graphic imagery and evaluated the material for self-efficacy. The results indicate that suitable graphic imagery fosters message comprehension, that inappropriate imagery inhibits comprehension, and that realistic and appropriate*

*imagery is preferred to abstract and representational imagery. In addition, familiar images were found to be a vehicle towards improved comprehension of HIV/AIDS messages.*

**Keywords:** visual comprehension, representational imagery, realistic imagery, self-efficacy

### **3.3 Introduction and background**

The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated in 2004 that close to 40 million people were living with HIV globally. Their figure for Southern and Eastern Africa at the time was 17 million (UNAIDS 2004). Similar figures were recently released by South Africa's Medical Research Council (MRC), which estimates that 18 million people in Eastern and Southern Africa are living with HIV, while 5.4 million people in South Africa are infected with the virus and 1.8 million AIDS deaths have occurred in South Africa since the start of the pandemic (MRC 2006). Whilst UNAIDS figures have risen from the 5.3 million predicted by the end of 2002 to 5.5 million (UNAIDS 2006), the Treatment Action Campaign (TAC) and the Actuarial Society of South Africa (ASSA) reported the same figure and added that 1,500 infections occur and that 900 to 950 people die of AIDS-related illnesses each day in South Africa (ASSA 2006; MRC 2006; TAC 2006). Currently, according to UNAIDS, South Africa has the largest number of people living with HIV in the world—approximately 5.7 million and HIV prevalence in adults aged 15 to 49 is 18% (UNAIDS 2008). Statistics South Africa (Stats SA) estimated the life expectancy of South Africans at birth to be approximately 49 years for males and 53 years for females, with HIV prevalence at 11% (Stats SA 2007).

A number of studies have found that several factors contribute to the spread of this pandemic worldwide, namely ignorance and misinformation (Torabi, Crowe, Rhine, Daniel & Jeng 2000; Lew-Ting & Hsu 2002), as well as lack of access to life-saving treatment and the delay in rolling out treatment plans (TAC 2005). Poor planning by governments (Parker, Dalrymple & Durden 2000) and poor socio-economic conditions (Kelly, Parker & Gelb 2002; UNAIDS 2006) are also cited as factors contributing to the spread of this pandemic.

However, since the first reported case of this disease in 1982 (Rawjee 2002) the Department of Health of the South African Government, as well as non-governmental organisations (NGOs) such as *loveLife*, the Treatment Action Campaign (TAC) and Soul City are some of the national organisations that are active in informing and educating people and communicating necessary information and activities that are bridging the knowledge gap. Various types of HIV/AIDS awareness campaigns, such as posters and billboards carrying messages ranging from condom use to partner reduction, have been used in the past, but with less emphasis on abstinence (Shisana & Simbayi 2002).

National toll-free AIDS helplines are used by the South African Department of Health and other organisations for counselling purposes (Kelly, Parker & Oyosi 2001; Rawjee 2002). Television and radio talk shows are also used to reach vulnerable groups and the general public with regard to precautionary practices (Shisana & Simbayi 2002). A typical example of such is Khomanani Day, falling on 1 December, which is international World AIDS Day. This event has been used to reach members of the public and appeal to them to 'pledge' to take action in the face of HIV and AIDS: To "Care, Talk, Test and Condomise" in order to help themselves, their families and their communities. This is done in partnership with the South Africa Broadcasting Corporation (SABC) as a mass social mobilisation awareness campaign (Khomanani 2005).

The general aim of health communication is to inform and educate individuals and to influence their behaviour. Before this can be achieved, the targeted audience must understand and accept the messages and then act as suggested, in order to prevent the health risk. These programmes have to some extent been successful in raising the awareness of HIV/AIDS amongst the general public. At the same time, it is almost impossible to separate what each programme has achieved. In order to measure the effectiveness of *loveLife* campaigns, selected *loveLife* outdoor campaign materials were post-tested.

*loveLife* is an NGO focusing on the development and communication of HIV/AIDS prevention messages aimed at young people in South Africa. The *loveLife* messages

are of an informative and educational nature, with the target group being encouraged to make their own decisions. The organisation operates youth-friendly health services and a hotline that young people can call (Thetha Junction 0800 121 900), and it also distributes a youth magazine known as *loveLife's* UNCUT. Six hundred and fifty thousand of these magazines are distributed monthly. Their informative communication material appears on national television, on the popcorn containers sold at movie theatres and at outdoor display areas, to name but a few (*loveLife* 2006).

*loveLife's* multimedia HIV/AIDS prevention activities in South Africa are ongoing awareness campaigns that commenced in 1999. They combine branding techniques with health promotion techniques to promote a healthy lifestyle amongst 12-17 year olds in South Africa. *loveLife* also uses multimedia channels to provide the youth with awareness programmes, friendly adolescent reproductive health education services, and outreach and support programmes (*loveLife* 2000). Within five years of its inauguration, over R780 million was spent on this intervention. More than half of their funding comes from the J. Kaiser Family Foundation and non-profit organisations in the United States of America (Singer 2005).

The principal funding partners are the South African Government and the J. Kaiser Family Foundation. Additional funding is provided by the Global Fund to Fight AIDS, Tuberculosis and Malaria, the Nelson Mandela Foundation and UNICEF, supported by the Anglo American Chairman's Fund, Avis, Barloworld, BMW, Clear Channel Independent, Independent Newspapers, Mondi, the National Lottery, Novell SA, Pick 'n Pay, Primedia, Rapport, SABC and many other South African companies (*loveLife* 2007). *loveLife* is seen as the most prominent HIV prevention campaign intervention in South Africa. Its leadership includes a national advisory board of prominent South Africans, chaired by Tokyo Sexwale and including Zulu King Goodwill Zwelithini and Rt Rev. Njongonkulu Ndugane, the Archbishop of Cape Town, as well as a significant number of young people (*loveLife* 2007).

*loveLife's* first phase, launched in 1999, was called 'Foreplay' – a teaser phase to get the discussion going. The second phase (2000) took the form of different segments addressing topics such as 'Talk', 'Scam to talk' and 'Future'. Phase three (2001) was also segmented into such topics as 'Choices', 'Positive sexuality' and 'Shared

responsibility', while phase four (2002) consisted of a series of messages such as 'Bomb', 'FFW & REW', 'Followers', 'Hands', 'Heart', 'Funeral', 'Rape', 'Score', 'Sex' and 'Skin'.

Phase five (2003) promoted the reduction of the number of sexual partners or monogamy, condom use, and abstinence. The second part of this 2003 phase was 'Pure', 'Respect', 'Dignity in sexuality' and 'Love to be there in 2010'. The sixth phase (2004) related to family and a better life, education, employment and a career. The seventh phase (2005) was the 'Love life and get an attitude' campaign consisting of different scenarios of positive deeds. Phase eight (2006) is the 'HIV: Face it' campaign, which zeroes in on the pressures and expectations of relationships, tackling tough issues of faithfulness, protection, communication between parent and child about sex and sexuality, and testing. This phase is divided into eight different parts, including, 'If it's not just me, you're not for me', 'You can't pressure me into sex', 'Prove your love, protect me', 'No till we know' and 'If you aren't talking to your child about sex, who is?' (*loveLife* 2006).

*loveLife* campaigns have sometimes been criticised in the media for failing to address certain issues as far as HIV/AIDS awareness is concerned and for being confusing (Halperin & Williams 2001; Coulson 2002). Thomas (2004) criticised the campaigns for neglecting important social factors that promote the spread of HIV such as sexual brutality, transactional sex, gender inequality and other social factors that shape gender identities. Delate (2001) stated that limited understanding of the brand and contradictory and inharmonious imagery served to diminish the understanding of the message conveyed by the "His & Hers" billboards. Other studies highlighted the *loveLife* campaign's weakness in terms of being incomprehensible (Jordaan 2006), its failure to address issues of susceptibility and coercion of young women (Thomas 2004), as well as its use of inaccurate, deceptive statistics that rendered other interventions impotent (Parker 2006). Jordaan (2006) found the concept of the 2004 outdoor campaign "Love to be there" inappropriate in that it failed to address South African language and cultural differences. Coulson (2002) Jordaan (2006) and Parker (2006) claimed that *loveLife's* evaluation methods are problematic and inadequate. They perceived the intervention as lacking independent evaluation, thus leading *loveLife* to conclude that their approaches are effective.

*loveLife*'s approaches may not have been accepted by all and may be plagued by several barriers and limitations. Nevertheless, their ideas at least give current and future researchers, designers, policymakers and other parallel interventions some reflection and inspiration for further exploration and discussion. These campaigns have been a source of information dissemination as well as a potential solution provider to the youth of South Africa concerning awareness about HIV/AIDS, other sexually transmitted infections and unwanted pregnancies. Also, *loveLife* has touched a large proportion of the South African youth populace through various multimedia campaigns (Zisser & Francis 2006).

Health communication is about the use of different methods to enlighten and persuade individuals and encourage the public to improve their health (Freimuth, Cole & Kirby 2001). Health communication ideas that are promotion and education oriented are regarded as imperative in the prevention and reduction of the spread of the disease (Pauwels 2005). Understanding and applying such health promotion messages in a positive way that averts the risk is important. Therefore, the effectiveness of any visual health communication material in terms of meaningful learning, comprehension or retention can be determined through post-testing. The evaluation of both current and past HIV/AIDS messages, as well as other health-related promotional campaign messages, is therefore essential (Yarber 1995; Niba 2004) and is an important factor determining the success or failure of any campaign (Lagarde 2003).

According to Yarber (1995) and Niba (2004) the evaluation of newly created HIV/AIDS sexuality messages is important in determining their suitability. Pilot testing of material can identify strengths and weaknesses so that refinements can be made. Two methods of assessment can be adopted to ensure the effectiveness of the campaign. The first is process evaluation, which is conducted during the development of the material (pre-testing) and the second is outcome evaluation (post-testing) to determine whether the objectives have been met.

This study evaluated the comprehensibility of selected *loveLife* outdoor campaign messages, and identified those messages and images that are easily comprehended and those that caused some miscomprehension. It also evaluated the campaign

material for self-efficacy and identified participants' imagery method preferences. Subjects' comments and responses were used to determine the comprehensibility of the messages and imagery components, as well as the efficacy of and preference for these campaign messages.

Comprehension – the ability of a receiver to create meaning that is the same as that intended by the sender (McQuail & Windahl 1993) and which is constructed through interactions between text and reader (Durkin 1993) – applies equally to visually based messages. A number of factors, for example the content, the mode of presentation and the receiver, affect this communication process. McQuail and Windahl (1993) proposed that it is imperative for public messages in any visual communication material to be clear, simple, attractive and appealing to several senses in order to be well understood by an average targeted audience.

Several studies have indicated that the use of appropriate language, good-quality imagery without too much detail, and a good layout with the right typeface and size to maximise legibility and readability are factors that can contribute towards the clarity of visual material. Receivers' level of education and some social factors such as urbanisation, exposure to television and others can also play a part in the comprehension of messages (McQuail & Windahl 1993; Gaede 1999; Carstens 2004).

McGuire's communication-persuasion matrix model (McGuire 1999) proposes information processing to be a series of hierarchical steps that include attention, comprehension and acceptance. Attention depends on exposure and awareness while comprehension precedes acceptance of any message. Therefore, the first step in evaluating the effectiveness of any health communication initiative is to measure the proximal outcomes of attention and comprehension. Research has shown that *loveLife* campaigns have attracted and continue to attract the attention of the South African youth (*loveLife* 2004; Zisser & Francis 2006). One important factor underpinning the positive impact expected of these campaigns after exposure and attention is comprehension of those messages. Exposure alone does not guarantee comprehension, and without understanding there can be no positive change in behaviour. This shows that comprehension of health messages is a critical stage in the hierarchy of steps leading to behaviour change. This evaluation was based on open-

ended questions about the learners' comprehension of the messages, as well as the imagery used in each poster.

### **3.4 Method**

#### **3.4.1 Pilot test**

A pilot study was undertaken to test the questions and the planned procedures. Six Sesotho-speaking students from a tertiary institution volunteered to complete thirty-seven questions about eleven selected individual *loveLife* campaign items<sup>1</sup>. The subjects were encouraged to comment on the comprehensibility of the questions and changes were made to the procedures and questions after receiving their feedback.

A second pilot study was undertaken at a high school in Lesotho. This school was different from the five schools used in the final experiments. Sixty subjects participated in this pilot test. The questions were given in English and also translated into Sesotho. The subjects were encouraged to respond in either English or Sesotho. The time spent on the questionnaire was observed as being too long. The subjects' answers and comments were then used to fine-tune the final questionnaire for the evaluation of the outdoor posters.

#### **3.4.2 Campaign materials**

For this evaluation, eleven different *loveLife* outdoor campaign materials were selected from amongst the outdoor posters used between 1999 and early 2005. These outdoor posters were representative of the previous approaches of *loveLife* outdoor campaigns and were selected based on the following criterion:

- Full-colour realistic photographs
- Hand-illustrated images
- Typographically based messages
- Graphic symbolism

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<sup>1</sup>For more information see addendum G

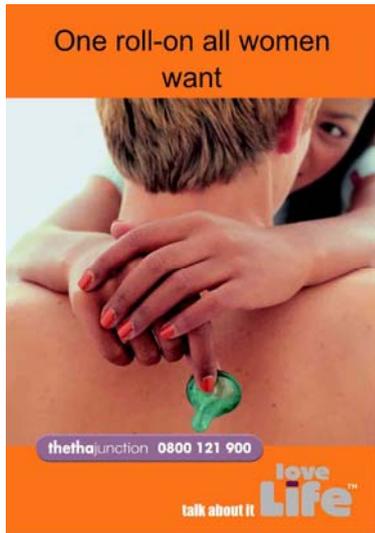
The posters represented a selection of realistic and abstract images, photographs, hand-drawn images and a combination of type, photographs and hand-drawn images.

For purposes of this study, the posters were reduced proportionally to conform to their original design – either 42 x 60 centimetres (portrait) or 60 x 42 centimetres (landscape) – depending on the original format. These posters are reproduced on the next two pages.

**Figure 4. The eleven *loveLife* outdoor posters used in the study**



Figure 4. The eleven *loveLife* outdoor posters used in this study. (cont.)



Poster 5



Poster 6



Poster 7



Poster 8



Poster 9



Poster 10



Poster 11

### **3.4.3 Subjects**

Three hundred and one subjects participated in the post-testing of the eleven outdoor HIV/AIDS posters. These subjects were all schoolchildren from one or two classes of their respective high schools in Lesotho. Two hundred and ninety-nine of the three hundred and one respondents spoke the same home language (Sesotho), the remaining two are non-native of Lesotho while 158 were male and 143 female. Their ages ranged between 15 and 25 years, with the average age being 17 years. The subjects were all in their tenth year of schooling. All participants participated voluntarily and the researcher made it clear to them that they are not being forced to do so.

### **3.4.4 Site selection and characteristics**

The five high schools selected were situated in urban and rural areas of Lesotho. The schools were systematically selected from a list of schools provided by the Ministry of Education in Lesotho in such a manner that urban, peri-urban, rural and deep-rural schools were represented. One urban school was located in the capital city and another was located within 12 kilometres of the capital city. The peri-urban school was located 12 kilometres outside the capital city, while the rural school was located 50 kilometres away from the city and the deep-rural school 120 kilometres away. The reason for selecting schools in Lesotho was that the *loveLife* campaigns are not targeted at young people in Lesotho, thus minimising prior knowledge (Williams & Dwyer 2004) and exposure to these outdoor campaign materials and the campaign.

The Ministry of Education in Lesotho granted permission for the research to be conducted. The author also made prior visits to the schools to submit a letter of introduction to the principals requesting permission and informing them about the nature of the research. A convenient time was arranged so that the evaluation could take place without interference in their programmes. The times approved by the respective principals varied, with some sessions falling before the lunch break and others falling just after the lunch break.

### **3.4.5 Procedure**

The outdoor poster materials were attached to the walls of the respective classrooms and then evaluated by the subjects. The subjects in each school were asked to respond to a series of questions about the comprehension of the imagery (graphics) and to describe what they understood by the intended message in each of the outdoor posters. A second series of questions tested the self-efficacy of the posters.

### **3.4.6 Results**

Tables 1 and 2 present the results of the graphic imagery and message comprehension of the subjects according to the individual schools and the subjects as a whole. The results of the subjects' responses are shown in numbers and percentages. The correct and incorrect interpretation of the graphic imagery and its influence on the message comprehension of each poster is also shown in the tables. Pearson's Chi-square two-tailed test analysis and Wilk's likelihood-ratio test were used in this study to analyse the data. A significance level of 0.05 was used.

The results are discussed after the tables.

