

Persuading South Africans at risk of HIV/AIDS to voluntarily present themselves for counseling, testing and referral (VCT): Using theory and empirical evidence in formative research for VCT message design

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Abstract

Despite the severity of the HIV/AIDS-epidemic in South Africa, VCT programmes have not been used effectively to support prevention and care and support programmes. The efficacy of these VCT programmes are currently impeded by a variety of factors at the level of policies, infrastructure and provisions (the PIP-level), but also by the inefficacy of communication interventions (CI's) to persuade those at risk of HIV/AIDS to present themselves for VCT.

In this article it is hypothesized that the limited impact of communication interventions on the uptake of VCT is an outcome of, amongst others, the fact that the design of these interventions are not informed by theory-driven empirical research on the determinants of VCT uptake behaviour in the South African context. This article provides a theoretical and empirical exploration of the contextual and personal determinants of VCT uptake behaviour that could serve as basis for the determination of the critical determinants which will have to be addressed in pro-VCT communication interventions.

KEY TERMS: VOLUNTARY COUNSELING AND TESTING (VCT), DETERMINANTS OF VCT UPTAKE BEHAVIOUR, VCT CAMPAIGN MESSAGING, THEORY- AND EVIDENCE-BASED MESSAGES DESIGN, INTERVENTION MAPPING

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1 Introduction

It is generally accepted that to effectively redress HIV/AIDS in a country, requires not only adequate prevention and care and support programmes, but also adequate VCT programmes. VCT programmes both support and link HIV/AIDS prevention programmes and HIV/AIDS care and support programmes (cf. UNAIDS 2001(a)/2001(b)).

Despite the high prevalence of HIV/AIDS in South Africa (nationally estimated to be 11 %), VCT has only recently been prioritized as a strategy in redressing the HIV/AIDS epidemic (cf. Masuko 2001). The uptake of VCT has also been low: only an estimated 18,4 % - 19% of the population have been tested for HIV and in fact know their serostatus (cf. Pettifor et al. 2004, Shisana and Simbayi 2002).

This has some dire consequences for the public health effort to redress the HIV/AIDS epidemic in South Africa: high-risk individuals that are not aware of their HIV-status but continue unsafe sex practices are major drivers of new infections. Those who are infected with HIV do not get linked (or linked early enough) to the available care and support services to help them cope with the severe physical, mental, social and economic impact of the disease.

The implementation of effective VCT programmes in South Africa have been impeded by a number of factors at the level of policies, infrastructure and provisions (the PIP-level). Besides evaluation reports of current VCT programmes (cf. Doherty et al. 2003, Magongo 2002, Masuko 2001, Skinner et al. 2002), the national and international media have also given prominence to these issues, especially within the context of the continuing battle between the South African Government and advocacy groups such as the Action Treatment Campaign about the provision of antiretroviral therapy (ART) to the estimated half a million people living with HIV/AIDS who are urgently in need of ART (cf. Hassan 2005 for a recent overview).

However, very little research has been forthcoming on the efficacy of the communication programmes that are needed to support VCT services in South Africa. Given the fact that those at risk of HIV/AIDS have proven to be reluctant to present themselves for VCT, VCT services have to be supported by effective communication programmes to inform those at risk about VCT services and to persuade them to present themselves for VCT.

Despite the fact that pro-VCT messages have been (and still are) part of all national HIV/AIDS mass-media campaigns in South Africa (cf. the Beyond Awareness campaign, The Khomanani/ Khomanani-Soul City campaign and the loveLife campaign) the low uptake of VCT strongly suggests that these campaigns have not been optimally effective in persuading those at risk of HIV/AIDS to voluntarily present themselves for VCT.

The impact evaluations of two recent VCT communication interventions also testifies to this fact. The evaluation of the VCT component of government's Khomanani Living Positively Campaign (LPC) clearly shows that it had *no* impact in increasing

the uptake of VCT and that in some sectors of the population the uptake of VCT had in fact declined (cf. Department of Health 2004). Likewise, the evaluation of the first 13 episodes (of a planned 26) of the education-entertainment television series *Tsha Tsha* indicates that it had very little impact on the uptake of VCT. Although the increase in the uptake of VCT was statistically significant (7%), the intervention designers hasten to point out that the increase could most probably not be credited to the series itself (Kelly et al. 2005).

Given the importance of VCT in the fight against the HIV/AIDS epidemic in South Africa, this raises the following questions for urgent action research:

- Why are these VCT communication interventions not effective?
- What can be done to optimize their efficacy in persuading those at risk for HIV/AIDS to present themselves for VCT?

VCT communication interventions can fail for a variety of reasons, the lack of adequate VCT policies, infrastructure and provisions no doubt being one such reason. However, based on the data available in the evaluations reports of the *Positive Living Campaign* and of the *Tsha Tsha* series (see, Department of Health, 2002(a)/2004 and Kelly et al. 2005) it can be hypothesized that the limited impact of these interventions can be ascribed to, amongst others, the fact that their design was not supported by adequate, theory-driven empirical formative research on the contextual and personal determinants of the VCT uptake behaviour of their target audiences.

To be effective, any intervention or interventions to increase the uptake of VCT would have to redress the problematic determinants (barriers) of VCT uptake behaviour and support those that facilitate it (cf. Fishbein and Yzer 2003). Decisions as to what these barrier and facilitating determinants are, how they relate to each other, and precisely how they are to be addressed in different kinds of interventions cannot be left solely to the intuition of intervention designers, but must be based on *theory and theory-driven empirical research* (cf., for example, Atkin 2001/2002, Bartholomew et al. 2001, Glanz, Rimer and Lewis 2002 and Kok et al. 2004).

The main goal of this article is to provide such a theoretically and empirically motivated analysis of the contextual and personal determinants of VCT uptake behaviour. This analysis could then serve as basis for deriving the critical determinants of the VCT uptake behaviour of specific South African subpopulations, in deciding which of these determinants should and could be addressed in VCT interventions, and which intervention types should or could be used to address them (cf. Fishbein, Von Haften and Appleyard 2001, Fishbein and Yzer 2003 and Von Haften et al. 2001 for a general discussion of these steps in designing communication interventions).

A short discussion is provided in Section 2 of the VCT process and its role in curbing the HIV/AIDS epidemic. Section 3 focuses on the determinants of the uptake of VCT. Given the critique against interventions that only aim at changing health-related behaviours at the individual level, a general ecological framework for

analyzing the determinants of VCT is outlined first. However, as most pro-VCT communication interventions are aimed at increasing the uptake of VCT at the individual level, it is indicated how the Integrative Behaviour Model (IM) of Fishbein (cf. Fishbein 2000, Fishbein and Yzer 2003), as an individual-level psychosocial theory, slots into an ecological approach to the determinants of VCT uptake behaviour. Using the IM as theoretical framework, Section 4 explores the psychosocial determinants of VCT uptake behaviour in more depth. Empirical support for this analysis is derived from existing research on the determinants of the VCT uptake behaviour of different target audiences.