**Table 1. Results of message comprehension in all the schools**

MESSAGE COMPREHENSION												
	School 1 (Deep-Rural) (n=79)		School 2 (Urban) (n=40)		School 3 (Rural) (n=71)		School 4 (Urban) (n=50)		School 5 (Peri-Urban) (n=61)		Totals (n=301)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Poster 1	7	+8.9	33	*82.5	15	21.1	30	60	39	63.9	124	41.2
Poster 2	3	3.8	4	10	6	8.5	14	28	14	23.0	41	13.6
Poster 3	37	46.8	38	*95	26	36.6	31	62	36	59.0	168	58.8
Poster 4	63	79.1	39	*97.5	59	83.1	45	90	50	82.0	256	85.3
Poster 5	38	48.1	28	*70	30	42.3	23	46	38	62.3	157	52.2
Poster 6	54	“68.4	33	*82.5	55	“77.5	20	+40	39	63.9	201	66.8
Poster 7	40	50.6	36	*90	38	53.5	39	78	50	82.0	203	67.4
Poster 8	26	32.9	22	55	25	35.2	35	70	48	*78.7	156	51.8
Poster 9	16	+20.3	30	*75	28	+39.4	28	56	43	*70.5	145	48.2
Poster 10	30	38	23	57.5	25	35.2	35	*70	33	54.1	146	48.5
Poster 11	38	48.1	33	*82.5	33	46.5	25	50	43	70.5	172	57.1
<b>Total &amp; Mean %</b>	<b>352</b>	<b>40.5</b>	<b>319</b>	<b>72.5</b>	<b>340</b>	<b>43.5</b>	<b>325</b>	<b>59.0</b>	<b>433</b>	<b>64.5</b>		

\* $p < 0.05$ ; + $p < 0.05$

\* Indicates a significantly higher comprehension when comparing all the schools.

+ Indicates a significantly lower comprehension when comparing urban with rural schools.

“ Indicates a significantly higher comprehension when comparing rural with urban schools. That is, schools 1 (deep-rural) and 3 (rural) with schools 4(urban) and 5 (peri-urban).

**Table 2. Results of graphic image comprehension in all the schools**

IMAGE COMPREHENSION												
	School 1 (Deep-Rural) (n=79)		School 2 (Urban) (n=40)		School 3 (Rural) (n=71)		School 4 (Urban) (n=50)		School 5 (Peri-Urban) (n=61)		Totals (n=301)	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Poster 1	7	*8.9	32	*80	14	19.7	22	44	27	44.3	102	33.9
Poster 2	5	*6.3	18	45	20	28.2	19	38	18	29.5	80	26.6
Poster 3	72	“91.1	38	*95	60	84.5	42	84	55	90.2	264	88.7
Poster 4	61	77.2	40	*100	66	93	46	92	59	96.7	272	90.4
Poster 5	66	83.5	38	*95	62	87.3	48	*96	58	*95.1	272	90.4
Poster 6	37	46.8	30	*75	38	53.5	13	*26	34	55.7	152	50.5
Poster 7	57	72.2	35	87.5	48	67.6	43	86	56	*91.8	239	79.4
Poster 8	44	55.7	28	*70	45	63.4	28	56	41	67.2	186	61.8
Poster 9	9	*11.4	20	50	20	*28.2	24	48	30	49.2	103	34.2
Poster 10	23	29.1	28	*70.	27	38	34	68	30	49.2	142	47.2
Poster 11	21	26.6	35	*87.5	37	52.1	23	46	45	73.8	161	53.5
<b>Total &amp; Mean %</b>	<b>402</b>	<b>46.3</b>	<b>342</b>	<b>77.7</b>	<b>437</b>	<b>55.9</b>	<b>342</b>	<b>59.8</b>	<b>453</b>	<b>67.5</b>		

\* $p < 0.05$ ; \* $p < 0.05$

\* Indicates a significantly higher comprehension when comparing rural with urban schools.

+ Indicates a significantly lower comprehension when comparing rural with urban schools.

“ Indicates a significantly higher comprehension when compared school 1, a deep-rural school with school 4, a peri-urban school.

## **Subjects' interpretation of the graphic imagery and messages**

### ***Poster 1 (Love to be there):***

*Employment and a career.* A young woman pilot depicts achievement against significant odds, including gender stereotyping. The intended message is for young people to be alive in 2010 to enjoy the World Cup and secure their future prospects by modifying their sexual behaviour to avoid the high risk of HIV infection (*loveLife* 2004). This poster is about a child's long-term dream and the fact that a little girl saw herself becoming a pilot and respected her body and saved herself until she grew up to become a pilot in real life. The poster is designed in two halves: The first half is hand-drawn in a manner resembling a simple, childlike drawing. The other half shows a picture of a young career-woman dressed in a pilot's uniforms against a dark background to show contrast. This method evokes readability of the picture as well as the text, which is written against a black background. This approach conforms to the suggestions of Gaede (1999) regarding how images and illustrations should be used in order to overcome recognition barriers in visual communication. Moreover, the message "*Love to be there*" is clear, simple and brief, as suggested by FHI/AIDSCAP (2003) and STD Communication (2004).

### ***Results of Poster 1 (Love to be there):***

When this poster was tested for message and image comprehension amongst the learners, their responses were low, as shown in Table 1 and Table 2. If we consider all the schools together, there was a significantly higher level of message comprehension (41.2%) than graphic image comprehension (33.9%). However, if we consider the schools individually, there was a significantly higher level of image comprehension in urban schools than in rural schools. The imbalance in the levels of image and message comprehension with regard to this poster affected the subjects' comprehension of the overall message of Poster 1.

However, when further questions were asked to measure the degree of the subjects' comprehension of the message, they responded as follows (in their own words): "*Someone wants to see a good future*"; "*When you're a child, you have many dreams or aims in life. It shows that if you live a protected life you can live to the day your dream is fulfilled*"; "*We should live up to the dreams we had since we were little kids*

*and make sure we fulfil them”; “The lady in the diagram used to draw aeroplanes when she was a kid because she dreams of flying one. She has grown up to become a pilot”.*

Some responses of those who misunderstood the message were: *“Those teenagers who love themselves should not walk at night”; “Love should be given to all living things. God had given us love before”; “Even if we travel I should love those people I meet”; “We should be happy like the sky”.*

### **Poster 2 (Foreplay):**

This poster consists of photomontages of young celebrities with the same imagery watermarked in the background and the word ‘Foreplay’ written in reverse-out lettering. *loveLife* (2002) described this poster as being part of a teaser campaign designed to evoke further discussion.

### Results of Poster 2 (Foreplay):

This poster had significantly lower message comprehension (13.6%) than image comprehension (26.6%) in all schools (*p*-values approximating 0). Although some of the subjects were able to identify some of the celebrities on the poster, this did not influence their message comprehension (see Table 1 and Table 2). It appears as if there was little association between the image comprehension and message comprehension. The reason could be that the message “Foreplay” was not simple enough to allow the subjects to process the whole message correctly. The word “foreplay” could also have been new to the learners in the rural schools or too ambiguous. From their responses, it seems as if the poster depicted for them a music concert rather than an HIV message.

When further questions were asked to justify the subjects’ comprehension of this particular message, their responses were as follows (in their own words): *“Youth must have a time to enjoy themselves”; “Boys and girls should be together”; “It shows people have talents and they are using it accordingly”; “Some sort of polygamy i.e. two men with five women”; “Guys and girls should be together”; “A person can get intimate with more than one person”; “It shows that we all must have relationship”; “It does not explain enough about what’s on the poster or the message because some of us don’t*

*know the meaning of the word foreplay”; “People should caress, kiss and touch all over but should not have sex”; “Love should be considered as play”; “Be ready both to make sex”; “There are more women than men, these women are trying to attract these men in order to sleep with them so they’re competing”; “This poster is like a music poster”; “It means that nowadays life is fair to everybody because whites and blacks looks the same to each others to proof that life is about happiness”; “To have one another without discrimination”.*

**Poster 3 (Everyone he’s slept with, is sleeping with you):**

This poster consists of a photograph of a naked man with the hands of people of different skin colours on his back. It depicts a man with more than one sexual partner and who is thus prone to contracting and transmitting sexually transmitted diseases. The aim of this poster is to encourage people to reduce their number of sex partners and to discourage people from having sexual intercourse without protective measures (loveLife 2002). The use of a photorealistic picture in this poster is in line with the previous finding that photorealism promotes potential understanding and accurate interpretation of such messages (Waddill & McDaniel 1992; Mayer 1993; De Lange 1999; Gaede 1999; Mayer & Moreno 2002).

Results of Poster 3 (Everyone he’s slept with, is sleeping with you):

The level of comprehension of the message (58.8%) and graphic imagery (88.7%) used in this poster was significantly high in all schools ( $p$ -values approximating 0). The results of this poster seem to agree with the suggestion made by Mayer (1993) and Mayer and Moreno (2002) that realistic pictures can improve comprehension. The poster also emphasises a self-efficacy response to the perceived threat of HIV/AIDS (Witte, Cameron, Lapinski & Nzyuko 1998). This poster depicts the threat of HIV/AIDS in the hope that it will result in self-protective measures or positive behaviour by either keeping to one sexual partner or using condoms because of the perceived threat (Witte *et al.* 1998; Murray-Johnson, Witte, Boulay, Figueroa, Storey & Tweedie 2001).

The subjects’ responses were as follows (in their own words): *“The message makes us to know that HIV/AIDS is a serious problem”; “It means that the prominent man in the picture is promiscuous”; “Means prostitution”; “Sleeping with different partners promotes the spread of STDs and HIV/AIDS”.* When further questions were asked in

order to substantiate their responses by differentiating between the hands, they responded with statements like: *“White man’s hand, Mosotho and Zulu”*; *“No nail-painted, red nail-painted and silver nail-painted”*. This demonstrates that the imagery used was well understood by the subjects in terms of the hands belonging to people of different skin colour, gender and age. Although some had difficulty comprehending the imagery, responding as follows with regard to the hands: *“Looks old, tired and healthy”*, *“Mosotho hand, Zulu hand and England hand”*, *“Right hand, right hand and left hand”*, they still understood the message.

***Poster 4 (His & Hers):***

This poster was designed to create awareness about teenage pregnancy and the fact that every incident of unprotected sex between the genders can result in unwanted pregnancy (*loveLife* 2002). It shows the biological symbols of a male and female gamete in action during sexual intercourse. The puzzle concept used in this poster also symbolises both genders as “his and hers”, i.e. the two people in a relationship. This message does not suggest any threat or an efficacy component, as suggested by Witte *et al.* (1998) as being necessary for effective health communication. The message advocates a delay in sexual debut or self-restraint from teenage sex.

*Results of Poster 4 (His & Hers):*

If we consider all the schools together, we find that this poster had a significantly high response rate with regard to image comprehension (90.4%) and message comprehension (85%). However, if we compare the urban and rural schools, we find that the levels of both image comprehension and message comprehension were higher in urban schools than in rural schools ( $p$ -values $<0.1$ ). It was also found that the respondents knew what was being depicted in the illustration and that this aided their message comprehension. The level of articulation in the rural schools was lower than in the urban schools with respect to this poster.

When further questions were asked to measure the degree of the subjects’ comprehension of the message and imagery, their responses were as follows (in their own words): *“I have to either abstain or have safe sex to avoid pregnancy”*; *“Unprotected sex leads to unplanned pregnancy”*; *“It means some one is getting into*

*trouble and is going to regret it”; “Show how baby are made”; “Sexual intercourse is the responsibility of both male and female”.*

**Poster 5 (One roll-on all women want):**

This poster depicts a man and a woman in a relationship negotiating protected sex. The woman is holding a condom as an inevitable commodity on such an occasion. Although this poster does not mention or reflect the severity of HIV/AIDS or the associated risk, it does carry a positive message. This poster promotes the perception of self-efficacy, as described by Witte *et al.* (1998). It also promotes negotiation and condom use, as well as consensual sex. It is persuasive in nature and depicts sexually active youths as being in control of their sexual behaviour.

Results of Poster 5 (One roll-on all women want):

This poster elicited a significantly higher level of image comprehension (90%) than message comprehension (52.5%) in all the schools in both rural and urban areas ( $p$ -values approximating 0). It was also found that the imagery contributed to the subjects' comprehension of this particular poster.

When further questions were asked in order to corroborate the degree of the subjects' comprehension of the messages and the imagery, they responded as follows (in their own words): “*She (the lady) is telling him (the man) about the importance of a condom*”; “*Put it on – no condom, no sex*”.

**Poster 6 (His & Hers):**

This poster highlights the shared sexual responsibility associated with unprotected sex, namely a baby. It shows the symbolic representation of a baby's face as a product of both a man and a woman. This approach is based on the research finding that seventy-one percent of young South Africans indulge in unprotected sex (*loveLife* 2002). This message does not suggest the severity of HIV/AIDS or an efficacy response component, as suggested by Witte *et al.* (1998). However, it does draw attention to the duties and realities awaiting any teenager who indulges in unprotected sex – i.e. the responsibility of childcare and development.

Results of Poster 6 (His & Hers):

This poster had a lower level of image comprehension (50.5%) than message comprehension (66.8%) in all schools (see Table 1 and Table 2). However, if the schools are considered individually, we find that the two rural schools had significantly higher levels of message comprehension (68.4% and 77.5% respectively) than the one urban school and the peri-urban schools (40% and 63.9% respectively). The reasons for this could be that the respondents in the urban and peri-urban schools who had difficulty comprehending this poster partially recognised the imagery and made an effort to decode its abstract nature. Thus, by actively decoding and interpreting the mood, age and gender of the baby's image, their attention was distracted away from the message. A respondent with partial comprehension was unable to understand that the message related to a baby as a product of unprotected sex and a shared responsibility. This shows that abstract images can cause misunderstanding and loss of information. This is corroborated by the findings of Gaede (1999) and Delate (2001) regarding denotative and connotative levels of meaning, which describe the meaning that did not tally with the intended meaning as with inconsistent decoding in the studies of semiotics (the study of signs). This is an active process of how meaning occurs when communicating through visuals.

The symbolic representation led to many respondents misunderstanding the baby's face, judging by the following comments: *"A sad woman"*; *"A sleeping toy"*; *"It is like the baby is being raped"*; *"The baby's sad face"*; *"Pink or red means pain and blue or purple means happiness"*; *"They will be crying after they are infected by AIDS"*. However, the respondents who were able to articulate the message knew that the message was about a shared responsibility awaiting the boy and the girl. They understood the message as follows: *"An unplanned child does not only belong to a girl but it's also a boy's responsibility"*; *"What belongs to him belongs to her too"*; *"It belongs to both of them"*.

**Poster 7 (Which way are you headed?):**

This poster depicts a positive message using the graphic symbols for "fast forward" (FFW) and "rewind" (REW) to illustrate the message. The icons or buttons enhance the comprehension of this message. Although the poster does not suggest the severity

of HIV/AIDS or suggest any self-efficacy, it does encourage the youth to examine where they stand in any sexual relationship, as well as their next course of action.

Results of Poster 7 (Which way are you headed?):

The results show that this poster had a significantly high level of message comprehension (67.4%) in all schools. This may be ascribed to the simplicity of the message coupled with the appropriate graphic imagery of the “fast forward” and “rewind” buttons. This imagery complements the message and AIDS comprehension. The level of image comprehension was significantly higher (79.4%) in all schools ( $p$ -values approximating 0). The comprehension of imagery contributed to the subjects’ comprehension of this particular message.

The following were the responses given by subjects to justify their comprehension (in their own words): “Shows whether a person is going forward in life or backward”; “Which path am I taking in life”; “I am to choose a way for myself and be wise in my decision”; “I should eschew what is not good for me”.

**Poster 8 (“I had sex. Will I die?”):**

This poster carries words supposedly uttered by a 14-year-old girl. It shows that the person in question is confused and lacks sufficient knowledge about HIV/AIDS, as well as sex education. The depiction of the name and age of the “speaker”, as well as the use of inverted commas around the statements, serve to create the impression that the words are actually being spoken by a certain individual. This is a simple message, but can only be understood by a literate person, because it has no pictures or any visual imagery that could aid its comprehension.

Results of Poster 8 (“I had sex. Will I die?”):

There was a significantly higher level of message comprehension among the urban school subjects than the rural school subjects. The deep-rural school reflected 32.9% message comprehension, while the rural school reflected 35.2% message comprehension. The urban schools reflected 55% and 70% message comprehension respectively and the peri-urban school 78% message comprehension (see Table 1 and Table 2). Although there are no illustrations or any graphic imagery that could aid the respondents’ comprehension of this particular poster, the respondents from the

urban schools were able to understand the message. The subjects were also asked to give reasons for the inverted commas in this particular message so as to make up for the imagery questions asked about the other posters. A significantly higher response rate was recorded in all schools (see Table 1 and Table 2). This shows that many subjects from all the schools could recognise that the message is quoted speech.

When further questions were asked to corroborate the degree of comprehension, some of the responses given were as follows: *“It means that child had sex at young age and after that he/she is afraid of dieing of HIV/AIDS”*; *“When I want to make sex, I should have knowledge first”*; *“Unprotected sex is not save”*; *“A teenager had unprotected sex and he/she is worried”*; *“A confused teenager without any knowledge”*; *“This person is ignorant”*. In other words, it shows that having unprotected sex could be risky and deadly. Some of the respondents from rural schools made the following comments: *“Is it the end of life when one is no longer a virgin?”*; *“I feel pain when I have sex. Am I sick?”*

#### **Poster 9 (Dignity):**

This poster depicts self-pride or respect. This graphic material is in the form of a photograph showing the hand of a woman holding a bottle of perfume. The words ‘Dignity – wear with pride’ form the only message apart from the *loveLife* logo and the **Thetha Junction** telephone numbers. This poster is used to promote one of the values behind a long-lasting relationship, namely ‘dignity’. It was designed to encourage love for one’s body and the resolve to keep one’s virginity as part of dignity and pride (*loveLife* 2002).