As will be indicated, analyzing the major contextual and personal determinants of the VCT uptake of different South African target audiences is no simple or mechanical procedure. Despite the claim that such an analysis must be theoretically and empirically motivated, most of the available theories for such an analysis are psychologically underspecified and key constructs are not clearly conceptualized. Furthermore, it is not always clear how the available empirical data should be interpreted theoretically.

2 VCT as a behavioural process

The major activities that comprise VCT delivery are pre-test counseling, the HIV-test, posttest counseling and referral to appropriate care and support services (cf. Figure 1). These activities are standardized in a number of protocols (cf. Birdsall et al. 2005(a)/2005(b)).

There are a number of advantages of the early detection of HIV/AIDS and of being aware of one's HIV-serostatus (cf. Peltzer et al. 2002). VCT provides the opportunity for counselors to assist high-risk individuals to assess their level of risk, develop realistic plans to reduce their risk, and to increase safer sex practices. For people who test negative, the knowledge of their serostatus should be an impetus for changing their risky sexual behaviour and for regular testing for HIV and STD's. Knowing that one is sero-negative could also alleviate psychological symptoms such as worry, anxiety and feelings of hopelessness and despair.

People who test HIV-positive can be referred to active care and support services and they can make informed decisions about life-style changes to protect and boost their immune systems and to prevent infection of others with HIV, about marriage, sexual relationships, pregnancy, care for one's siblings, TB screening, and the use of ART. Early treatment of opportunistic infections and utilization of available care and support systems can help them live productive and meaningful lives.

PRE-TEST COUNSELING	TEST	POST-TEST COUNSELING	FOLLO W-UP
Assess reasons for testing Assess risk/screen for risk Assess current beliefs and attitudes about HIV infection Provide HIV-prevention education		Counseling after a negative HIV result: HIV-prevention education; referral for clients with problematic high-risk	Access and utilize existing care and support services

<p>Provide information about test and testing technologies: procedure to be followed, confidentiality of test results, implications of test results Get informed consent</p>		<p>behaviours). counseling after a positive HIV result: Education on managing physical and mental issues, social relations, safe-sex practices; partner notification; referral for medical and psychosocial support and care.</p>	
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Figure 1: VCT phases and activities

HIV-testing is never a goal in itself, but clearly motivated by prevention and care and support goals. Consequently the efficacy of VCT programmes are, in turn, also co-determined by the availability of effective prevention and care and support programmes.

Given the foregoing, the major health-promoting behavioural norm (or the medical norm) promoted by most VCT communication interventions is therefore that one should go for counseling and get tested early for HIV if you have run the risk of being infected with HIV, thereby (i) to prevent infecting others with HIV or HIV-reinfection of yourself or others (prevention goal/motivation) and (ii) to get access to the available care and support systems if you have been infected with HIV or have progressed to the stage of AIDS (care and support goal/motivation).

Research also indicates that despite the low uptake of VCT, a large section of the South African population think that one should know your HIV-serostatus (cf. Pettifor et al. 2004, Shisana and Simbayi 2002 and Van Dyk and Van Dyk 2003). The question is therefore why those at high risk of HIV/AIDS do not voluntarily present themselves for counseling, HIV-testing and referral. This is the topic of the following sections.

3 Mapping out the contextual and personal variables of VCT uptake behaviour

Strong arguments have been made for the fact that problematic health-related behaviours are a function of a complex range of contextual and personal determinants, and, consequently that attempts to change such behaviours should therefore address both the contextual/ecological and the personal determinants of the behaviour (cf., for example, Kelly and Parker 2001; Kelly, Parker and Lewis 2001; and Parker 2004). The logic is simply that it makes little sense to try and change a set of personal determinants of a behaviour if the behaviour itself is co-determined by a range of contextual variables.

In line with these ecological approaches, this section first outlines such an ecological approach to VCT uptake behaviour and the complexity of the relationship between the variables at different levels and their impact on decisions about the uptake of VCT at the individual level is illustrated. Secondly, the relationship between individual-level changes and the impact of contextual variables on VCT uptake behaviour are explored by way of an explication of the IM of Fishbein (cf. Fishbein

2000 and Fishbein and Yzer 2003).

3.1 Ecological approaches

Ecological models of health-related behaviour and behaviour change would suggest that a range of personal variables (cognitions and emotions) and a range of contextual variables at the interpersonal, communal, and societal/institutional levels - as these are framed and determined by the specific cultural, socio-economic and political contexts of specific target audiences - could motivate the uptake of VCT.

The different ecological levels and some of the variables which are at stake is presented in Figure 2.