#### Results of Poster 9 (Dignity):

When considering all the schools together, it was found that this poster had a significantly higher level of message comprehension (48%) than image comprehension (34.2%) ( $p$ -values approximating 0). Also, when considering the schools individually, it was found that the rural schools had significantly lower levels of message as well as image comprehension. This poster was misunderstood by 65% of the subjects from rural schools. Many of the respondents could not relate this message to HIV/AIDS awareness campaigns, as they interpreted the message as being *“Dangerous and hazardous”* or *“Many people are drinking beer”*. This became

evident when further questions were asked about the contents of the bottle in the poster. This particular message may not be suitable for rural subjects.

The responses of the subjects were that the bottle contained beer, alcohol, drugs, medicine that can abort an unborn child, medicine to protect life, condoms, or hair-washing liquid. While the larger proportion of the 35% that comprehended the message were from urban schools. They gave the following responses: *“Individual pride”*; *“Respect”*; *“A special behaviour or a rank of a particular person”*; *“Virginity preserves it”*; *“It means dress properly”*; *“It means that I must be confident and proud of myself”*. From the subjects’ responses it appears that rural and urban factors are contributors to the comprehension of symbolic visual messages.

#### ***Poster 10 (Love life, get attitude):***

This poster carries a simple message. The message is rendered in a different graphical way from all other posters used in this study. It is depicted in a colourful and “funky” fashion to attract the youths’ attention. The letterform used to write the words ‘love life’ and the phrase’s rendering appear crafty, funky and conspicuous. It covers almost the entire page and is noticeable and attractive. While the words ‘get attitude’ are not as large in letterform as the words ‘love life’, they are still legible. The advancing background colour complements the imposed lettering colour and makes the poster visible. Although this poster says nothing about the severity of HIV/AIDS, it depicts a positive message that is attractive and simple to understand.

#### ***Results of Poster 10 (Love life, get attitude):***

The results show that this poster had a significantly higher level of message comprehension (48.5%) than image comprehension (47.2%) ( $p$ -values < 1%) in all schools. The message was not, however, understood by subjects from the rural school. The results show that the deep-rural school displayed 38% message comprehension while the rural school displayed 35.2% message comprehension. The two urban schools achieved 57% and 70% message comprehension respectively, while the peri-urban school obtained 54% message comprehension. This result concurs with the finding of Zisser and Francis (2006) who in their survey found that the underlying message of ‘get attitude’ as intended by *loveLife* was understood only by youths in urban schools and not by those in rural schools.

The fact that the poster in question was in use at the time of this evaluation, coupled with the influence of other media such as television, radio and print available in urban areas, might have assisted the respondents from the urban schools in understanding this poster.

With respect to the meaning of the poster's message, some of the respondents said the following: *"I should be careful in everyday life and abstain to avoid having HIV/AIDS"*; *"Love your life more than everything in this world"*; *"I must love life and to be a good youth with the good qualities so that I can have future"*; *"Know what is good and bad"*; *"Be in control and behave well"*; *"Let your NO be NO"*. However, some respondents clearly misunderstood the message: *"Green pasture in Africa in the year 2010"*; *"Broken glasses in the background means – someone's destroyed life or future"*. The proportion of miscomprehension was lower in the urban schools than in the rural schools (see Table 1 and Table 2).

***Poster 11 (It's not the end of your world):***

This poster depicts a graphic illustration of a broken or shattered love symbol. It symbolises the end of a love relationship, with a clearly positive message written to encourage people in such a situation to believe that life goes on. The colours are inviting and striking. The contact details (**Thetha Junction 0800 121 900**) provided on this poster may help people in a similar situation to know where to turn for any further information and help.

***Results of Poster 11 (It's not the end of your world):***

The poster portrays a positive message and is illustrated with appropriate graphic imagery. This also concurs with the suggestion made by Mayer (1993) that a picture can enhance understanding if it is appropriate and familiar and does not distract the attention of the viewer. The imagery used in this message was familiar to the subjects and thus complemented the message. The level of comprehension of the image (53.5%) as well as the message (57.2%) was significantly high in all schools ( $p$ -values $<1\%$ ). However, if the schools are considered individually, we see that the level of comprehension was significantly lower in the deep-rural school, where the message elicited 48% comprehension and the imagery 26.6% comprehension. Some

respondents commented that the poster did not highlight the severity of the health risk in question, but that the message was a positive one.

### **Evaluation of the campaign materials for efficacy**

The structure of the questions for this part of the evaluation was based on the Extended Parallel Process Model (EPPM). The EPPM maintains that a health message must have a threat element and an efficacy element in order to be effective in changing behaviour (Witte *et al.* 1998). It must also promote persuasive messages that stimulate fear in order to encourage people to adhere to the suggested options (Murray-Johnson *et al.* 2001). The threat element of the message makes viewers feel prone to the risk, whilst the efficacy element makes viewers feel that they will be protected from danger if they follow the recommended option.

### **Questions and results**

The efficacy of these posters was tested by evaluating the comprehensibility of the outdoor material in terms of the messages and graphic imagery used in the posters. Pearson's chi-square test and Wilk's likelihood-ratio test were used to determine which posters received a high response rate and which posters received a low response rate in terms of the questions. A (0.01) level of significance was used. The results of only posters that received a significantly high response rate and those that received a significantly low response rate are given in Table 3. The results that were not significant are given in the addendum 6.

**Table 3. Results of subjects' (n=301) responses to the efficacy of the posters**

(All at p-value approximating 0)

Questions	Posters that received a significantly high response rate	Number of subjects and percentage		Posters that received a significantly low response rate	Number of subjects and percentage	
		n	%		n	%
<b>Question 1:</b> <i>Do any of these eleven posters make you feel that if you do take the recommended option you can avoid being infected with HIV/AIDS through casual sexual intercourse?</i>	Poster 5	130	43	Poster 8	26	8
<b>Question 2:</b> <i>Do any of these posters make you feel that you should have a positive dream and work towards making that dream come true by abstaining from teenage sex?</i>	Poster 1 Poster 7 Poster 10	131 62 61	43 20.6 20.3	Poster 3 Poster 5 Poster 6 Poster 8	20 27 21 28	6.6 9.0 7.0 9.3
<b>Question 3:</b> <i>Which of these posters make you feel you can stop yourself from being infected with HIV/AIDS or other sexually transmitted diseases (STDs)?</i>	Poster 5	168	55.8	Poster 6 Poster 7 Poster 8	15 17 20	5.0 5.6 6.6
<b>Question 4:</b> <i>Which of these posters make you feel like HIV/AIDS and STDs are serious problems?</i>	Poster 3 Poster 8 Poster 11	84 80 63	27.9 26.6 20.9	Poster 1 Poster 2 Poster 7 Poster 9 Poster 10	7 20 12 19 15	2.3 6.6 4.5 6.3 5.0
<b>Question 5:</b> <i>Which of these messages do you understand best?</i>	Poster 1 Poster 11	95 82	31.6 27.2	Poster 2 Poster 6	20 21	6.6 7.0
<b>Question 6:</b> <i>Which of these illustrations/pictures do you like most?</i>	Poster 1 Poster 10	92 65	30.6 21.6	Poster 4 Poster 6 Poster 8	15 9 11	5.0 3.0 3.7

**Poster 1** (*Love to be there*) **Poster 2** (*Foreplay*) **Poster 3** (*Everyone he's slept with, is sleeping with you*)

**Poster 4** (*His & Hers*) **Poster 5** (*One roll-on all women want*) **Poster 6** (*His & Hers*)

**Poster 7** (*Which way are you headed?*) **Poster 8** (*"I had sex. Will I die?"*) **Poster 9** (*Dignity*)

**Poster 10** (*Love life, get attitude*) **Poster 11** (*It's not the end of your world*)

The first question asked the subjects to state which of the eleven posters made them feel that if they were to take the recommended course of action, they could avoid being infected with HIV/AIDS. Poster 5 (*One roll-on all women want*) received a significantly high response rate [ $n=130$  (43%)], whilst Poster 8 (*"I had sex. Will I die?"*) received a significantly low response rate [ $n=26$  (8%)]. Both  $p$  values were smaller than 0.01 and approximated 0. Poster 5 was highly preferred among the respondents for its self-efficacy (see Table 3). This message made the respondents feel vulnerable and provided a way out.

The second question related to the response efficacy of the posters in terms of whether any of the posters made the respondents feel ambitious and willing to forsake an early sex debut. Poster 1 (*Love to be there*) [ $n=131$  (43.5%)], Poster 7 (*Which way are you headed?*) [ $n= 62$  (20.6%)] and Poster 10 (*Love life, get attitude*) [ $n=61$  (20.3%)] received significantly high response rates. All  $p$  values were smaller than 0.01 and approximated 0. The respondents believed that this positive message was encouraging them to dream about a better future and try to actualise their dream by delaying their sex debut and living a positive lifestyle. Some stated that this poster did not address the severity of HIV/AIDS in any shocking or fearful manner, but rather tried to persuade them to be responsible and look to the future by standing against all odds and aspiring to become a better person. The respondents believed that these messages were positive and served to give them hope (see Table 3).

Question three asked whether any of the posters made the respondents feel that they could protect themselves from being infected with HIV/AIDS or another STD. This question also tested for the perceived response efficacy of the posters. Poster 5 (*One roll-on all women want*) received a significantly high response rate of  $n=168$  (55.8%). This poster stood out in terms of preference with regard to response efficacy among all the eleven posters used in this study. The respondents stated that they would be able to follow the advice of using a condom and negotiating with their partner during sex in order to remain uninfected. Poster 6 (*His & Hers*) received a significantly low response rate of  $n=15$  (5%), because the message did not reflect the risk of contracting HIV/AIDS, suggest any threat of the disease, or offer a response suggestion. It only reminded respondents of the responsibility awaiting both males and females who indulge in unprotected sexual behaviour. Poster 7 (*Which way are you headed?*) [ $n=17$

(5.6%)] and Poster 8 (*"I had sex. Will I die?"*) [ $n=20$  (6.6%)] both received a significantly low response rate in terms of response efficacy. The respondents argued that these messages offered no way forward. Respondents also commented that the message in Poster 8 came from a confused teenager and that there was no positive response depicted in the poster apart from a telephone line.

Question four related to the perceived severity and self-efficacy of the posters and asked the subjects to decide which of the posters made them aware of the fact that HIV/AIDS is a serious problem. Poster 3 (*Everyone he's slept with, is sleeping with you*) received a significantly high response rate [ $n=84$  (27.9%)]. Poster 8 and Poster 11 also received significantly high response rates of  $n=80$  (26.6%) and  $n=63$  (20.9%) respectively ( $p$ -value approximating 0). Poster 3 arouses fear by telling viewers how easily one can be infected through unprotected sex. Although this poster does not suggest condom usage, it does indirectly emphasise the self-efficacy response and the perceived severity of HIV/AIDS. This poster depicts the severity of HIV/AIDS in the hope that this will result in self-protective measures or a positive way of life by either keeping to one sexual partner or using condoms in response to the perceived threat.

Question five asked the subjects to identify which message they understood best. Poster 1 (*Love to be there*) [ $n=95$  (31.6%)] and Poster 11 (*It's not the end of your world*) [ $n=82$  (27.2%)] received a significantly high response rate. The respondents believed that these messages were positive messages that provided hope and encouraged a positive way of life. The images are relevant and appropriate to the messages and thus serve to enhance comprehension ( $p$ -value approximating 0). Poster 2 (*Foreplay*) received a significantly low response rate [ $n=20$  (6.6%)].

The respondents did not perceive any part of the material in Poster 2 (*Foreplay*) to be a reminder of the threat and severity of HIV/AIDS or the self-efficacy or response efficacy needed in order to overcome HIV/AIDS. The respondents associated this material with a music concert rather than with HIV/AIDS prevention. The subjects also mentioned that they were not influenced to take any action against HIV/AIDS, as this was not mentioned anywhere in the poster. Poster 6 (*His & Hers*) also received a significantly low response rate of  $n=21$  (7%).

The subjects were also asked which of the illustrations or pictures they preferred most. The respondents' preference for the illustration method in relaying messages was significantly high. Poster 1 (*Love to be there*) [ $n=92$  (30.6%)] and Poster 10 (*Love life, get attitude*) [ $n=65$  (21.6%)] received a significantly high preference rating, while Poster 4 and Poster 6 received a significantly low preference rating. Poster 8 is simply a plain text message without any imagery.

### **3.5 Discussion of results**

The subjects from both the rural and urban schools understood Posters 3, 4, 5 and 7. These results are in line with the suggestion of Coulson, Goldstein and Ntuli (1998), Gaede (1999), FHI/AIDSCAP (2003) and STD Communication (2004) that health messages must be "simple" and "clear". The images in Poster 3 and Poster 5 are photorealism and appear to be appropriate to the messages, in that they aided comprehension. Poster 4 and Poster 7 have iconic signs, which illustrate the real object suggested by the text and create actual meaning, as described by Delate (2001). This is consistent with the finding of Pauwels (2000) and the design guidelines suggested by STD Communication (2004), namely that familiar images aid comprehension. STD Communication (2004) suggested the use of visuals that help convey messages rather than "decorate" the poster, as this will distract users. Visuals that are culturally relevant and images that are familiar to the audience are encouraged.

The results of the imagery comprehension of Poster 6 (*His & Hers*) concur with the finding of Delate (2001) that the meanings associated with this imagery were not correctly understood. Although the message appeared simple, the subjects were unable to link the image to the message.

The learners in both the rural and urban schools generally understood Posters 8, 10 and 11. The degree of the understanding was not the same as for Posters 3, 4, 5 and 7. Poster 1 recorded a low message comprehension because of poor image comprehension in rural schools. The rural subjects found the imagery method in this poster confusing. The respondents were unable to link the two illustration methods (photorealism and child's drawing) and assign an accurate meaning to the message.

As a result, the perceived message of this poster differed from the intended meaning of “love to be there”. This result for Poster 1 is similar to what Jordaan (2006) found, namely that subjects were unable to provide an accurate interpretation of the concept due to the exclusive use of English in the poster campaigns. However, this poster was well comprehended in urban schools and also had a high preference when tested for preferred illustration method. This could be because of unintended embedded humour (Jordaan 2006) and incidental exposure of the subjects from urban schools to a wider range of visual material.

Poster 9 (*Dignity*) had significantly low image and message comprehension in all the schools. This could be because of the absence of pictures to buttress the text. Poster 9 was misunderstood as a result of the unfamiliar imagery used in the message, especially amongst the respondents from the rural schools. The fragrance or perfume image used to illustrate the poster appeared to be a foreign concept to the respondents. Such children might never have seen, touched or used perfume before, which means that they would not have been able to recognise the image. The respondents from rural schools were unable to associate this image with warnings about HIV/AIDS. Previous exposure of the subjects to any visual item used in visual communication material can hamper or assist their comprehension of such messages. A lack of decoding skills can make it difficult for rural subjects to comprehend messages as intended (FHI/AIDSCAP 2003; Carstens 2004; STD Communication 2004). Carstens (2004) explained that a low-literate viewer relies on the situation and the accompanying pictures to assume or guess the meaning of the message. Pictures that do not have any cohesion with the message may result in poor comprehension.

It was also found that the subjects preferred realistic, appropriate imagery, such as photorealism, rather than abstract imagery in these types of health messages. This was evident from the significantly high response rate with regard to the recognition of images used in Poster 3 (89%) and Poster 5 (90.4%). Poster 2 and Poster 9 also depict photorealistic images, yet the messages were misunderstood. It can be inferred that the pictures in Poster 2 and Poster 9 were seen as being inappropriate to the message and unfamiliar to the rural subjects. Thus may have led to the message being misunderstood. Inappropriate use of imagery has previously been found to be a vehicle leading to miscomprehension of messages (Pauwels 2000).

The urban schools' significantly high preference rating of Poster 1 and Poster 10, which depict the preferred illustration method, can be deduced as having been influenced by exposure to illustrations, cartoons and comics on television and in books. This may have influenced the urban respondents' preference for and comprehension of these graphic imagery components in Poster 1 and Poster 10. This is consistent with a previous finding by McQuail and Windahl (1993) and Gaede (1999) that level of education and some social factors can play a part in the comprehension of messages.

Several posters created a sense of self-efficacy among the subjects. These posters gave a practical answer to real-life situations. The subjects regarded the message in Poster 5 (*One roll-on all women want*) to be positive and felt that the imagery depicted an efficacy component. The use of detailed imagery showing condom negotiation in the poster could be another factor that contributed to its effectiveness. Some subjects claimed that the message could make them change their behaviour. A positive message was reinforced in Poster 10 (*Love life, get attitude*), while Poster 1 (*Love to be there*) depicted hope and Poster 7 challenged the subjects by asking which way they were headed. These types of messages concur with the findings of FHI/PATH (2002), which suggested that positive messages are effective.