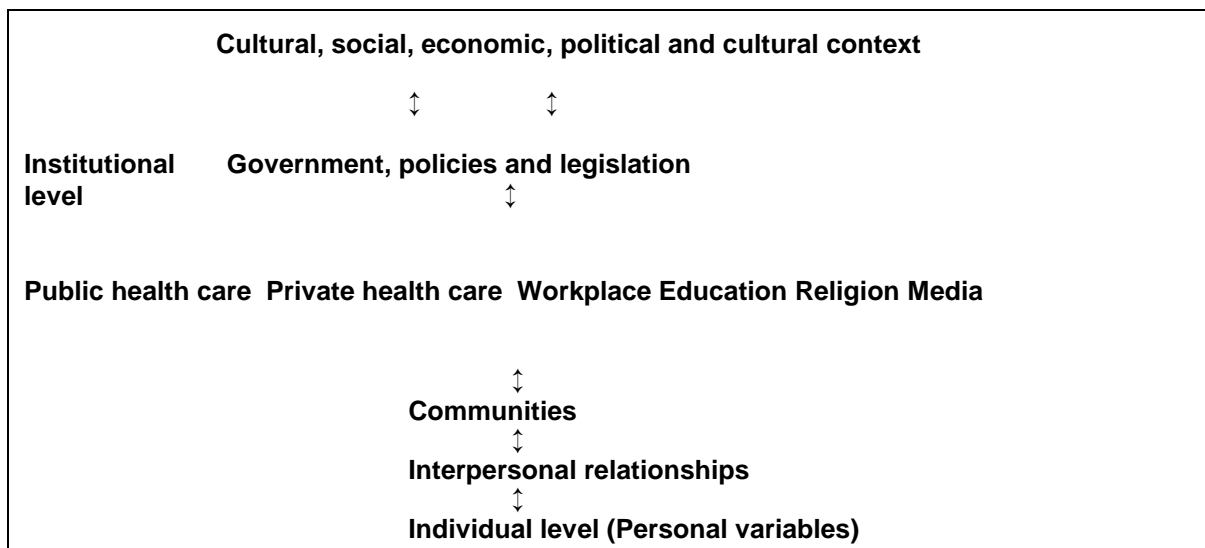


Figure 2: An ecological approach to health-related behaviour change

The relationship between individual decision-making variables and processes and those of the impacting environment or context are often presented as a number of concentric spheres, with the individual at the center and the successive rings representing influences of interpersonal relationships, community relationships, and influences of the society at large in which individuals and communities are embedded (see, for example, Bartholomew et al. 2001: 5-7, DiClimente, Wingood and Crosby 2003 and Sallis and Owen 2002).

Although environmental models or frameworks would suggest that a host of interlinked variables on different levels will determine individuals decisions' whether or not to present themselves for VCT, currently no overarching grand theory exists that identifies the relevant variables at each level, explicitly link these variables on different levels, and clearly define the exact nature of the relationships between them. Furthermore, no body of research - either internationally or South African-orientated - has been forthcoming that systematically and comprehensively investigates all the relevant determinants on each of these levels and the way they impact on individuals' decisions whether or not to present themselves for VCT.

What VCT intervention designers do have at their disposal to get a grip on these

variables and their relationships, however, are (i) a number of general behavioural theories that focus on some of the determinants of behaviours at each level which could be used to map out the possible determinants of VCT uptake behaviour (see, for example, Bartholomew et al. 2001 and Glanz, Rimer and Lewis 2002 for overviews of such theories), and, (2) a growing body of published local and international research that does focus on some of the determinants of VCT uptake behaviour on some of these levels.

Although not researched in any depth, the complexity of the relationship between the variables at these different levels and the way they impact on individuals' decisions whether to go for VCT can be illustrated by the role that current VCT policies in South Africa and their implementation play in people's decisions to go for VCT.

As indicated in the introduction, the South African government has been heavily criticized for its VCT policies and their implementation and the way these impact on the provision of VCT facilities, services and provisions in the public health sector. In this regard they have been consistently challenged by activist groups, the Treatment Action Campaign (TAC) being the most active of local groups.

Some of these problems are the lack of political leadership in the fight against HIV/AIDS and the dissident views of President Mbeki and the current Minister of Health, Manto Tshabalala-Msimang, government's VCT policies and their inability to implement current policies, provision of infrastructure and services in the public health sector, and especially the slow response in the provision of antiretroviral therapy (ART) for those in need of it. In response, the TAC have taken government to court in an attempt to get it to implement existing VCT policies, have staged public protests, and used lobbying to speed up the improvement of VCT facilities and services (cf. Hassan 2005). These struggles between Government and activist groups, however, are also played out in the media, and media coverage of these issues are the main source South Africans have of precisely what is wrong with current delivery of VCT programmes at the PIP-level.

That such media coverage does have an impact on public opinion about government's handling of the VCT-related matters and current problems with VCT programmes is reflected by surveys such as Shisana and Simbayi (2002:91), which reports on the public's opinion of government's handling of VCT-related issues, more specifically of the need to provide ART to those in need of it. Little research has however been forthcoming to indicate precisely what impact media coverage of these issues has on people's decisions whether or not to present themselves for VCT. As suggested by most of the media impact theories discussed in Bryant and Zillman (2002), for example, there is no simple linear relationship between media coverage and changes in the cognitions, attitudes and behaviours of their target audiences. (Cf. in this regard also Kiwanuka-Tondo 2004.)

In general, thus, the ecological framework suggests that a variety of contextual factors could impact directly or indirectly on people's decisions whether or not to present themselves for VCT, but precisely how, is still undertheorized and under-

researched in many respects. Of these, the impact of testing laws and the use of the law as measure against stigmatization of PLWA on the uptake of VCT has most probably been the only aspect that has been studied in any depth (cf. Burris 1998 and 1999 for an overview). With regard to the other variables (for example the impact of the church, school, social norms, social support systems, etc.) little theory-driven research has been forthcoming that explicate what the relevant variables at the different levels are and precisely how they impact on the individual-level decision-making processes and behaviours.

3.2 Individual-level theories

Most current research on the uptake of VCT focuses on individual-level decision-making processes. However, given the assumption that individual-level decisions as to whether one should present yourself for VCT is the behavioural end-point of a range of converging contextual and personal influences (cf. DiClemente, Wingood and Crosby 2003:366), it also stands to reason that at the individual level these

contextual concerns will also surface in people's beliefs, attitudes, and intentions (or concerns) with regard to the uptake of VCT. *Psychosocial* models aiming to explain and predict personal-level behaviours and their determinants in fact capture this relationship between the personal and the contextual-level by specifying which personal *and* contextual variables at these different levels are the most predictive of behaviour change or explain the most variance in these behaviours.

One such model is the Integrative Behavioural Model (IM) of Fishbein (cf. Fishbein 2000 and Fishbein and Yzer 2003). The major constructs of the IM and their relationships are presented in Figure 3.

As a general behavioural model, the IM embodies the assumption that although a wide range of personal and contextual variables may motivate people's decisions

whether or not to present themselves for VCT, only a limited number of these, viz. the proximal variables, will be the most predictive of VCT uptake behaviour, or explain most of the variance in the uptake behaviour of various subpopulations. These proximal variables have been identified from three psychosocial behavioural theories - also often used in research on VCT uptake-behaviour - and incorporated into the IM: the Health Belief Model, Social Cognitive Theory and the Theory of Reasoned Action (cf. Fishbein and YZER 2003:164-165).

With regard to the uptake of VCT, the IM would predict that the intention to go for VCT is the strongest predictor of whether people will indeed present themselves for VCT. The intention to go for VCT, is in turn a function of three sets of beliefs: beliefs about the outcomes of going for VCT and their evaluation as being either positive or negative (attitudinal beliefs), beliefs about whether salient others think one should go for VCT and one's willingness to comply to this behavioural norm (normative beliefs), and people's subjective assessments of whether they think they will be able to go for VCT, despite any barriers that may impede them from doing so (efficacy beliefs).

If one has formed an intention to go for VCT, actually presenting oneself for VCT could be mediated by people's beliefs about whether or not they possess the skills to do so and their assessment of the environmental barriers that may exist and of one's ability to overcome those barriers.

In line with approaches to behaviour change as a process (cf. for example, the health action process model in Schwarzer 1999) one could see the proximal variables as major constructs which are operative in two processes: a motivational one that leads to the forming of an intention to go for VCT and in which attitudinal, normative and efficacy beliefs dominate, and a volitional one following on intention formation in which people contemplate action goals and action plans and in which concerns about one's skills and environmental barriers to going for VCT dominate.

The proximal beliefs are distinguished from the set of personal and contextual distal beliefs. The IM hypothesizes that the distal variables impact indirectly on people's intentions to go for VCT via the impact they have on the different proximal beliefs. As such they should also be reflected in the analysis of the determinants of VCT uptake behaviour (cf. Fishbein and Yzer 2003:166, 168), as they may need to be addressed in specific messages.

These distal beliefs/variables include, besides culture (i.e. culture-specific norms, values and practices with regard to health behaviour) and one's information environment (exposure to information from the mass media, one's informal informational networks, contacts with people living with HIV/AIDS (PLWA)) also a wide range of personal determinants that could impact on the uptake of VCT. The latter category includes variables that relate to demographics (age, sex/gender, education level, locality), personality traits, moods and emotions, personal knowledge of HIV/AIDS (modes of transmission, transmission prevention, knowledge of VCT), people's stereotypes they have of HIV/AIDS and PLWA and

their stigmatization attitudes toward the latter, people's subjective perception of their own susceptibility to HIV/AIDS and one's past behaviour (that is, if one had already tested for HIV or not and is or may be considering retesting).

The distal variables also represent those determinants of a behaviour which are unchangeable (such as gender, race/ethnicity and age) and those which are of a structural, institutional or personal nature and are very difficult to change (for example, cultural beliefs, attitudes, values and practices, socio-economic status, educational levels, as well as personality traits and the stereotypes people have of other groups).

As will be indicated below, in analyzing the determinants of the VCT uptake behaviour of different subpopulations, intervention designers can hardly ignore the way in which these individual- level beliefs or concerns are embedded in wider contextual concerns. For example, women's fear of violence should they test HIV-positive and have to disclose their HIV-positive status to their sexual partners, clearly links to the structural/cultural determinants of gender roles and the use of violence in relationships within a specific culture (cf. Kistner 2003). People's concerns about follow-up care should they test positive, links with (their assessment) of the structural deficits in the health care provision in a community (or the social capital of the community) on which they are dependent; and people's concerns about the confidentiality of their test results clearly link to their concern about the stigmatization and discrimination of PLWA in a society. In assessing the personal/subjective beliefs that motivate people's decisions whether or not to present themselves for VCT, these links between personal beliefs and their contextual antecedents are often made, especially if changing those personal beliefs are also dependant on changing the contextual determinants themselves.

The IM also embodies the assumption that there may be much variance across individuals and subpopulations as to which of the proximal variables are the most salient in their decisions whether or not to present themselves for VCT. Consequently empirical research is necessary to establish which of these determinants facilitate or act as barriers to the uptake of VCT and which of these should be addressed in communication interventions.

For example, any one or combination of the attitudinal, normative and efficacy components can strengthen or weaken the intention to present oneself for VCT. Some individuals or subpopulations, on the other hand, may already have developed a strong intention to go for VCT, but are deterred from doing so as a result of environmental barriers and/or beliefs about their skills to do so. For these two groups different interventions are necessary focusing on different variables: attitudinal, normative and efficacy beliefs in the first case, and perceptions of skills and environmental barriers in the second (cf. in this regard the quantitative survey results in Awad et al. 2004, Boshamer and Bruce 1999, Day et al. 2003; Kalichman and Simbayi 2003; Kellerman et al. 2002, Pettifor et al. 2004; Rutenburg et al. 2001, Shisana and Simbayi 2002; Van Dyk and Van Dyk 2003/ In press, but also Burris's 1998 critique of survey research on the determinants of VCT) .

Research also indicates that the predictive and explanatory value of the IM will decrease if the determinants of and VCT itself is considered as a *behavioural category* (i.e. presenting oneself for VCT), but that it will *increase* if these determinants are considered (and measured) as they relate to the specific VCT uptake behaviours as these are determined by the specifics of the action (presenting oneself voluntarily), target (for counseling, testing and referral), context (at a public health clinic, at a private clinic, to one's personal physician, etc.) and time (within a week, over three months).

As Capella, Yzer and Fishbein (2003) note, a change in any one of these parameters constitutes a different behaviour which may be motivated by completely different attitudinal, normative or efficacy beliefs, beliefs about one's possession of the necessary skills to perform the behaviour and about barriers to perform the behaviour. For example, pregnant women would be more motivated to go for VCT in an antenatal clinic for entry to a programme to prevent Mother-to-Child transmission of HIV, while other women may find it extremely difficult to present themselves for VCT in a public health facility to gain access to an anti-retroviral programme. Research also indicates that some people find it difficult to present themselves for VCT at sites where health care providers know them personally, while they are more motivated to go for VCT at a site where nobody knows them personally. Measurement of the attitudinal, normative and efficacy beliefs, as well as people's perceptions of whether they have the necessary skills to perform the behaviour or the barriers under consideration should therefore be aligned to the specifics of the VCT behaviour under consideration.

Applying the IM as theoretical framework for the analysis of the determinants of the VCT uptake-behaviour of South Africans poses a number of problems for intervention designers. The first of these relate to the model itself; the second to the availability and usability of current empirical research on the uptake of VCT and its determinants.

The first of the model-specific problems is the fact that it is not always clear how key constructs should be conceptualized and hence operationalized. For example, there is still much debate about the conceptualization of the efficacy construct (cf. Ajzen 2002) and the normative construct (cf. Rimal and Real 2003, Terry and Hogg 1996) of the model. Key concepts are also defined in such a way as to suggest conceptual overlap between them (i.e. cross-over effects). For example, the definition of the self-efficacy construct overlaps with the definition of control or ability to perform the propagated behaviour, while it is also accepted that people's beliefs about their efficacy in performing the behaviour is co-determined by their beliefs in their mastery of the skills to perform the behaviour (cf. Bandura 1994). Such cross-over effects have implications for the independence of the variables/constructs of the IM. On the more practical level of discerning and classifying people's beliefs this may result in sets of beliefs which could overlap or that are not mutually exclusive.

The second problem is the fact that (at least as presented), a number of the proximal variables are undertheorized in as much they are not explicitly linked to theories that explicate what the structure of their underlying beliefs are. Consequently it is not

always clear what these beliefs could be, how they relate to each other and how they relate to intention to perform a behaviour (cf., for example, Rimal and Real 2003 on the relationship between behavioural norms and their impact on behaviour/behavioural intention).