Poster 8 carried a threatening message (*"I had sex. Will I die?"*), depicting the risk and severity of HIV/AIDS. The low score recorded by this poster shows that it lacks response and self-efficacy. The respondents' comments concurred with the findings of Witte *et al.* (1998) who suggested that campaign materials depicting both a threat and a means of overcoming that threat might be effective. In this case, the message depicts a threat without any means of dealing with it.

Poster 1 (*Love to be there*) was found to have high response efficacy. The respondents felt that this poster made them to look towards the future in a positive way rather than considering the severity of HIV and other consequences associated with teenage sex. It is apparent in this study that detailed imagery, positive messages and an approach of fear with solutions seem to be preferred in campaign material amongst the target group.

These results would seem to support the findings of Yarber (1995) and Lagarde (2003) who suggested that the evaluation of HIV/AIDS and sexuality messages is important in order to ascertain their impact and determine areas where the programme can be improved. Moreover, proving the effectiveness of such messages is considered to be the main aim of assessment in order to improve the quality of such messages.

### **3.6 Conclusion**

This study evaluated the comprehensibility of *loveLife*'s outdoor messages, specifically the comprehension of graphic imagery, self-efficacy and the imagery preferences for the eleven posters. Messages and the imagery components in the posters were generally better comprehended in urban schools than in rural schools. Representational and abstract imagery might not be suitable for health communication messages. Poster 6 (*His & Hers*) made use of such imagery and obtained low image and message comprehension scores. However, unexpectedly, rural subjects comprehended the abstract imagery in Poster 6 (*His & Hers*) better than the subjects in the urban school. The reasons could be that the learners had been previously exposed to the imagery in question in one of their class subjects.

Poster 4 (*His & Hers*) has an abstract and representational illustration method but received high image and message comprehension scores in both rural and urban areas. The reason could be that the subjects were familiar with the imagery used in this poster. Familiar imagery might help target audience to comprehend a message better, and suitable graphic imagery fosters message comprehension because it is like adding idioms to grammar (Bonnici 1999). Unfamiliar images and ambiguous language in Poster 9 (*Dignity*) and Poster 2 (*Foreplay*) caused the messages to be misunderstood.

This study also found that comprehension of the graphic imagery influenced the comprehensibility of the posters. Poor interaction between the imagery and message such as in Poster 2 (*Foreplay*) and Poster 9 (*Dignity*) could have contributed to the poor comprehension of the messages. Bonnici (1999), Gaede (2000), Pauwels (2000) and Carstens (2004) commented that readable and relevant images can minimise the

miscomprehension of messages. Realistic and appropriate imagery is preferred to abstract and representational imagery – hence familiar and message-relevant imagery can improve the comprehension of HIV/AIDS messages.

The subjects showed a high preference for Poster 1 (*Love to be there*). This could be because of unintended embedded humour (Jordaan 2006) and incidental exposure of the subjects from urban schools to a wider range of visual material. The self-efficacy result also shows that the messages in Poster 1 (*Love to be there*) and Poster 5 (*One roll-on all women want*) could have a positive impact in promoting a positive and healthy life. It became clear from the subjects' responses to the question of efficacy that some messages are working (see Posters 5, 1, 7 and 10).

Pre-testing of each component of the HIV/AIDS messages amongst the right target samples is highly recommended, because it can detect any flaws at the planning stage. An accurate remedy to the issues raised by the target samples during the pre-testing stage can eliminate the flaws. In addition, post-testing can evaluate the efficacy of such visual material, thus identifying the strengths and weaknesses of such communication materials. Subsequent communication materials could be constructed on the basis of the success and strength of previous materials. Avoidance of past mistakes will provide experience and give strength to the prevailing ideas, which will be better comprehended and hopefully promote a positive, healthy lifestyle.

The use of simple language or words that can be understood by low-literate people is also suggested. This was evident in the case of Poster 9 in that many respondents were unable to attach any meaning to the word "Dignity". Positive messages and imagery that encourage the youth to live a healthy lifestyle could captivate and influence them positively. Further research into the development of appropriate imagery for HIV prevention campaigns is recommended, also in order to identify the different social influences that stop the youth from being positively influenced through their understanding of simple and clear concepts, as recommended in such campaigns.

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# CHAPTER

# 4

## Design solutions to community health communication

### 4.1 Overview

This chapter presents a paper titled: “Design solutions to community health communication”. The paper is based on reflections of the results of some of the experimental studies reported on in the previous chapter, and proposes an appropriate health communication model for a developing country such as South Africa. It was submitted for the Design Education Forum of Southern Africa (DEFSA), an international conference held at Cape Peninsula University of Technology, Cape Town, South Africa, from 3 - 5 October 2007.

DEFSA is a professional organisation of design educators, spanning most design disciplines, such as industrial, graphic, interior, clothing, ceramic, textile and jewellery, as well as commercially focused photography.

The abstract was accepted and the full paper submitted. The full paper was peer reviewed with comments and suggestions which were used to review the paper, before the final submission was made. The full paper was accepted and a presentation was subsequently delivered during the conference.

### 4.2 Abstract

*The aim of health communication campaigns is to effect a change in behaviour and attitude. These campaigns generally communicate a specific message regarding an epidemic or health-related issue. Health communication models can guide graphic designers to develop effective health communication messages. Some of these models, such as the Participatory Communication Model (PCM), suggest that involving the community in the communication process can produce clear and appropriate messages. The Extended Parallel Process Model (EPPM) maintains that a health*

*message must have a threat element and an efficacy element in order to be effective in changing behaviour. The EPPM can also use persuasive messages that may stimulate fear in order to encourage people to adhere or respond to the suggested options. The perceived threat element of the message can make the viewers feel prone to the risk, whilst the efficacy element can make the viewer feel that he/she will be protected from danger if he/she follows the recommended option. These theories developed by scholars in this field are not always applied by graphic design practitioners to design solutions, especially in the field of health communication.*

*The aim of this paper is twofold: Firstly to propose a health communication model for a developing country such as South Africa, and secondly to partly reflect on a survey conducted in Lesotho by the author. The survey evaluated the efficacy of loveLife's outdoor visual materials. The proposed health communication model is based on existing health communication models (the PCM and the EPPM) and relevant results of the survey about loveLife's outdoor visual material.*

*The model proposes that a community health communication message must follow a "bottom-up" development process; that it must ideally contain a threat element; that this threat element does not necessarily have to be intimidating in nature; and that there must be an attainable efficacy element. The model further suggests that the development of the material must take cognisance of the cultural vogue of the audience; that the graphic imagery must harmonise with the efficacy element rather than the threat element; and that prominence can be given to positive graphic imagery. These strategies can enhance the comprehension of visually based messages, which in turn could bring about the required positive health behaviour.*

**Keywords:** *self-efficacy, health communication models, graphic comprehension*

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### **4.3 Introduction**

Health communication and promotion is about health information and awareness that can influence or help individuals make healthier choices about lifestyle or behaviour. Efforts in this direction have not resulted in a significant decrease in high-risk activities

(Lynagh, Schofield & Sanson-Fisher 1997). Research shows that health communication has witnessed several transformations during the past 50 years. Piotrow, Rimon, Payne Merritt and Saffitz (2003) mention that the first stage was a *clinic* era, based on a medical care model. The notion was that if people knew where medical services were located, they would find their way there. The second stage was the *field* era, which was described by them as a more active approach emphasising outreach workers, community-based services, and the use of a variety of information, education and communication (IEC) products. The third stage, the *social marketing* era, was borrowed from the advertising arena and is based on the notion that highly promoted brands stimulate the demand side, while convenient access through local shops and pharmacies expands the supply side (Andreasen 1995; Rimon 2001).

The fourth and current trend over the past decade has been the era of strategic behaviour change communication, founded on behavioural science models for individuals, communities and organisations. This trend emphasises the need to influence social norms and policy environments so as to facilitate and empower the individual and bring about social change (Piotrow & Kincaid 2001; Figueroa, Kincaid, Rani & Lewis 2002).

Knowledge and insight are necessary in order to design effective health communication material. The process entails observation, and listening and talking to the target audience within the community. The process furthermore entails pre-testing the material before evaluation and during post-testing after use in order to establish the efficacy of such material. Most importantly, the process requires the following of a certain communication model that will make all these steps easier.

#### **4.4 What is health communication?**

STD Communication (2007) provides a definition of health communication, appropriate to this paper, and it is as follows: *“Health communication is the art and technique of informing, influencing, and motivating individual, institutional, and public audiences about important health issues. Health communication theories identify important variables and specify how these variables work together to produce a desired outcome. The scope of health communication includes disease prevention, health*

*promotion, health care policy, and the business of health care, as well as enhancement of the quality of life and health of individuals within the community”.*

The Horizons/Population Council (2002) states “... *to achieve sustainable programmatic success, environmental-structural interventions must engage community members in the conceptualization, implementation and evaluation of policy-based initiatives to ensure their effectiveness as well as their acceptability and appropriateness in reducing health-related risk ....*”

Different communication models have been used in different health risk communication campaigns. Some of the most commonly used models are the Health Belief Model (HBM) (Murray-Johnson, Witte, Boulay, Figueroa, Storey & Tweedie 2001) and the Fear-Based Appeal Theory, which can be subdivided into three parts, namely the Drive Theories Model, the Parallel Response Model and the Subjective Expected Utility Model (Witte 1994). In addition there is the Participatory Communication Model (PCM) (Parker, Dalrymple & Durden 1998; HDA 2000; Smith 2003) and the Extended Parallel Process Model or EPPM (Witte, 1992; Murray-Johnson *et. al.* 2001), which are briefly discussed for purposes of this paper.

#### **4.5 Participatory Communication Model**

The Participatory Communication Model (PCM) suggests that involving the community in the communication process can produce satisfactory, simple, clear and appropriate messages. It entails reviewing the campaign framework and establishing the purpose and main problem(s) to be addressed by working directly with communities to help them define their own needs and develop their own solutions (Parker *et. al.* 1998; HDA 2000; Smith 2003). Parker *et al.* (1998) suggest that the model offers excellent opportunities for overcoming language and cultural barriers, since members of the target audience become active and are drawn into the message-making process, which maximises the potential for behaviour change.

The benefits of this PCM for health promotion are numerous. The active participation of beneficiaries in the planning and implementation of projects enhances their support and sustainability. It encourages the development of visualisation tools, promotes the

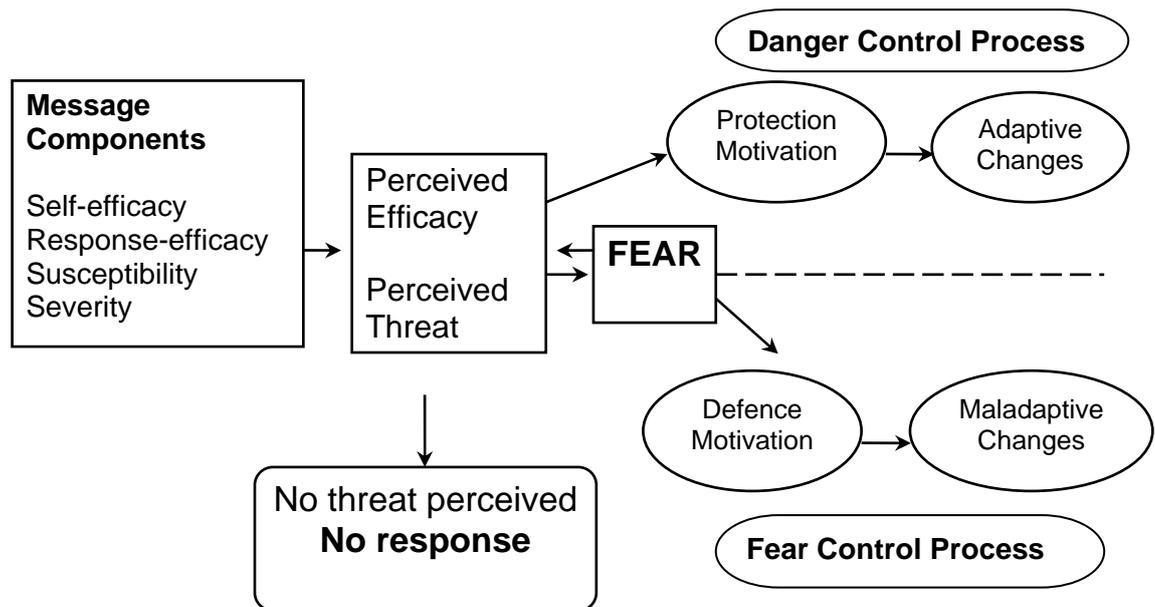
formation of partnerships, and creates a bond between professionals and planners and the target audience. Furthermore, it enhances the transfer of skills to local people.

In retrospect, it is possible to trace the failure of public health messages to insufficient pre-testing and/or insufficient reaction to pre-testing results.

#### **4.6 Extended Parallel Process Model**

The Extended Parallel Process Model (EPPM) suggests that a health message must have a threat element and an efficacy element in order to be effective in changing behaviour. It explains when and why fear appeals work, as well as when and why they fail. The variable that tends to be most problematic in fear appeals is fear itself (Witte 2006). Fear can be an obstacle to behaviour change, for example when people are so afraid that they are unable to act and they reject or defensively to avoid a threat.

People who are threatened will take one of the following courses of action, namely 'no response', 'danger control' or 'fear control'. If the threat is perceived as inappropriate or irrelevant, then there is no motivation to process the message further and people simply ignore the fear appeal (no response) (Witte 2006). However, when the threat is portrayed as and believed to be serious and relevant, subjects are motivated by their fear to take some sort of action (see Figure 5). This action can take one of two forms, namely 'danger control' or 'fear control'. Danger control is externalised towards a solution, while fear control is internalised, ignoring a possible solution but focusing on evading the fear or danger control to be chosen. The viewer needs to feel that an effective response is available (*response-efficacy*) and that he/she is capable of utilising this response to reduce the risk (*self-efficacy*). If danger control is not selected, then action defaults to fear control.



**Figure 5. Framework of the Extended Parallel Process Model (Witte 1992).**

In summary, Witte (2006) argues that the magnitude of threat in fear messages determines the extent of the response. Moreover, efficacy components in messages determine the manner of the response if either a danger or a fear control response is obtained (see Figure 5). The EPPM proposes that if no information regarding the efficacy of the suggested response is provided, individuals can rely on their previous knowledge to react. If one is trying to get someone to take action, then one should show him/her the threat, but also ensure he/she can see that there is a solution to the problem (i.e. recommended solution) (Witte 1992).

The EPPM also shows how, in some cases, messages arousing fear can lead to adaptive and life-saving actions (i.e. danger-control processes) while in others they can lead to maladaptive and potentially life-threatening actions (i.e. fear-control processes). As long as a person perceives himself or herself able to effectively avert the threat through the recommended response, very high levels of fear can be induced. However, the moment a viewer begins to doubt his or her ability to engage in the recommended response and/or begins to doubt the effectiveness of the recommended response, fear appeals can produce strong maladaptive effects. For any community intervention to be effective, it has to be structured in this manner, with a balance between the vulnerability element and the efficacy element.

#### **4.7 Reflections on a survey of *loveLife* outdoor media**

Visual messages are not always understood, particularly visual messages about health promotion targeted towards rural and low-literate communities. The positive changes in behaviour and attitude expected from health promotion campaigns are not necessarily satisfactory. Possible reasons are that communicators use unsuitable visuals or no visual elements where necessary (Unnava & Burnkrant 1991; Sims-Knight 1992; Waddill & McDaniel 1992).

Three-hundred and one learners in five high schools were initially used to evaluate the message and image comprehension of eleven *loveLife* posters. *loveLife*'s visual communication material was chosen for this study because of its prominence, as well as the media's criticism that the material is confusing (Halperin & Williams 2001; Coulson 2002). This reflection focuses on only two schools and two of the eleven posters that were used in the survey. The two schools and the two posters are not necessarily representative of the survey, but provide valuable parameters for the proposed model. The differences that can exist among teenagers from deep-rural and urban environments are highlighted. The two schools consisted of one hundred and nineteen learners (48 male and 71 female) who all spoke the same home language (Sesotho). The subjects were all in their tenth year (Grade 10) at a deep-rural and an urban school respectively in Lesotho. Their ages ranged between 14 and 23 years and their mean age was 17 years. These posters were attached to the inner walls of the respective classrooms and were evaluated by the learners. The learners in each school were asked to respond to a series of questions about the comprehension of the imagery (graphics) and to describe what they understood by the intended messages in each of the outdoor posters. This was done by means of a self-administered questionnaire based on open-ended questions. The subjects' answers were rated as correct, incorrect or partially correct. Images of the two posters are given below (see Figure 6 and Figure 7) and the results of the image and message comprehension given in the tables on next two page.