Thirdly, although the IM predicts that the distal variables have their impact on intention and behaviour via their impact on the proximal variables, the IM - like the ecological model discussed above - is mum on the exact nature of the relationship(s) between the distal and proximal variables; for example, it is not specified, how culture (as distal variable) impacts on one's normative beliefs (a proximal variable) (cf. however, Singelis and Brown 1995), or how one's exposure to a specific information environment (a distal variable) impacts on one's beliefs about testing HIV-positive/being a person that will have to live with HIV/AIDS (attitudinal beliefs; a proximal variable).

Furthermore, it is not always clear what the status of these constructs as either distal or proximal variables are, more specifically, what the status of the susceptibility construct is in this regard (cf. Fishbein 2003) . Fourthly, there is not equally strong empirical evidence for the predictive status of each of the proximal variables and their hypothesized relationships. The strongest empirical support has come for the hypothesized relationship between attitudinal and efficacy beliefs, intention and behaviour, but it is far weaker for the hypothesized relationship between normative beliefs and behavioural intention, and for the mediating impact of skills and environmental barriers (cf. Fishbein et al. 2003).

There is a dearth of research on the determinants of the VCT uptake behaviour of South African subpopulations. The only studies that could be traced that focus on the determinants of VCT uptake behaviour are Birdsall et al. (2005a)/(2005b); Day et al. (2003); Kalichman and Simbayi (2003); Kelly 2000; Kelly and Parker (2000); Leclerc-Madlala (1997); Pettifor et al. (2004); Rutenburg et al. (2001), Shisana and Simbayi (2002); Van Dyk and Van Dyk (2003/ In press). However, the usability of these studies for the design of VCT communication interventions research is impeded by a number of methodological and theoretical problems, for example, there often is a lack of clear theoretical conceptualization and measurement of key constructs; key constructs are mostly only measured directly, i.e. the belief structure of constructs are not analyzed, and often convenience samples of respondents are used, which affects the generalizability of the research results.

Given the general aim of getting as broad and in-depth understanding of the determinants of VCT uptake behaviour in this first step of formative research, the South African studies were supplemented with a number of others which analyze the determinants of the VCT uptake behaviour of partially comparable populations in African countries (Horizons 2001; Kayawe, Kelly and Baggaley 1998; Nuwaha et al. 2001; Painter 2001; Peltzer and Mpofu 2002; PSI 2003; Ruzvidzo 2002; and UNAIDS 2001) and the USA (cf. Awad et al. 2004; Boshamer and Bruce 1999; Boswell and Baggaley 2002; Family Health International/YouthNet 2002(a)/(b); Henry J. Kaiser Family Foundation 1999; and Kellerman et al. 2001).

The choice of studies for this article was limited to those that focus on national samples and/or adolescents, since the main routes of the transmission of the HIV virus in South Africa is via unprotected sex in heterosexual relationships. Although there is some variation in the weighting of the determinants of VCT-uptake behaviour across these populations, there is also considerable overlap. Given the space limitations of an article such as this, the research outcomes of each study is not reported, but all-in-all, these studies do provide empirical support for the relevance of each construct of the IM as variables in people's decisions whether or not to present themselves for VCT.

4 Using the IM for formative research on the determinants of VCT uptake behaviour

The IM hypothesizes that the single best predictor of whether people will present themselves for VCT will depend on whether or not they have formed the intention to present themselves VCT. The intention to present oneself for VCT is itself a function of the attitudinal, normative and efficacy beliefs one has about going for VCT.

Before discussing these proximal constructs and their underlying beliefs, however, one has to get clarity on the role of susceptibility beliefs or risk perception. In the IM it is given the status of a distal variable, mainly because of its lack of predictive power in HIV/AIDS prevention behaviours (cf. Fishbein 2003). However, it is given as a prominent indicator of intention to go for VCT in a number of studies: a low risk perception is given as one of the main reasons why people do not go for VCT, while a high risk perception is given as one of the main reasons why people do go for VCT (cf., for example Pettifor et al. 2004; Shisana and Simbayi 2002). Given that a low risk perception could be the outcome of a number of systematic biases and that a high risk perception could lead to defensive denial (Van der Pligt et al. 1993, Witte, Meyer and Martel 2001), intervention designers need to get clarity on its status as distal or proximal variable.

4.1 Risk assessment

VCT is primarily aimed at those who engage in unsafe sex practices and who, as a result, have thus placed themselves at risk of having contracted HIV/AIDS. Assessing one's risk of having contracted HIV, is therefore often seen as a necessary (although not sufficient) condition in the decision-making process of deciding whether or not one should present yourself for VCT.

In survey research (cf. for example Pettifor et al. 2004:55) people's subjective assessment of their risk is determined by asking them to rate their chances of acquiring HIV/AIDS on a scale (no risk at all, small risk, moderate risk, great). Optimistic biases clearly operate in this assessment as a number of researchers have indicated. In Pettifor et al's. (2004) sample of South African youth, for example, only 14% indicated that they were at great risk of getting HIV/AIDS, despite the high prevalence of HIV/AIDS in this group and high levels of unsafe sex practices. That these assessments are clearly biased, is indicated by the fact that

62% of the youth which tested positive (as part of the survey) thought that their chances were small of contracting HIV or that they were at no risk at all.

A low-risk perception is also linked negatively to the intention to go for VCT: if people believe that they are not at risk of HIV/AIDS, it makes no sense to go for VCT. On the other hand, survey data also indicates that a high risk perception is one of the main motivators for people to go for VCT (cf., Kellerman et al. 2001 and Van Dyk and Van Dyk 2003).

Whether people's perceptions of their risk of HIV should be treated as a proximal or as a distal variable, is an empirical question that has to be decided by determining what the impact of risk perception is on people's intentions to go for VCT, after one has controlled for the impact of the other proximal variables of the IM (cf. Capella, Yzer and Fishbein 2003, Gerrard et al. 1993 and Fishbein 2003). However, given its potential impact on intention to go for VCT, intervention designers have to get an in-depth understanding of the belief structure underlying the risk construct and how it could impact on intention to go for VCT.