Figure 6. Poster 1: *Love to be there*



Figure 7. Poster 2: *His & Hers*

**Table 4. Results of image comprehension of subjects in the deep-rural and urban schools**

IMAGE COMPREHENSION				
	School 1 (Deep-Rural) <i>n</i> = 79		School 2 (Urban) <i>n</i> = 40	
	<i>n</i>	%	<i>n</i>	%
Poster 1	7	8.9	32	80
Poster 2	58	73	38	95

**Table 5. Results of message comprehension of subjects in the deep-rural and urban schools**

MESSAGE COMPREHENSION				
	School 1 (Deep-Rural) <i>n</i> = 79		School 2 (Urban) <i>n</i> = 40	
	<i>n</i>	%	<i>n</i>	%
Poster 1	7	8.9	33	83
Poster 2	63	80	39	98

The imagery and message in the first poster, namely *Love to be there* (Figure 6) combines the dream of a positive lifestyle being achieved with healthy and sound behaviour. This message encourages young people to “secure their future prospects” and to change their sexual behaviour so as not to fall victim to HIV infection. Its intention is to encourage them to take concrete action (like staying in school and achieving good grades) to turn their dreams into reality (*loveLife* 2004).

Some subjects misunderstood the imagery and message as evidenced by the following responses: “*The other side is at night while the other is daylight*”; “*Aeroplane = travelling, Clouds = bond, Sun = happiness. I understand that they will convey people getting there*”; “*Love touring long distance*”; “*This means we have to love each other and to visit different countries*”; “*I see a police woman whose work is to prevent bad things and spread love among us*”.

Subjects who partially understood the message provided the following responses: *“The lady in the diagram used to draw aero planes when she was a kid because she dreams of flying one. She has grown up to become a pilot”*; *“When you’re a child, you have many dreams or aims in life. It shows that if you live a protected life you can live to the day your dream is fulfilled”*; *“Draw, learn and enjoy”*.

Subjects who understood the message typically provided the following responses: *“Someone wants to see a good future”*; *“We should live up to the dreams we had since we were little kids and make sure we fulfil them”*; *“I want to live to the point where I will reach my destinations”*.

Subjects from the deep-rural school (with 8.9% and 8.9% comprehension of the message and imagery respectively) displayed a general misunderstanding of Poster 1 (*Love to be there*). This poster is one of three concepts of the 2004 *loveLife* campaign. The level of comprehension of this message was higher amongst the urban teenagers (80% and 83% for imagery and message respectively). When responses to imagery comprehension questions were examined in detail, it became clear that some subjects from the deep-rural school were unable to link the child-drawn picture in Poster 1 with the photograph in the poster.

The imagery in Poster 2 (*His & Hers*) (Figure 7) depicts the fertilisation process. It is intended to increase awareness of the negative consequences of unprotected sex and highlights the responsibility of men and women when it comes to having protected sex. The message aims to reduce teenage pregnancy amongst the youth (*loveLife* 2001). The message achieved a high level of message and image comprehension at both the deep-rural and the urban school. The majority of the respondents (both deep-rural and urban) understood the message, namely that unprotected sex leads to pregnancy. The symbolic representation of egg and sperm used in this poster was adequately comprehended by the respondents and thus aided their understanding. This imagery is therefore regarded as suitable and appropriate for purposes of communication.

Subjects who showed complete and partial comprehension provided the following responses: *“Shows the fertilisation process in woman”*; *“Show how baby are made”*;

*“Sexual intercourse is for males and females, people of different sex”*; *“I have to either abstain or have safe sex to avoid pregnancy”*; *“Unprotected sex leads to unplanned pregnancy”*; *“It means some one is getting into trouble and is going to regret it”*; *“Sexual intercourse is the responsibility of both male and female”*.

To summarise, subjects from the urban school showed higher levels of comprehension with regard to both the image and message elements of the *Love to be there* poster, whereas the subjects from the deep-rural school had difficulty understanding the imagery and message of this particular poster. The subjects from the deep-rural and urban schools showed adequate comprehension of the *His & Hers* poster. Neither of these posters has a threat element, nor a self-evident efficacy element based on the threat. The *Love to be there* poster does, however, depict a positive outcome and projects a child with a dream of becoming a pilot. This positive outcome or dream must be inferred by a reader and can create a sense of efficacy or self-worth, i.e. having a dream to pursue.

The results in respect of Poster 1 are in partial agreement with the findings of Jordaan (2006) who also reported that his participants were unable to articulate the concept of the child’s drawing with other elements of the *Love to be there* poster. Jordaan in his study found *loveLife’s* 2004 *Love to be there* concept to be contradictory and not catering for South African language and cultural differences. He suggested targeting specific cultural groups and improving the language and visuals to avoid misinterpretation (Jordaan 2006).

The results in respect of Poster 2 are also in contrast with the findings of Delate (2001) who concluded that the *His & Hers* billboards were confusing. Indeed, contrary to Delate’s findings, this particular poster was understood by both rural and urban teenagers (see Table 4 and Table 5). Delate generalised his finding that the meanings associated with the imagery in the *His & Hers* posters were not concurrent or consistent with the messages on the billboards (Delate 2001).

The brief comparison of the two posters and the two schools highlighted several issues. Abstract imagery such as the *His & Hers* poster is not necessarily inappropriate and can be understood by rural teenagers. This was unexpected, but it

could be that the teenagers in question had already been exposed to such graphic imagery in some of their class subjects. Abstract and hidden messages and imagery, such as that used in the *Love to be there* poster, might prove problematic, but again this depends on the audience and their level of visual literacy and ability to decode graphic imagery. The contrast between the results of this survey and the work of Delate (2001) and Jordaan (2006) emphasises the need for pre-testing, and highlights the wide-ranging results that can be obtained through surveys of this nature and the fact that audience-specific messages are important. Graphic imagery that is understood can contribute to message comprehension.

#### **4.8 The 'O' Communication Model – the proposed model for design solutions**

The proposed 'O' Communication Model is based on the EPPM and PCM and on the conclusions of the survey in Lesotho. The 'O' implies a circular process whereby the phases in the model are sequential, leading to effective health communication material. The final phase re-informs the first phase and operates only amongst the end-users of the health messages. This model suggests that effective health communication can be achieved by using imagery and messages that conform to the norms of the society in question. The imagery and message must be developed through a community effort ("bottom-up" approach); it must depict what the community wants (it must address the group's specific need) and how they want it (graphic presentation) in order to influence them positively. The 'O' Model is by nature a participatory process and identifies health promotions as social issues to be discussed by all the stakeholders. It involves community as a large circle within which other activities are built. The model acknowledges the community norms and literacy, as well as the overall indigenous identity, and must be created in collaboration with a community member or cultural insiders who know what, how, when and why it works, and what would appeal to the target audience.

The 'O' Model proposes further that an element of threat can be depicted visually within a message and that provision must be made for dealing with the threat (self-efficacy). This threat need not be a dangerous threat, but should highlight the consequences or the outcome of the problem, such as in the *His & Hers* poster. This model encourages a balance between the visual threat element and the efficacy

element, which can steer individuals to change their behaviour. A positive rather than negative visual depiction of the outcome of a health communication message is desirable.

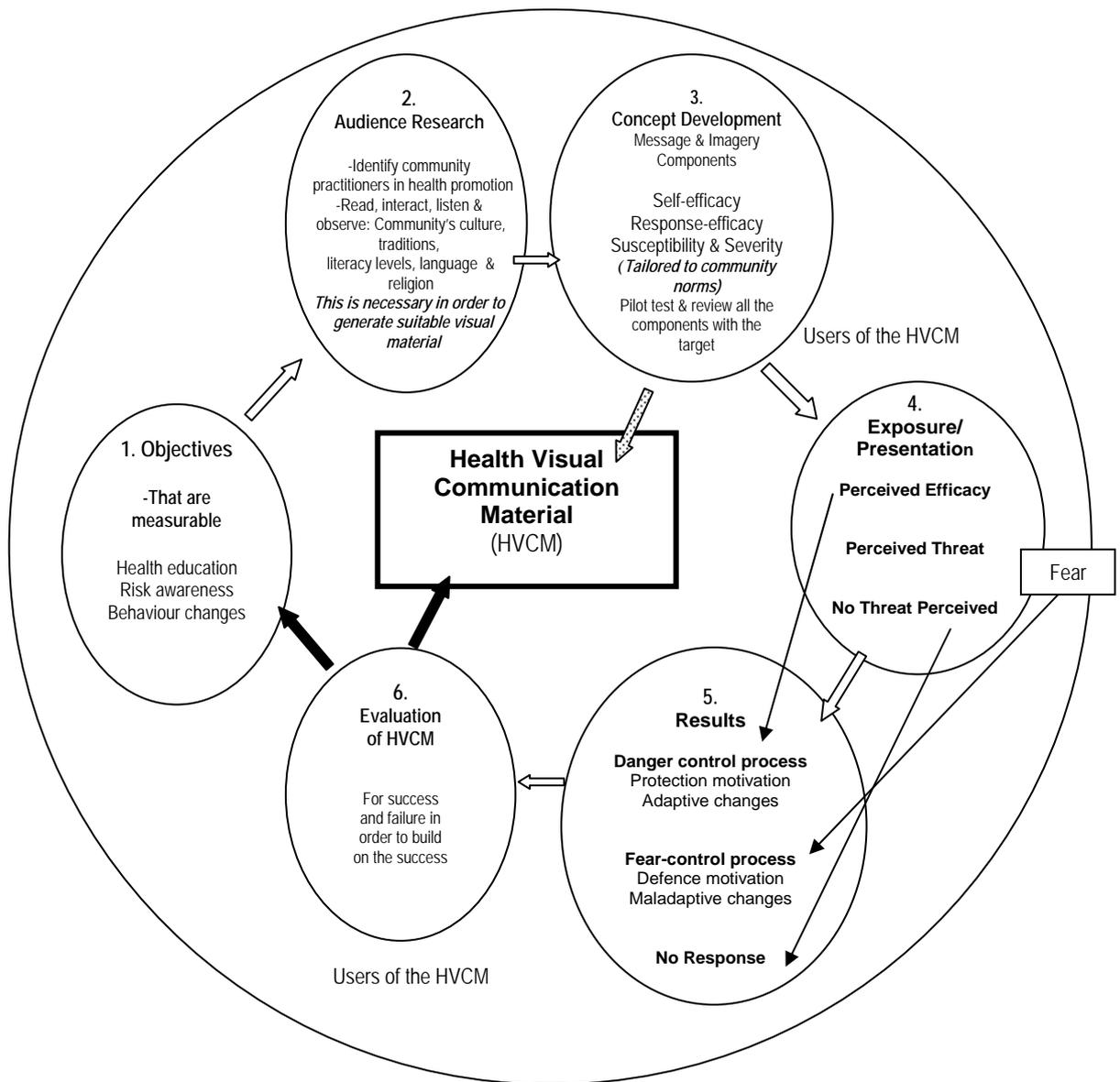
Local insight into the community, with technical assistance from communicators, designers and public health specialists, will yield manifold benefits (Piotrow & Kincaid 2001). Prominence of visual images can enhance message comprehension (Gaede 1999; Pauwels 2000).

Sufficient time must be allocated within the framework of health message design for pre-testing all the components of communication, as well as a process of post-evaluation of the communication efficacy. The graphic representation proposes the steps in implementing the 'O' Model (see Figure 8).

The model depicts six phases:

- 1) The identification of the desired outcomes or goal of the health message;
- 2) The "bottom-up" or audience research process;
- 3) The concept development and pre-testing phase;
- 4) The exposure of the material to the targeted audience (this can also be used as a pilot test in a pre-test phase);
- 5) The evaluation of the results of the exposure. The evaluation of the material, either during pre-testing or during a post-test phase must aim to determine whether the viewers perceive an efficacy element, a threat or no threat at all. Perceived efficacy can hopefully lead to the desired behaviour, namely a danger control process whereby the viewer takes protective steps and modifies his or her behaviour. If the viewer perceives a threat without any measures to counteract this threat (no self-efficacy) or views the message to be without any benefit, then the message might lead to a defensive reaction and/or inappropriate changes. If no threat or benefits are perceived, the viewer might show no response.

The outcome of this phase leads to the sixth and final phase during which the material is evaluated, appropriate changes are made to the existing health communication material, and the results are incorporated in future communication material. The structure of the 'O' Model is depicted below.



**Figure 8. Characteristics of the 'O' Communication Model**

Communication material is normally produced after phase 3, but the 'O' Model suggests that the health communication material must ideally be released after phase 6.

## 4.9 Conclusion

This paper highlighted two health communication models and reflected on part of a survey of *loveLife*'s outdoor media completed in Lesotho by the author. It proposes the 'O' Communication Model, which incorporates the PCM, EPPM and tentative conclusions from the Lesotho survey. Community health communication messages must be created through a development process and must ideally contain a threat element plus an attainable efficacy element. The development of the material must take cognisance of the cultural vogue of the audience, while the graphic imagery must harmonise with the efficacy element rather than the threat element, with prominence being given to positive graphic imagery.

Urban teenagers might comprehend hidden messages better than rural teenagers. Rural and urban teenagers interpret health messages differently. Poor comprehension of imagery can contribute to poor comprehension of health messages. Rural teenagers should be approached differently (Parker *et al.* 1998; HDA 2000) and health communication material can be more suitable and effective when written in the local language (PATH and Save the Children 2003:52). Community participation is a vital element of community health promotion solutions to bring about behavioural changes. The implementation of the 'O' Model is envisaged to improve the communication of health messages. However, this does not automatically ensure that appropriate action is taken by the community, and this is a possible area for further research.

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### **Acknowledgments**

The author would like to thank *loveLife* for providing the posters used in this study. The researcher furthermore wishes to acknowledge the Office for Research and Development, Central University of Technology, Free State for financial assistance, as well as the Ministry of Education in Lesotho for giving the researcher permission to conduct the study amongst high-school learners in Lesotho. Copies of letters from The Ministry of Education in Lesotho are included in the addendum.

# CHAPTER

# 5

## Summary, conclusions and recommendations of the study

### 5.1 Summary

This section presents a summary of the study, as well as conclusions and recommendations based on the two articles and a conference presentation. This work has been divided into five chapters and the relevant addendum has been supplied at the end. This section repeats some parts of the articles and papers discussed previously in this dissertation.

#### 5.1.1 Summary of Chapter 1

The first chapter discussed the introduction, scope, purpose and background to the study. The problem statement was that targeted audiences do not always comprehend visual campaigns that are meant to educate and inform, and thus result in a positive change in behaviour and attitude. It is hypothesised that:

1. Rural subjects do not usually comprehend the graphic imagery and text of outdoor campaign materials as well as their urban counterparts.
2. Suitable graphic imagery can contribute to comprehension. Aspects such as realism and photographs can contribute to improved comprehension.
3. Subjects prefer visual signs where the resemblance between the visual sign and the referent is high (e.g a photograph) to those where the resemblance between the visual sign and the referent is low (e.g. a convention-based abstract imagery)..

The scope of this study was limited to the assessment of the graphic imagery and message components used in eleven selected *loveLife* outdoor campaigns.

The methodology for this study consisted of three phases. The researcher consulted various sources for the literature review, consisting mostly of scientific articles, some project reports, books, unpublished theses and academic dissertations. The researcher identified key design factors that can contribute to visual communication material (VCM). These features are presented in a summarised format in a figure. This review has been prepared as a publishable article.

### **5.1.2 Summary of Chapter 2**

Chapter 2 reviewed relevant literature, models and theories used for HIV/AIDS VCM. The key design factors in developing effective VCM were reported. These key design factors were analysed, and suggestions on how to originate and implement effective VCM were presented in an article format. The article titled “The efficacy of visual communication material in combating HIV/AIDS” reviewed the available literature and examined how well visual language elements can buttress HIV/AIDS prevention messages and bring about a positive result. This paper explored the strengths, weaknesses and impact of the visual elements and messages for the target audience via the VCM. As such, it is important to identify and get to know the target audience in order to know what to say to them and how to channel the message. A generic process to improve such material in order to combat HIV and AIDS was recommended. Suggestions on how to originate and implement effective VCM were offered.

### **5.1.3 Summary of Chapter 3**

This chapter presented an empirical study of the subjects’ comprehension of the graphic imagery of *loveLife* outdoor campaign material and evaluated the material for self-efficacy. Three hundred and one subjects, between the ages of 15 and 23 years, were systematically selected from six secondary schools in Lesotho. These schools were conveniently selected from amongst schools situated close to Maseru in order to be representative of both rural and urban schools (Maseru, Berea/Teyateyaneng and Leribe districts of Lesotho). One of the six schools was used for the pilot test, the results of which are given in the addendum. The reason for selecting schools in Lesotho was that the *loveLife* campaigns are not targeted at young people in Lesotho

and prior exposure to the outdoor media and the campaign would thus be minimised. Subjects were exposed to the material and their comprehension and preferences in this respect were tested through quantitative means.

The study and results were collated and presented as an article titled “The efficacy of HIV/AIDS messages: A case study of *loveLife*’s outdoor campaigns”. This study found that rural and urban learners are not on the same frequency in terms of social exposure and their needs should thus be addressed differently.

#### **5.1.4 Summary of Chapter 4**

This chapter presented a conference publication titled: “Design solutions to community health communication”. The paper proposed a health communication model for a developing country such as South Africa. This was based on the relevant portion of the Lesotho survey reported on in the second article, which provided valuable parameters for the proposed model in this publication. The proposed model, the ‘O’ Communication Model, proposes that a community health communication message must follow a “bottom-up” development process; that it must ideally contain a threat element; that this threat element does not necessarily have to be intimidating in nature; and that there must be an attainable efficacy element.