Research (cf. Linville, Fischer and Fischhoff 1993, Van der Pligt et al. 1993, Weinstein 1984, Weinstein and Klein 1995) suggests that HIV/AIDS risk assessment could be a function of any one or more of three kinds of risk assessment: absolute, cumulative and comparative risk assessment. In VCT research, assessment of HIV/AIDS risks, forms part of a more comprehensive decision-making process in which people assess the threat HIV/AIDS poses for the self. Such a threat perception is itself a function of both one's assessment of your susceptibility to HIV/AIDS and your assessment of the severity of HIV/AIDS. Most South Africans see HIV/AIDS as a severe illness (health threat) (cf. the discussion in Section 4.2), so that their assessment of their risk of contracting it could have a major impact on whether they decide to present themselves for VCT or not.

Absolute risk judgments are an outcome of a process in which one has to assess one's susceptibility to HIV/AIDS on the basis of one's past and present sexual behaviours, their degree of risk (given one's knowledge of how HIV/AIDS is transmitted and the fact that one could have been infected by a single unprotected act of penetrative anal or vaginal sex), and the HIV/AIDS serostatus of one's partner.

People could thus have a low risk estimate in terms of an absolute risk-assessment if they have not engaged in unsafe sex practices, or they could have a sense of high-risk if they have. As research indicates, those that do go for VCT mostly fall within the latter category (cf. Rutenberg et al. 2001) and their subjective and objective estimates of their susceptibility to HIV/AIDS correlate highly.

As Van der Pligt et al. (1993) indicates, though, a number of systematic biases could effect this assessment: small probabilities are overestimated (as is the case of the "worried well" that do go for VCT), large probabilities are underestimated, people suppress past behaviours (especially if they were risky), or simply cannot recall them accurately, focus on current sexual behaviours (especially if they are considered to be safe), or they simply discredit the belief that one can acquire HIV/AIDS from a

single act of unprotected anal or vaginal sex with an HIV-infected person.

Comparative risk refers to the fact that people also assess their risk relative to the risk they ascribe to comparable others, for example their friends or people of their own age. Unrealistic optimism refers to the fact that people overestimate the risk for HIV/AIDS of comparable others and underestimate their own risk compared to this referent group. As Van der Pligt et. al. (1993) argue, this egocentric bias is a function of the fact that people know what risk reducing behaviours they themselves perform, but not those that the reference group enact to avoid getting HIV.

One of the major factors underlying unrealistic optimism is that people have an illusory sense of being able to control the possibility of HIV-infection, for example, by washing their genitals after sex, having access to condoms should they be needed, and being able to screen one's sexual partner for HIV-infection on the basis of their physical appearance, and social and character traits. With regard to the latter, people's own stereotypes of PLWA pertaining to their physical appearance, and social, personality and moral attributes are used as point of reference for the screening process.

Unrealistic optimism is hypothesized to be moderated by personal experience of the consequences of risk behaviours, i.e. of what the consequences are for oneself or for referent others (for example, getting an STD, getting HIV/AIDS) for engaging in the unsafe sexual behaviours (cf. Van der Pligt et al. 1993: 46). It is therefore hypothesized that knowing someone with PLWA should in fact increase one's own sense of risk for HIV. However, empirical support for the relationship between knowing someone with HIV/AIDS and assessment of one's own risk for HIV/AIDS is inconsistent (cf., for example, Pettifor et al. 2004).

Cumulative risk assessment refers to assessing one's risk on the basis of the accumulation of one's risk of acquiring HIV as a consequence of repeated episodes of unsafe sex. As Linville, Fischer and Fischhoff (1993) argue, acquiring HIV in a single sexual encounter is in fact quite small and near to zero if one's partner is not from a high risk group. But risk accumulates over repeated acts of unsafe sex with HIV-infected partners. However, people have difficulty in judging their own accumulative risk, and they typically underestimate their own accumulative risk for HIV, but overestimate the accumulative risk of others.

Whereas a low risk perception (whatever its source) will impact negatively on the intention to go for VCT, research indicates (cf. for example Witte, Meyer and Martell 2001 and Ruiter, Abraham and Kok 2001) that an estimate of a high risk for a severe illness such as HIV/AIDS can evoke in people high levels of fear. With regard to VCT, this in turn could instigate either of two processes: fear control processes (defensive denial of risk, avoiding exposure to HIV/AIDS messaging, denigrating of VCT messages, etc) or danger control processes (seeking more information on VCT if one believes it would contain reassuring messages, going for VCT). Given the threat that an assessment of high risk for HIV/AIDS poses for one's self concept (threats to one's own evaluations of yourself as physical, social and moral being), fear control processes are often instigated to protect one's self-esteem (cf. Nabi 1999, Ruiter,

Abraham and Kok 2001 and Witte, Meyer and Martell 2001).

Little research has been forthcoming as to how the presence of physical symptoms impacts on people's assessments of their risk for HIV and on finally presenting themselves for VCT. In a study on a sample of late middle-aged men and women, Siegel, Schrimshaw and Dean (1999) did however find that the absence of symptoms negatively influenced people's willingness to go for VCT, while the effect of the presence of symptoms on going for VCT was dependent on whether or not these symptoms were attributed to other illnesses or the process of aging. Unwillingness to go for VCT when people do not have symptoms was motivated in this case by people's beliefs that one is only ill if you already have physical symptoms, and by people's resistance to accepting an illness identity. People's unwillingness to go for VCT if they do not yet present with HIV/AIDS symptoms was also found by Day et al. (2003) in their sample of mine workers. In general though, this research also indicates that unwillingness to go for VCT is motivated by general and often gender specific conceptions of when you are in fact ill and when you should seek medical help (cf. also Stein and Nyamathi 2000). On the other hand, sizeable portion of those people who do go for VCT, do so on advice of health care providers and often because symptoms are present (cf. Van Dyk and Van Dyk 2003).

Assisting those at risk for HIV/AIDS in making an accurate assessment of their risk for HIV/AIDS should therefore be one of the major goals of VCT messaging. Providing high-risk groups with information about HIV/AIDS and the transmission routes of HIV infection, what constitutes safe and unsafe sex, what VCT is, and especially providing information on who should go for VCT, is an effort to assist people in making such judgements.

Based on research on risk assessments, Janz, Champion and Strecher (2002) also suggest that to counter the biases that operate in risk assessments, intervention designers should also clearly define the population at risk and their risk levels, personalize the risk of the target audience on the basis of their characteristics and unsafe sex behaviours, and by presenting their susceptibility in a way that is consistent with their actual risk. Another strategy often used is to counter the beliefs people have about their control over getting infected, for example their beliefs that they can avert infection by screening their partners or by washing their genitals after unprotected sex. The Time-line procedure developed by Weinhardt (cf. Weinhardt 2002) is another effort to counter the tendency people have of suppressing past risk behaviours.