The model further suggests that the development of the material must take cognisance of the cultural vogue of the audience; that the graphic imagery must harmonise with the efficacy element rather than the threat element; and that prominence can be given to positive graphic imagery. These strategies can enhance the comprehension of visually-based messages, which in turn could bring about the required positive health behaviour. Whilst implementation of the ‘O’ Model is envisaged to improve the communication of health messages, this does not automatically ensure that any action will be taken by the community, and this is therefore a possible area for further research.

## 5.2 Conclusions

The aim of this study was to evaluate the comprehensibility of selected *loveLife* outdoor campaign messages and to identify those messages and images that were easily comprehended and those that caused some miscomprehension. It also evaluated the campaign materials for self-efficacy, as well as the preferred imagery method. Subjects' comments and responses were used to determine the comprehensibility of the messages and imagery components, the efficacy of such messages and the subjects' preferences in this regard.

The scope of this study was limited to the comprehensibility of the message and graphic imagery components used in eleven selected *loveLife* outdoor campaigns. A quantitative method was used in the assessment of the campaign material. The study, through a review of relevant published works, isolated design factors that effectively contribute to the development of VCM.

This study is presented in the form of two publishable articles and one international conference paper, bearing the following titles:

### ***Publishable articles***

- *The efficacy of visual communication material in combating HIV/AIDS*
- *Comprehension of HIV/AIDS messages: A case study of loveLife outdoor media*

### ***International conference presentation and publication***

- *Design solutions to community health communication messages*

Five experiments were conducted at both rural and urban schools regarding the comprehension and miscomprehension of eleven printed HIV/AIDS posters. The objective of this study was to evaluate the effectiveness of the messages conveyed by these posters. Two results generated by these five experiments are presented in this paper. It was found that a significantly low level of imagery comprehension contributed to a significantly low level of comprehension of certain messages, as well as total miscomprehension of some of the visual material tested. It was also found that a high

level of imagery comprehension facilitated a high level of comprehension of other visual materials. The variables and factors promoting or hampering comprehension of such messages amongst the subjects were identified and reported.

The general hypotheses guiding this study were as follows:

1. Rural subjects do not usually comprehend the graphic imagery and text of outdoor campaign materials as well as their urban counterparts.
2. Suitable graphic imagery can contribute to comprehension. Aspects such as realism and photographs can contribute to improved comprehension.
3. Subjects prefer visual signs where the resemblance between the visual sign and the referent is high (e.g a photograph) to those where the resemblance between the visual sign and the referent is low (e.g. a convention-based abstract imagery).

The evidence collected during the experimental studies seemed to indicate that the message and imagery components of all the posters were not completely misunderstood, but were better comprehended in urban schools than in rural schools. On the other hand, some posters were slightly better comprehended in rural schools than in urban schools – for example, the imagery comprehension of Poster 3 was 91% in a deep-rural school and 84% in an urban school. Also, Poster 6 had a significant imagery comprehension of 46% in a deep-rural school and 26% in an urban school. This was unexpected and did not concur with the findings of McQuail and Windahl (1993) who argued that urbanisation and social factors such as greater exposure to media allow an urban audience to comprehend messages better than their rural counterparts. Although these results were unpredictable, it was deduced that this could have been due to the teenagers in question already having been exposed to such graphic imagery in some of their class subjects.

The results indicate that suitable graphic imagery can foster message comprehension and that realistic, appropriate imagery is preferred to abstract and representational imagery. Abstract, hidden messages and imagery, used in some posters such as Poster 1, might prove problematic, as was also found by Jordaan (2006). This depends on the audience and their level of visual literacy, as well as their ability to decode graphic imagery. Familiar images that are relevant to the messages were

found to be a vehicle towards improved comprehension of HIV/AIDS messages. Also, this study found that one of the two *His & Hers* posters (Poster 4 and Poster 6) (see Figure 4) used was adequately comprehended in both rural and urban schools. Aspects of the study do not agree with the results of other authors. Delate (2001), for example, found that meanings associated with the imagery in the *His & Hers* posters were not corresponding and were inconsistent with the messages on the billboards. The results of Poster 4 are also in contrast with Delate (2001) who concluded that the 'His & Hers' billboards were confusing. Indeed, contrary to Delate's findings, this particular poster was understood by both rural and urban teenagers (see Table 1 and Table 2).

This study evaluated the comprehensibility of eleven *loveLife* outdoor campaign messages and distinguished between those that were well understood and those that were misunderstood. Examples of the subjects' misinterpretation of messages that did not tally with the intended messages of the designers were reported. Finally, it is interesting to note that *loveLife's* outdoor campaign messages were not completely misunderstood, but were better comprehended in urban than rural schools, with the exception of two cases where the imagery component were better comprehended in rural than in urban schools.

To conclude, attention must be given to message comprehension, as this forms the basis of understanding. Also, comprehension is an important factor underpinning positive changes expected of these campaigns after exposure and attention thereto.

### **5.3 Recommendations**

To develop visual communication material that is attractive, acceptable and effective in a community, the following steps are recommended:

- Incorporate community participation at every stage of development.
- Ensure that the material is readable and comprehensible, as determined by community members.
- The material must contain a threat element plus an attainable efficacy element.
- The cultural vogue of the audience must be respected.

- The graphic imagery must harmonise with the efficacy element rather than the threat element, with prominence being given to positive graphic imagery.

There is a need to evaluate health communication material and how it can be used in the rural and urban areas of South Africa. The evaluation process must identify the strengths and weaknesses of these messages, not only in terms of the content of the messages but also in terms of images. It is only when the messages can be matched to the receivers' level of comprehension and can earn their acceptance that they can be successful.

The limitation of this study was that it was conducted in three districts in Lesotho that were easily accessible to the researcher in Lesotho. The results are relative to a range of conditions in those districts that may differ from other districts because of socio-cultural conditions, existing health-promotion awareness, literacy level, as well as rural and urban factors.

#### **5.4 References**

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# ADDENDUM

## Addendum A: Correspondence with the Ministry of Education in Lesotho

Ojo Olutunmise Adesola  
Graphic Design Department  
Central University of Technology  
Private Bag X 20539 Bloemfontein,  
Free State  
6<sup>th</sup> April 2005

The Director  
Teaching Service Division  
Ministry of Education  
Maseru 100

Dear Sir/Madam

### Application to conduct a visual communication research in six secondary schools in Lesotho

I am a Master's Degree Student in Graphic Design at the Central University of Technology, Free State, South Africa. I am presently working on my dissertation and would like to ask for your permission to allow me to do some of my research work in six schools in Lesotho.

Previous research has shown that, ignorance and misinformation are amongst some of main contributors to the spread of the HIV virus worldwide. It is estimated that close to 40 million people are living with HIV globally (Piot, 2004) and that Eastern and Southern Africa have 17 million people living with HIV. There are more than 11 million orphaned children and majority of them are in Eastern and Southern Africa (UNAIDS 2004:78).

Lesotho is not an exception of this pandemic. In an effort to combat this epidemic, the Lesotho government declared HIV/AIDS as a national disaster and rolled out a National AIDS Strategic Plan (NASP) and established a coordinating authority to manage all the HIV/AIDS national activities. To complement this efforts, it was observed that targeted audiences do not always comprehend visual campaigns that are meant to educate and inform, resulting in a positive change of behaviour and attitude. This has been so because of the inappropriate use of graphic imagery and other visual elements in many of these campaigns.

Subjects will be exposed to the *loveLife*\* outdoor material; their comprehension and preference will be tested with multiple-choice questionnaire. Two focus groups of six subjects from each school will be used to further discuss the imagery with the subjects. The study will address the problem that visual messages are not always understood and in particular visual messages about HIV/ AIDS targeted towards low literate and rural communities.

The outcome of this research will bring recommendations, suggestions and strategies for future campaigns about HIV/AIDS and other health awareness.

Your permission to conduct this research work will be highly appreciated.

Yours faithfully,

Ojo O. Adesola  
0824017126

Supervisor: DR RW De Lange, The Director of School of Design Technology and Visual Art, CUT. Tel: (+27) 51 5073184

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<sup>1</sup> *loveLife* is an NGO organization working on the development and communication of HIV/AIDS messages in South Africa

**Addendum B: Letters of approval from the Ministry of Education in Lesotho**



LESOTHO

***Ministry of Education and Training***

Our Ref: ED/X/2

Your Ref:

3 May, 2005

Mr. Ojo O. Adesola,  
Graphic Design Department  
Central University of Technology  
Private Bag X 20539  
BLOEMFONTEIN

Dear Sir,

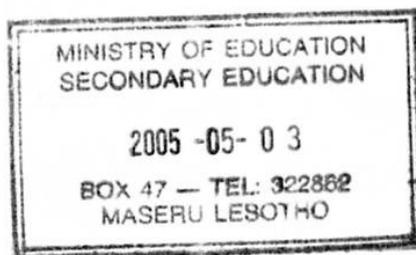
**VISUAL COMMUNICATION RESEARCH IN  
SECONDARY SCHOOLS**

Your letter dated 06/04/05 refers.

You are hereby informed that permission to conduct the mentioned research is granted. Enclosed is a letter of introduction to the schools you may wish to select.

Best wishes.

Yours sincerely,



  
LITŠIBA MAHLOKA  
CHIEF EDUCATION OFFICER – SECONDARY



LESOTHO

*Ministry of Education and Training*

Our Ref: ED/X/2  
Your Ref:

3 May, 2005

The Principal  
.....  
.....  
.....  
.....

Dear Sir/Madam,

**INTRODUCTION OF MR. OJO ADESOLA**

This letter serves to introduce Mr. Ojo Adesola, who is a Masters Degree student in Graphic Design at the Central University of Technology, Bloemfontein. He wishes to conduct research in “**Visual Communication**”, and permission has been granted by the Ministry of Education and Training.

Please accord him necessary cooperation and support, in order to make his endeavour a success.

Yours sincerely

**LITŠIBA MAHLOKA**  
CHIEF EDUCATION OFFICER - SECONDARY

**Addendum C: Questionnaire administered to learners at Maseru Day High School  
(pilot test) with visual literacy test**

Dear Student,

I am a Masters Degree Student in Graphic Design at the Central University of Technology, Free State, South Africa. I am presently working on my dissertation and would like you to complete this questionnaire. Please read through each question thoroughly before answering.

HIV/AIDS is a major health crisis worldwide and Lesotho is not an exception of this pandemic. Education is one of many ways to prevent the virus from spreading. We have observed that learners do not always understand visual campaigns that are meant to educate and inform, resulting in a positive change of behaviour and attitude. This has been so because of the inappropriate use of graphic imagery and other visual elements in many of these campaigns.

This questionnaire is anonymous and your answers and the information given by you will only be used for the purpose of this research.

In some questions you will have to provide an answers in your own words, others by choosing the appropriate answer from the multiple choice.

Thank you for your cooperation.

'Sola Ojo  
(+266) 58701775  
(+27) 824017126

---

Moithuti ya ratehang,

Ke moithuti wa Masters Degree in Graphic Design mane Yunivesithi e Bohareng ya Thekenoloji, Foreistata, Afrika Boroa. Ha joale ke ntse ke sebetsana le moqoqo waka o molelele o tšetlehleng ka sehlooho se itseng, 'me ke rata ha o ka tlatsa lenane lena la lipotso. Ka kopo balisisa potso e ngoe le e ngoe ka botlalo pele o araba.

HIV/AIDS ke tsietsi e kgolo e amang bophelo bo botle lefatšeng ka bophara 'me Lesotho ha se mokhelo phareleng ena. Thuto ke e ngoe ya mekgoa e mengata ya ho thibela kokoanahloko ena ho phatlalla. Re eelletsoe hore baithuti ha ba utloisise kamehla matšolo a bonoang, a reretsoeng ho ba ruta le ho ba bea leseling, hore litholoana tsa seo e be ho fetola boitšoaroka tsela e nepahetseng. Sena se bile joalo ka baka la tšebeliso e sa nepahalang ya litšoantšo tse hlalosang le lisebelisoa tse ling tse bontšoang matšolong ana a mangata.

Lenane lena la lipotso ha le hloke lebitso la motho, 'me dikarabo tsa hao le leseli leo o fanang ka lona li tla sebelisetsoa morero wa ho etsa lipatlisiso feela.

Ho tse ling tsa lipotso o tla tlameha ho fana ka likarabo ka mantsoe ao e leng a hao, ho tse ling o khetha karabo e nepahetseng likarabong tse ngata tse fapaneng.

Ke lebohela tšebeliso 'moho ya hao.

'Sola Ojo  
(+266) 58701775  
(+27) 824017126

## Questionnaire / Lenane la lipotso

School / Sekolo: \_\_\_\_\_

Class / Sehlopha: \_\_\_\_\_

Gender / Bong:  Male / Moshemane  Female / Ngwanana

Age / Lilemo: \_\_\_\_\_

Home language / Leleme la hae: \_\_\_\_\_

**Please mark with ✓ in the appropriate BOX to indicate your answer to the question**

**Ka kopo bontša ka letšao ✓ ka hara LEBOKOSE le nepahetseng ho bontša karabo ya hao potsong**

**1** Before you were enrolled in this school, where did you live / Pele o ingolisa sekolong sena, o ne o lula kae?

On a farm / Polasing

In a village / Ka hara motsana

In a town near a city / Toropong e haufi le toropo e kgolo

In a city / Ka hara toropo e kgolo

Name the place(s) where you have lived / Bolela libaka tseo o kileng oa lula ho tsona

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**2** I have traveled ... / Nkile ka etela ...

Never traveled out of Lesotho / Ha ke eso etele ka ntle ho Lesotho

Out of Lesotho / Ka ntle ho Lesotho

Name the countries or cities you have traveled to / Ngola mabitso a linaha kapa litoropo tse kgolo tseo o kileng oa li etela

\_\_\_\_\_  
\_\_\_\_\_

**3** I watch TV ... / Ke sheba thelevishini

Never / Ha ke e shebe hohang

Only during holidays / Ka matsatsi a phomolo feela

Once in a while / Hang ka nako e itseng

Everyday / Letsatsi le letsatsi

State your reason(s) for this / Bolela mabaka a hao mabapi le sena ? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**4** I read newspaper/magazine ... / Ke bala leselinyana koranta / makasine ...

Never / Ho hang

Only during holidays / Ka matsatsi a phomolo feela

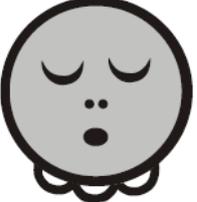
Once in a while / Hang ka nako e itseng

Everyday / Tsatsi le leng le le leng

State your reason(s) for this / Bolela mabaka a hao mabapi le sena ? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**What do these graphic images mean to you/what do they represent / Litšoantšo tse li bolela eng ho oena /li emetse eng?**

<p><b>1</b></p>  <p><input type="checkbox"/> Ball and tadpole /Bolo le mokulubete</p> <p><input type="checkbox"/> Ovum and sperm / Popelo le peo ya monna</p> <p><input type="checkbox"/> Insect and sugar / Kokonyana le tsoekere</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>	<p><b>2</b></p>  <p><input type="checkbox"/> Flower / Palesa</p> <p><input type="checkbox"/> Love/heart symbol / Lerato/setšoantšo sa pelo</p> <p><input type="checkbox"/> Toy / Sebalisa bana</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>	<p><b>3</b></p>  <p><input type="checkbox"/> Computer Cursor / Comporo tshupo</p> <p><input type="checkbox"/> Insect/ Kokonyana</p> <p><input type="checkbox"/> Line/Mola</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>	<p><b>4</b></p>  <p><input type="checkbox"/> Toothpaste / Sesepa sa meno</p> <p><input type="checkbox"/> Writing material / Ntlo e ngollang</p> <p><input type="checkbox"/> Puzzle representing male and female / Selotho se emetseng monna le mosali</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>
<p><b>5</b></p>  <p><input type="checkbox"/> Perfect love / Lerato la sebele</p> <p><input type="checkbox"/> Broken love/heart / Lerato le felileng/pelo e robehileng</p> <p><input type="checkbox"/> Broken toy / Sebalisa bana se robehileng</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>	<p><b>6</b></p>  <p><input type="checkbox"/> Arrow / Motsu</p> <p><input type="checkbox"/> Rewind / Khutlisetsa morao</p> <p><input type="checkbox"/> Fast forward / Ho ea pele kapele</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>	<p><b>7</b></p>  <p><input type="checkbox"/> Scissors / Sekere</p> <p><input type="checkbox"/> AIDS Ribbon / Ribono ya AIDS</p> <p><input type="checkbox"/> Ear ring / Lesale la tsebe</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>	<p><b>8</b></p>  <p><input type="checkbox"/> Fast forward / Ho ea pele kapele</p> <p><input type="checkbox"/> Rewind / Khutlisetsa morao</p> <p><input type="checkbox"/> Arrow / Motsu</p> <p><input type="checkbox"/> None of the above / Haho e leng teng ka holimo</p>
<p><b>9</b></p>  <p><b>What does this mean / Sena se bolela eng?</b></p> <p>Explain/ Hlalosa _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>10</b></p>  <p><b>What does this mean / Sena se bolela eng?</b></p> <p>Explain/ Hlalosa _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>11</b></p>  <p><b>What does this mean / Sena se bolela eng?</b></p> <p>Explain/ Hlalosa _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p><b>12</b></p>  <p><b>What does this mean / Sena se bolela eng?</b></p> <p>Explain/ Hlalosa _____</p> <p>_____</p> <p>_____</p> <p>_____</p>

**Addendum D:** Revised questionnaire administered to the learners at all five rural and urban high schools for imagery and message comprehension

 <p>1</p>	<p>Describe what you understand by this message Hlaloisa hore o utloisisang ka moleletsa ona</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>What do you understand by these imagery (illustration &amp; photo) in this poster / O utloisisang ka litšoants'iso tseena (molekolo le setšoants'iso)?</p> <p>_____</p> <p>_____</p> <p>_____</p>
 <p>2</p>	<p>What message does this poster mean to you? Moleletsa setšoants'iso sena o bolelang ho oena?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Do you recognise any of these people in the poster? Na u hlokomela empoee oa batho ba setšoants'isoeng se?</p> <p>Yes / Ee <input type="checkbox"/> No / Che <input type="checkbox"/></p> <p>If yes who? Ehang ae, mang? _____</p>
 <p>3</p>	<p>What do you understand by this message? O utloisisang ka moleletsa ona?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Can you differentiate between these three hands? Na o kgona ho eisa phapang mahareng a matsoho ana a marara?</p> <p>1 _____</p> <p>2 _____</p> <p>3 _____</p>
 <p>4</p>	<p>What message does this poster mean to you / Moleletsa setšoants'iso sena o bolelang ho oena?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>What does the red ball image in this poster represent / Balo e khubulu e setšoants'isoeng sena e emetse eng?</p> <p>What does the object moving towards the red means to you / Nitro e tsamaelang ho bofubelu e bolelang ho oena? _____</p>
 <p>5</p>	<p>What is this woman saying to the man in the poster? Mosseli enoa o re eng ho monna ya setšoants'iso sena?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>What is this circled object in the poster / Nitro e potapotsiweheng setšoants'isoeng sena ke eng?</p> <p>_____</p> <p>_____</p> <p>_____</p>
 <p>6</p>	<p>What do you understand by His &amp; Hers in this poster? U utloisisa eng ka "His &amp; Hers" e setšoants'isoeng sena?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>Do you recognise the image on the left in this poster? Ma u hlokomela e mpoee ea litšoants'isoeng?</p> <p>Yes / Ee <input type="checkbox"/> No / Che <input type="checkbox"/></p> <p>If yes what is it / Ehang ae, ke eng? _____</p>

	<p>This message means what to you? / Moleletsa ona o bolelang ho cema?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>This object means what in this poster? / Letšiso lena le bolelang setšentsong sena?</p> <p>_____</p> <p>_____</p>
<p>8</p> 	<p>What do you understand by this message / O utloisisang ka moleletsa ona?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>What do you understand by this  ..... / O utloisisang ka sena  .....</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>9</p> 	<p>What do you understand by this word Dignity? O utloisisang ka lentsoe lena <b>Dignity</b>?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>This bottle contains what? Bofelo ena e kerise eng?</p> <p>_____</p> <p>_____</p> <p>_____</p>
<p>10</p> 	<p>What do you understand by love life ? O utloisisang ka love life?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>What else do you see in this poster? Ntle le moo ke eng seo o se bonang setšentsong sena?</p> <p>_____</p> <p>Means what / Se bolele eng ? _____</p> <p>_____</p> <p>_____</p>
<p>11</p> 	<p>What do you understand by this message? O utloisisang ka moleletsa ona?</p> <p>_____</p> <p>_____</p> <p>_____</p>	<p>The circled object in this poster what does it stand for? Ntho e ikanyetsoeng setšentsong sena e emetse eng?</p> <p>_____</p> <p>_____</p> <p>_____</p>

## Efficacy questions

- 1** Have you seen any of these posters before / A ra o kile oa bona se seng litšoantšo tse latelang pele?  Yes / Ee  No / Che

If Yes, where / Ha eba ee bontša kae?

On Television  On billboard  Pamphlet/brochure  Newspaper/Magazine

- 2** Does any of these posters make you feel that if you do the recommended option you can avoid been infected by HIV/AIDS through a casual sexual intercourse / A engoe ea litšoantšo tse e ka etsa hore ha e tse se o se bolellong oqobe tsoaetso ea lifu le (HIV/AIDS) ka thobalano?  Yes / Ee  No / Che

If Yes, mark with an X / Haele e, tshoaea ka X

Poster 1  Poster 2  Poster 3  Poster 4  Poster 5  Poster 6  
 Poster 7  Poster 8  Poster 9  Poster 10  Poster 11  None

- 3** Does any of these posters make you feel that you should have a positive dream and work towards making the dream come true by abstaining from teenage sex? A e ngoe ea litšoantšo tse e tla nthusisa hore ke be le litoro tse phethahetseng hape ke be ke lifihlele ha ke sa etse thobalano ke le mocha.  Yes / Ee  No / Che

If Yes, mark with an X / Haele e, tshoaea ka X

Poster 1  Poster 2  Poster 3  Poster 4  Poster 5  Poster 6  
 Poster 7  Poster 8  Poster 9  Poster 10  Poster 11  None

- 4** Which of these posters make you feel you can help yourself from being infected with HIV/AIDS or other sexually transmitted diseases STDs / Ke efe ea litšoantšo tse e tlang ho o thusa hore o se ke oa tsoaetsoa ke lefu lena (HIV/AIDS) le mafu a mang a thobalano?

Poster 1  Poster 2  Poster 3  Poster 4  Poster 5  Poster 6  
 Poster 7  Poster 8  Poster 9  Poster 10  Poster 11  None

- 5** Which of these posters make you feel like HIV/AIDS and STDs are serious problems / Ke sefe setšoantšo se tla etsa hore o utloisise hore e e leng (HIV/AIDS) mafu a mang a thobalano li kotsi?

Poster 1  Poster 2  Poster 3  Poster 4  Poster 5  Poster 6  
 Poster 7  Poster 8  Poster 9  Poster 10  Poster 11  None

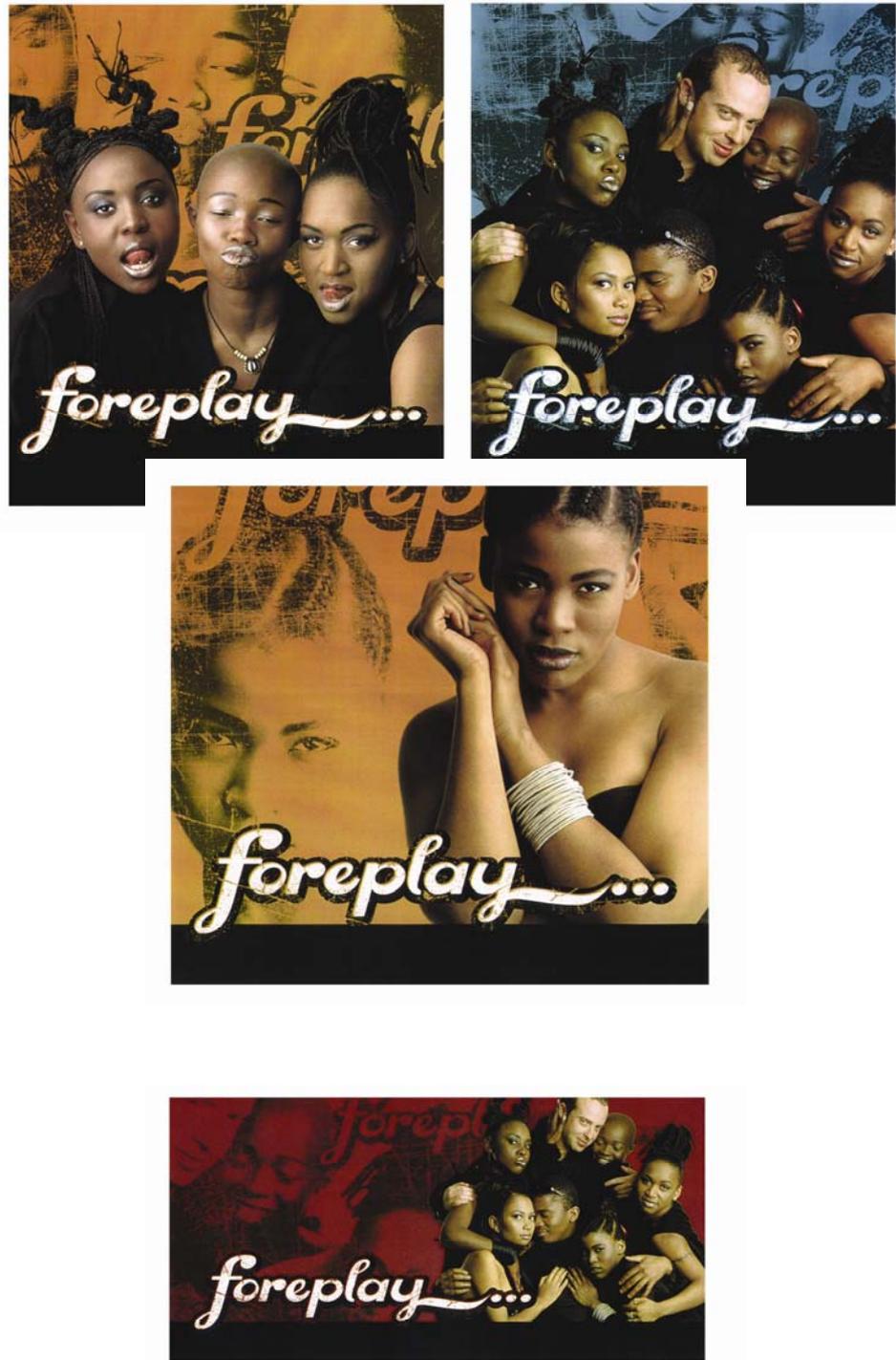
- 6** Which of these messages do you understand best / Ke ofe molaetso oo utlisisang hofeta e meng moo?

Poster 1  Poster 2  Poster 3  Poster 4  Poster 5  Poster 6  
 Poster 7  Poster 8  Poster 9  Poster 10  Poster 11  None

- 7** Which of these illustrations/pictures do you like most / Ke efe ea litšoantšo tse e o e ratang haholo?

Poster 1  Poster 2  Poster 3  Poster 4  Poster 5  Poster 6  
 Poster 7  Poster 8  Poster 9  Poster 10  Poster 11  None

**Addendum E:** Samples of *loveLife* campaign materials from 1999 to 2005



**Figure 9.** 1999 campaign -Foreplay



Figure 10. 1999 campaign- talk about it

**"I had sex. Will I die?"**  
Siphiwe. Age 14  
S'camto on **e** talk about it **love Life**

**"My boyfriend just wants sex."**  
Mellisa. Age 15  
S'camto on **e** talk about it **love Life**

**"My boyfriend is cheating on me - am I going to get a disease?"**  
Bettie. Age 12  
S'camto on **e** talk about it **love Life**

**"What if the condom comes off when he's inside me?"**  
Nomsa. Age 13  
S'camto on **e** talk about it **love Life**

**Sex Talk**  
S'camto on **e** talk about it **love Life**

Figure 11. 2000 campaign- S'camto talk (Talk about it)

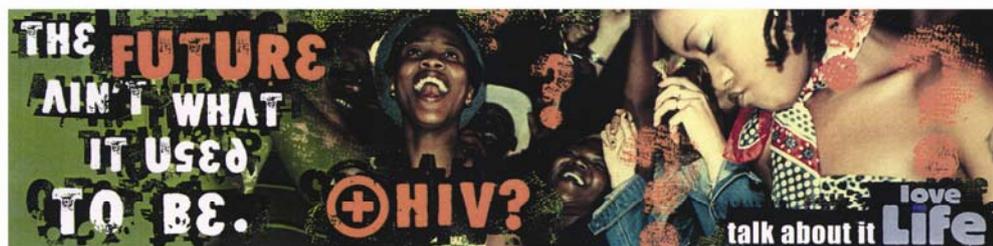
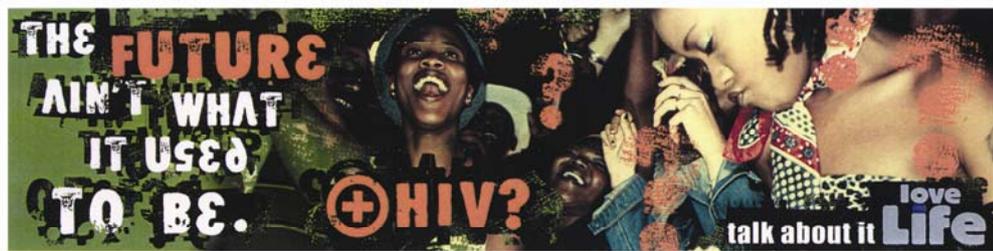
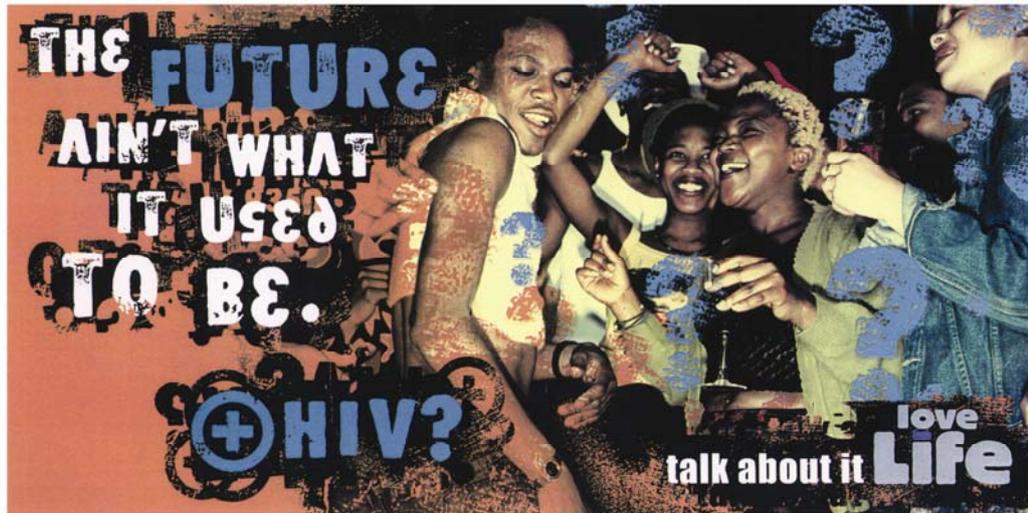
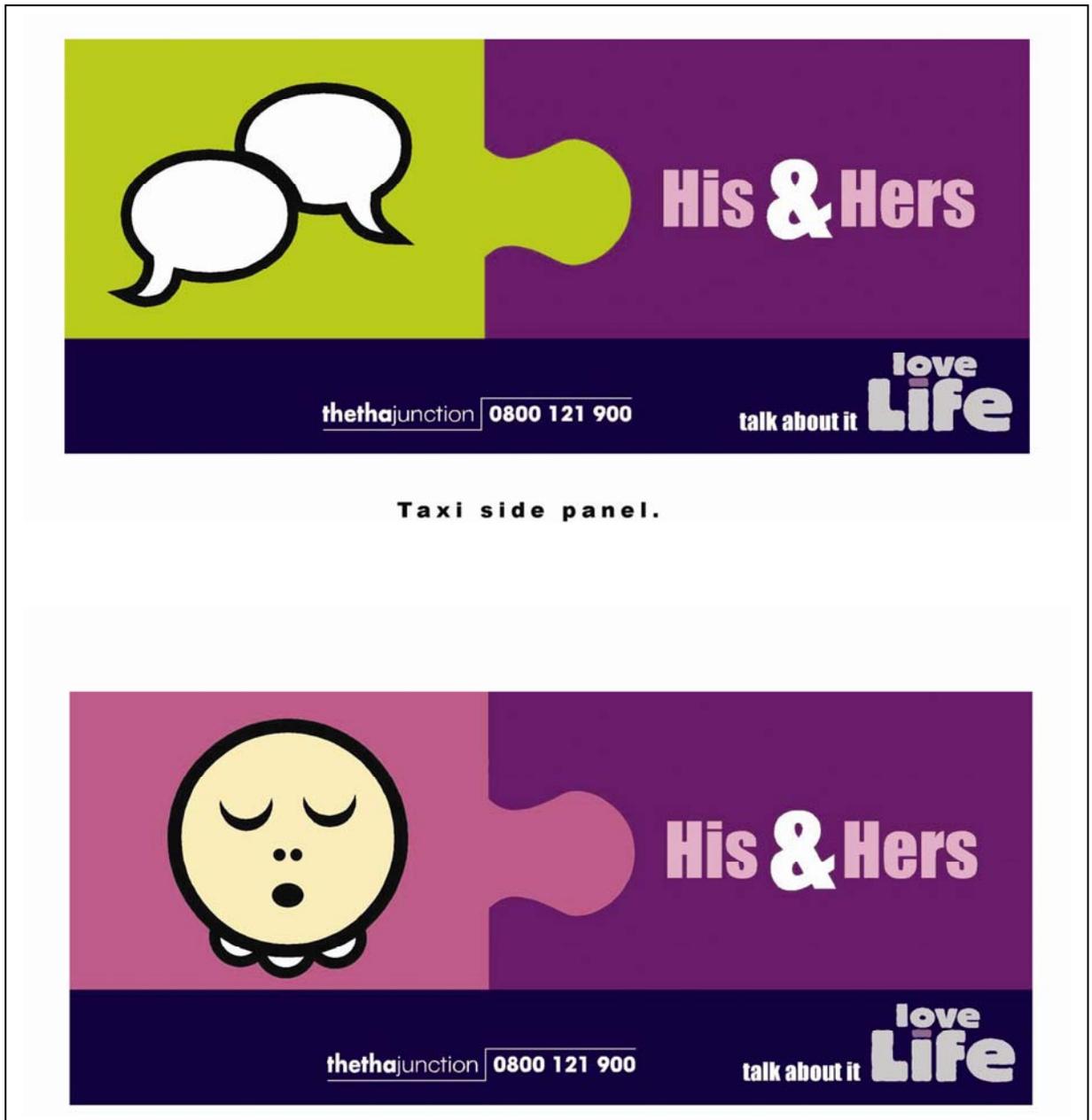


Figure 12. 2000 campaign- Third future (Talk about it)



Figure 13. 2001 campaign- Positive sexuality (talk about it)



Taxi side panel.