As hypothesized in Schwarzer (1999), risk assessment sets the stage for contemplation, and only some degree of risk may be needed to set the whole process in motion in which people will consider most of the proximal variables outlined in the IM as part of their decisions whether or not to present themselves for VCT. As Weinstein and Klein (1998) indicate though, changing people's perception of their risk of HIV/AIDS is complicated and few laboratory interventions have a success record. No research has been forthcoming on precisely how successful current risk-messaging in VCT interventions in fact are in assisting people in making

such risk assessments.

One explanation for why changing people's risk perceptions may be difficult, may be that provided by Cline (2003: 293- 294), viz. that people simply do not think of unsafe sex in terms of health-risks, but in terms of what unprotected sex means in terms of one's identity and social relationships. Realigning such thinking to health risks while at the same time supporting the positive associations and beliefs people have of sex, is one of the big challenges facing intervention designers.

4.2 Attitudinal beliefs

Attitudinal beliefs are those the people have about the positive and negative consequences of going for VCT. As indicated by Alonzo and Reynolds (1995), those contemplating VCT ideate about the consequences of going for VCT and evaluate these consequences as positive or negative in terms of their own knowledge of HIV/AIDS (irrespective of its source) and their stereotypes of PLWA.

Research indicates that people in fact see few advantages of going for VCT, but that they could hold a host of negative beliefs about the consequences of doing so. The latter relate to (i) the various activities that comprise VCT, (ii) the consequences of testing HIV-positive, i.e being a person that has to live with HIV/AIDS and (iii) beliefs about follow-up care and support services. As (i) relates to the environmental barriers people may experience in going for VCT, this aspect is addressed in Section 4.6.

Not wanting to know whether one is HIV-positive is a major determinant of why people do not want to go for VCT (cf. Kellerman et al. 2001 and Van Dyk and van Dyk 2003). However, not wanting to know one's HIV-status is a consequence of various beliefs people have about the negative physical, emotional, social, and economic consequences one will have to face up to if you test HIV-positive and of having to live as person with HIV/AIDS. Besides beliefs about threats to one's life and disruption of one's social support network, people also fear the threats posed by having HIV/AIDS to their self-esteem, values and their sense of future.

Common barrier beliefs that reflect people's concerns about testing HIV-positive and which generates high levels of fear, relate to

- having to cope with the intense emotional turmoil after receiving a positive HIV test result
- having to cope with the consequences of being HIV-positive:
 - having to disclose one's HIV-status
 - coping with stigma, rejection by significant others in one's life and the community,
 - coping with the possible physical abuse from partners
 - coping with the mental consequences of the disease (suffering from depression and dementia, self-blame, coping with the threats to one's self esteem and the loss of a sense of future, coping with constant uncertainty),

- coping with the physical consequences of the illness (dying prematurely, opportunistic infections, wasting of the body and external physical signs of the illness, dying a painful death, not having access to proper care and support)
- coping with the economic consequences of the illness (losing one's job, not having access to the means for taking care of oneself, being an economic burden on others, losing one's home or shelter, insurance and medical aid, etc.)

The negative beliefs about being HIV-positive have their origin in a variety of information sources that feed into people's stereotypes of being a person that has to live with HIV/AIDS: media portrayals, including HIV/AIDS campaigns, information one gathers from one's informal information networks (peers, family), or from direct experience with people living with HIV/AIDS.

Burris (1998:867) comes to the conclusion that the threats people believe exist should they test HIV-positive are unstable, heterogeneous, multi-factorial, complex, and contingent on socio-economic status, gender, and possibly race and age. We thus need more quantitative and qualitative research into what people are afraid of in their terms to be able to design interventions that could address them.

Broadly viewed though, the beliefs about the negative consequences of testing HIV reflects the major personal, interpersonal, communal and societal barriers PLWA have to face on a daily basis in living with the illness: the inadequacies of the public health care system to provide one with the means to cope with the physical and mental consequences of the illness, disclosure of one's HIV-status, stigmatization and rejection on the interpersonal and communal level, inequalities in gender relationships and especially the physical abuse of women, and facing up to economic hardships as a result of the lack of social and financial support.

These concerns extend to various aspects of the environment which do not support or encourage people to present themselves for VCT. Consequently, addressing these concerns will require interventions at both the contextual and the personal level. These issues (and sometimes the way they impact on people's decisions whether or not to present themselves for VCT) are explored in a number of studies which could support in-depth analyses of these personal and contextual determinants, the way they impact on VCT uptake behaviour, and in coming up with interventions to adequately redress them. See, for example, Jennings et al. (2002). Nyblade (2004) and Richter (2001) on HIV/AIDS-related stigmatization and discrimination; and, Maman et al. (2001) and Kistner (2003) on HIV/AIDS-related gender violence.

Lets take a closer look at some of the major barrier beliefs, threats and concerns.

Beliefs about the physical suffering that HIV/AIDS brings, is not indicated as one of the most important barrier determinants, but beliefs about threats to one's identity (self-concept) and relationships are dominant. With regard to the relational determinants, research almost universally indicates that fear of AIDS-related stigma

- given some contextual variation - is one of the major barriers to VCT. Fear of stigma relates to fears of having to disclose one's status, and fears about breaches of one's right to confidentiality and privacy. As Burris (1998:864) indicates, concerns about privacy is not so much a social risk in itself as it is about breaches of confidentiality being the cause for other social harms. Fear of breaches of confidentiality/ the right to privacy is thus only a proxy for other concerns, viz. those that may follow if it becomes known that one is HIV positive or thought to be so. As Goffman (1966) already noted, the fear of being stigmatized immediately raises people's concerns about the issue of who has control (and of getting that control) over information about one's stigmatizing condition.

In this regard people may not only fear breaches of confidentiality by others, but also their own ability to keep the information a secret. Not going for VCT, may well be the best strategy of concealing the stigma in the first place. Managing one's stigma may be a very stressful event if you have to conceal this information while trying to maintain otherwise rewarding relationships (cf. Burris 1998:871).

The small number of studies on the determinants of VCT uptake behaviour in South Africa, also unanimously indicate that fear of stigmatization is a major obstacle to the uptake of VCT. Van Dyk and Van Dyk (2003/in press), for example, list the following as the main barriers to the uptake of VCT: breaches of confidentiality by health care workers, fear of being discriminated against by health care workers, general lack of trust of the health care system, and fear of disclosure of one's HIV-positive status to sex partners.