Figure 14. 2001 campaign (Shared responsibility)



Taxi side panel.



Taxi side panel.



Taxi side panel.

Figure 15. 2001 campaign(Shared responsibility)

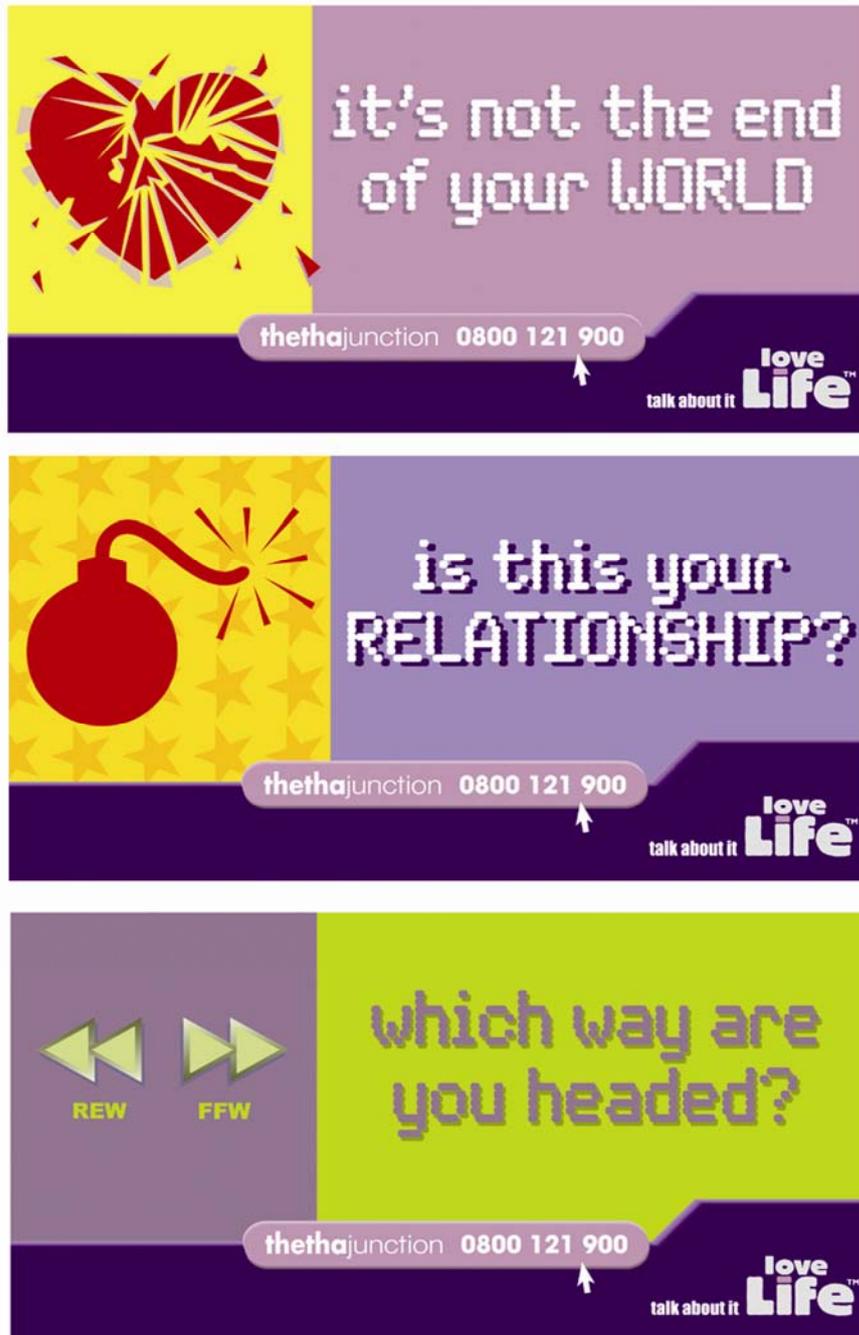


Figure 16. 2002 campaign -Phase 1

James 18

**“I only do it skin-on-skin”**

Zola 17

**“I told James to wrap it or zip it”**

thethajunction 0800 121 900

talk about it **love Life™**

Benzo 13

**“Eish...I’m doing too many funerals nowadays”**

Thuli 15

**“They say the late had so many partners...what’s sex gotta do with it anyway?”**

thethajunction 0800 121 900

talk about it **love Life™**

Sandy 15

**“I wanted to wait, but Abram was inside me before I could say no”**

Abram 17

**“Sssho...did I rape her? Now that we talk, I understand love is not just sex”**

thethajunction 0800 121 900

talk about it **love Life™**

Figure 17. 2002 campaign- Phase 2

Everyone he's slept with,  
is sleeping with you

thethajunction 0800 121 900

talk about it **love Life™**

One roll-on all women  
want

thethajunction 0800 121 900

talk about it **love Life™**

No pressure

thethajunction 0800 121 900

talk about it **love Life™**

Sex - worth waiting for

thethajunction 0800 121 900

talk about it **love Life™**

Figure 18. 2003 campaign-Phase 1



Figure 19. 2003-Phase2



Figure 20. 2004 campaign (love to be there)

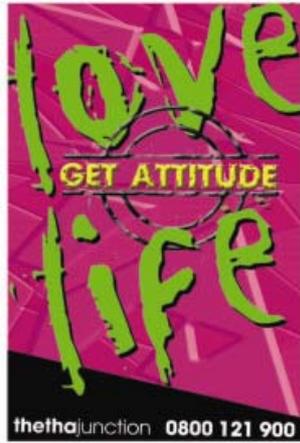


Figure 21. 2005 campaign (love life)

## Addendum F: Results of the survey

### Tables

Responses to Message comprehension questions	misunderstood		comprehended	
	Count	%	Count	%
Response to poster 1 message comprehension	177	58.8%	124	41.2%
Response to poster 2 message comprehension	260	86.4%	41	13.6%
Response to poster 3 message comprehension	133	44.2%	168	55.8%
Response to poster 4 message comprehension	45	15.0%	256	85.0%
Response to poster 5 message comprehension	144	47.8%	157	52.2%
Response to poster 6 message comprehension	100	33.2%	201	66.8%
Response to poster 7 message comprehension	98	32.6%	203	67.4%
Response to poster 8 message comprehension	145	48.2%	156	51.8%
Response to poster 9 message comprehension	156	51.8%	145	48.2%
Response to poster 10 message comprehension	155	51.5%	146	48.5%
Response to poster 11 message comprehension	129	42.9%	172	57.1%

Responses to Image comprehension questions	misunderstood		comprehended	
	Count	%	Count	%
Response to poster 1 Image comprehension	199	66.1%	102	33.9%
Response to poster 2 Image comprehension	221	73.4%	80	26.6%
Response to poster 3 Image comprehension	34	11.3%	267	88.7%
Response to poster 4 Image comprehension	29	9.6%	272	90.4%
Response to poster 5 Image comprehension	29	9.6%	272	90.4%
Response to poster 6 Image comprehension	149	49.5%	152	50.5%
Response to poster 7 Image comprehension	62	20.6%	239	79.4%
Response to poster 8 Image comprehension	115	38.2%	186	61.8%
Response to poster 9 Image comprehension	198	65.8%	103	34.2%
Response to poster 10 Image comprehension	159	52.8%	142	47.2%
Response to poster 11 Image comprehension	140	46.5%	161	53.5%

Responses to efficacy question 1	No		Yes	
	Count	%	Count	%
Does P1 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	249	82.7%	52	17.3%
Does P2 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	269	89.4%	32	10.6%
Does P3 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	247	82.1%	54	17.9%
Does P4 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	256	85.0%	45	15.0%
Does P5 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	171	56.8%	130	43.2%
Does P6 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	270	89.7%	31	10.3%
Does P7 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	268	89.0%	33	11.0%
Does P8 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	275	91.4%	26	8.6%
Does P9 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	266	88.4%	35	11.6%
Does P10 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	244	81.1%	57	18.9%
Does P11 makes you feel if you do the recommended option, you can avoid been infected by HIV/AIDS through a casual sexual intercourse	259	86.0%	42	14.0%

<b>Responses to efficacy question 2</b>	<b>No</b>		<b>Yes</b>	
	<b>Count</b>	<b>%</b>	<b>Count</b>	<b>%</b>
Does P1 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	170	56.5%	131	43.5%
Does P2 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	267	88.7%	34	11.3%
Does P3 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	281	93.4%	20	6.6%
Does P4 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	274	91.0%	27	9.0%
Does P5 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	274	91.0%	27	9.0%
Does P6 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	280	93.0%	21	7.0%
Does P7 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	239	79.4%	62	20.6%
Does P8 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	273	90.7%	28	9.3%
Does P9 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	266	88.4%	35	11.6%
Does P10 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	240	79.7%	61	20.3%
Does P11 makes you feel that you should have a positive dream and work towards making the dream come through by abstaining	250	83.1%	51	16.9%

<b>Responses to efficacy question 3</b>	<b>No</b>		<b>Yes</b>	
	<b>Count</b>	<b>%</b>	<b>Count</b>	<b>%</b>
Does P1 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	273	90.7%	28	9.3%
Does P2 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	271	90.0%	30	10.0%
Does P3 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	268	89.3%	32	10.7%
Does P4 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	276	91.7%	25	8.3%
Does P5 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	133	44.2%	168	55.8%
Does P6 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	286	95.0%	15	5.0%
Does P7 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	284	94.4%	17	5.6%
Does P8 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	281	93.4%	20	6.6%
Does P9 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	271	90.0%	30	10.0%
Does P10 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	266	88.4%	35	11.6%
Does P11 makes you feel you can help yourself from being infected by HIV/AIDS or other sexual transmitted diseases (STDs)	278	92.4%	23	7.6%

<b>Responses to efficacy question 4</b>	No		Yes	
	Count	%	Count	%
Does P1 makes you feel HIV/AIDS and STDs are serious problems?	294	97.7%	7	2.3%
Does P2 makes you feel HIV/AIDS and STDs are serious problems?	281	93.4%	20	6.6%
Does P3 makes you feel HIV/AIDS and STDs are serious problems?	217	72.1%	84	27.9%
Does P4 makes you feel HIV/AIDS and STDs are serious problems?	253	84.1%	48	15.9%
Does P5 makes you feel HIV/AIDS and STDs are serious problems?	257	85.4%	44	14.6%
Does P6 makes you feel HIV/AIDS and STDs are serious problems?	273	90.7%	28	9.3%
Does P7 makes you feel HIV/AIDS and STDs are serious problems?	289	96.0%	12	4.0%
Does P8 makes you feel HIV/AIDS and STDs are serious problems?	221	73.4%	80	26.6%
Does P9 makes you feel HIV/AIDS and STDs are serious problems?	282	93.7%	19	6.3%
Does P10 makes you feel HIV/AIDS and STDs are serious problems?	286	95.0%	15	5.0%
Does P11 makes you feel HIV/AIDS and STDs are serious problems?	238	79.1%	63	20.9%

<b>Responses to efficacy question 5</b>	No		Yes	
	Count	%	Count	%
Is P1 delivering your best comprehended message?	206	68.4%	95	31.6%
Is P2 delivering your best comprehended message?	281	93.4%	20	6.6%
Is P3 delivering your best comprehended message?	266	88.4%	35	11.6%
Is P4 delivering your best comprehended message?	260	86.4%	41	13.6%
Is P5 delivering your best comprehended message?	243	80.7%	58	19.3%
Is P6 delivering your best comprehended message?	280	93.0%	21	7.0%
Is P7 delivering your best comprehended message?	263	87.4%	38	12.6%
Is P8 delivering your best comprehended message?	267	88.7%	34	11.3%
Is P9 delivering your best comprehended message?	265	88.0%	36	12.0%
Is P10 delivering your best comprehended message?	246	81.7%	55	18.3%
Is P11 delivering your best comprehended message?	219	72.8%	82	27.2%

<b>Responses to efficacy question 6</b>	No		Yes	
	Count	%	Count	%
Is P1 your most preferred method of illustration/imagery?	209	69.4%	92	30.6%
Is P2 your most preferred method of illustration/imagery?	247	82.1%	54	17.9%
Is P3 your most preferred method of illustration/imagery?	275	91.4%	26	8.6%
Is P4 your most preferred method of illustration/imagery?	286	95.0%	15	5.0%
Is P5 your most preferred method of illustration/imagery?	253	84.1%	48	15.9%
Is P6 your most preferred method of illustration/imagery?	292	97.0%	9	3.0%
Is P7 your most preferred method of illustration/imagery?	272	90.4%	29	9.6%
Is P8 your most preferred method of illustration/imagery?	290	96.3%	11	3.7%
Is P9 your most preferred method of illustration/imagery?	252	83.7%	49	16.3%
Is P10 your most preferred method of illustration/imagery?	236	78.4%	65	21.6%
Is P11 your most preferred method of illustration/imagery?	251	83.4%	50	16.6%

## Addendum G: Report of the first pilot test

### Pilot study

The aim of this first pilot study is to determine if the questions asked in the questionnaire were appropriate, straightforward and adequate to allow the participants to express their feelings and understanding sincerely. Furthermore, to determine the likely time it will take individual subject to complete the survey.

### Subjects

The subjects were 6 Sesotho speaking female volunteer students of Art and Design Foundation Class of the School of Design Technology and Visual Art, University of Technology, Free State who participated in this study. Their ages are between 18-25 years.

### Materials

Eleven HIV/AIDS prevention outdoor posters were selected from the 55 *loveLife* outdoor campaigns ran from the year 1999 to 2005. These eleven posters represent the semantic and pragmatic imagery that were used in the *loveLife* outdoor materials. Three to five questions were asked on each poster about the imagery and message comprehension.

### Results

The average times spent for the completion of these questionnaires were 45minutes. The result shows that 80% of the questions were understood. The participants suggested that, big posters should be used to complement the images on the questionnaire for the evaluation, certain words in the questionnaire to be changed to simpler ones and have the questions written in both English and Sesotho. These suggestions and comments were used to revise 20% of the questions that were confusing. (See below table and figure for the results of the pilot test).

**Table 1** Showing the results of the pilot test

Subject	Time	Age	P 1	P 2	P 3	P 4	P 5	P 6	P 7	P 8	P 9	P 10	P 11
1	45	18	0-1-0	1-1-1	1-0-1	1-0-1	0-1-1-1-1	0-1-1	0-1-1	1-1-0	1-1-1	1-1-0-0-1	1-1-1
2	35	18	0-1-0	1-0-0	1-1-1	1-1-1	1-1-1-0-0	0-1-0	1-1-1	1-1-0	1-1-1	1-0-1-1-0	1-1-1
3	45	18	0-0-0	0-0-0	1-1-0	0-0-1	0-1-0-1-1	1-1-1	0-1-1	1-1-0	1-1-1	1-0-0-0-1	1-1-1
4	50	20	0-1-0	1-0-0	1-1-0	0-0-0	0-1-1-1-1	0-1-1	0-1-1	1-1-1	0-0-0	1-0-0-0-1	0-1-0
5	50	21	0-0-0	1-0-0	1-1-0	0-0-0	0-1-0-1-1	0-1-1	0-1-1	1-1-1	0-0-1	1-0-0-0-1	1-1-0
6	42	25	0-1-0	1-1-1	1-1-1	1-1-0	1-1-1-1-1	1-1-1	0-1-1	1-1-1	1-0-1	1-1-0-0-1	1-1-1
<i>Sum/ Average</i>	44.5	20	0-4-0	5-2-2	6-5-3	3-2-3	2-6-4-5-5	2-6-5	1-6-6	6-6-3	4-3-4	6-3-1-1-5	5-6-4