As some of these studies indicate, people fear that they may be subjected to stigmatization simply on the basis of suspicion that one might be HIV positive, i.e. irrespective of one's real HIV-serostatus (cf. Day et al. 2003) . As such a situation may arise when one is seen at a VCT site, or being seen with health care providers working at such sites, or who provide care and support to PLWA, people actively avoid such associations. This fear as a result of mere association, also extends to people who might be at risk of TB, given that having TB has also been linked with being HIV-positive (cf. Kelly and Parker 2000).

The weight that the fear of AIDS-stigmatization plays in people's decision whether or not to go for VCT, is perhaps best illustrated by research that clearly indicates that people will decline access to ART - currently the biomedical intervention that has the greatest positive impact on AIDS-related morbidity and mortality -given their often overwhelming fear of being stigmatized (cf. Hassan 2005 and Centre for Actuarial Research 2003).

However, precisely what people fear with regard to stigmatization and VCT is not always clearly spelt out in most VCT-studies. As Burris (1998:856) notes, these analyses do not define the construct of 'fear of stigmatization', i.e. what precisely its cognitive antecedents are, how these cognitions are formed, precisely how they influence people's decisions whether to test or not, or what intervention designers may do to influence it or alter its impact.

Different populations may hold various of these beliefs about the possibility of being stigmatized and they may differ in the weighting they give to these beliefs and concerns in deciding whether to go for VCT or not. Many in fact think they will not encounter stigmatization and discrimination, so that intervention designers cannot simply assume the force of stigma in decision-making on VCT uptake behaviour.

There is also much variance with regard to the content of their stigmatizing beliefs and fears. For example, young people are more concerned by rejection by their peers and family and are therefore also equally concerned about issues of confidentiality of their HIV-status and disclosure of it (cf. Boshamer and Bruce 1999, Peltzer et al. 2002). Women in steady relationships, on the other hand, give more weighting to the issue of having to disclose their status to their partners and the possible consequences of rejection (loss of partner, loss of income) and physical and mental abuse/violence. Males are often more concerned about disclosure of their status and rejection by sexual partners, rejection by their families and lack of (home-based) care and support from them. Some people may fear discrimination in some contexts, but not in others and these subjective assessments may or may not be tied to the actual (objective) level of threat posed by stigmatization.

Disclosure could also be feared because disclosure of one's HIV-status could entail disclosure of other stigmas: being gay, having sex with men, being a sex worker, having extramarital affairs, etc. Disclosure and fear of disclosure would probably thus also be affected by one's awareness of one's other stigmatizing features.

A number of studies on HIV/AIDS-related stigmatization and discrimination show clearly how stigmatization and discrimination manifests itself in different institutional and non-institutional contexts and what the antecedents of such anti-social behaviours towards PLWA and those closely associated with them (family, friends, care-givers, etc.) are (cf., for example, Jennings et al. 2002, Nyblade et al. 2004 and Richter 2001). These studies could be used as basis for research to determine the role of fear of stigmatization in the context of VCT and especially what variance is at stake.

The relevant socio-economic risks that are at stake for people considering VCT, depend largely on their social-economic status. Potential loss is only at stake, for example, if you have a job, and could get access to a home-loan or insurance. There is thus no universal threat in this regard, emphasizing the need to empirically investigate these issues.

Some of the advantages/positive consequences (facilitating determinants) of going for VCT that have been indicated in studies are that VCT reduces one's uncertainty about your status if you are at risk of HIV/AIDS. Most other beliefs relate to the advantages of VCT as propagated in the VCT norm discussed in Section 2: VCT is the gateway to personal risk counseling and reducing risk of (re)infection of oneself and of infecting others, and it is a gateway to proper care and support should you test HIV-positive. In pro-VCT messaging though, a number of other advantages are often mentioned under the rubric of *Advantages of VCT*: being in a position to plan

your future, making a will, planning for marriage and having children.

A determinant not often mentioned or discussed in the literature is the impact of considerations people have of the advantages and disadvantages of *not going for VCT*, especially if they are in the asymptomatic stage of the HIV-disease trajectory. Advantages are that one can (although temporary) suppress thoughts about the negative consequences of testing HIV-positive. Some people in fact prefer living with the uncertainty of not knowing their HIV-status and keeping their hopes alive that they may not be infected than facing the life-changing consequences of knowing for certain that they are HIV-positive.

The flip side of these advantages are the disadvantages of not knowing one's status: having to manage strong feelings of uncertainty, living with the fear that one could infect your sexual partners, not getting access to the means to taking proper care of one's health or consciously doing so to avoid damaging one's immune system.

A general assumption of expectancy-value models such as the IM is that people will weigh up the net costs and benefits of the disadvantages and advantages of going/not going for VCT, and that they will choose the behavioural option that maximizes the most benefits for themselves. Studies of the use of pragmatic argumentation in health-related decision-making processes (cf. Hoeken 2005) also suggest that people will consider the fact whether or not each of the negative or positive outcomes will in fact materialize for them personally (cf. the discussion above). This could account for the fact that for some people, some of the advantages or disadvantages do not feature in their considerations of whether or not they should present themselves for VCT or not.

As is discussed below, Fishbein and Yzer (2003) also indicate that across subpopulations one must expect much variance with regard to which of the attitudinal outcomes are weighted as being the most important in people's VCT decision-making. Researchers (cf. Byrnes 2003, Lapsley 2003 and Steinberg 2003) have also indicated that adolescents health-related behaviours are often not motivated by either rational or conscious decision-making processes, which would suggest that across subpopulations, intervention designers may be confronted with variation as to how rationally and consciously people may have considered the pros and cons of presenting themselves for VCT before pitching up at VCT sites.

A number of biases seem to operate in how people assess the consequences of testing HIV-positive. For example, people rate an event as likely if it is easy to imagine or recall (the availability heuristic). Availability may be a function of frequency, but also such factors as vividness or horror. For example, stories about imaginable events such as the discrimination suffered by PLWA, their physical and mental pain, stories of job losses and loss of status as a result of leaked HIV information may enhance people's perceptions that it is more likely to occur to them. Merely discussing or mentioning a low-probability event, for example in a brochure on VCT, may increase its availability and hypervigilance may blow it up to a serious threat. Stories of discrimination suffered by a relatively small group of PLWA, for example, could disproportionately effect a potential testee's assessment of

information about one's serostatus being leaked and the consequent risk materializing for them. "Horror stories" about low-probability events (cf. also myths) among those at risk of HIV, may well explain the prevalence and strength of their risk perceptions. In as much as the social risk of testing is determined by such "horror" stories, efforts to assure people that there are feasible solutions to some of these negative consequences may be of no consequence or solace for them at all (cf. Burris 1999, 1998).

As VCT brings a number of uncertain risks, the social risk can in fact only be definitely avoided by not testing. On the other hand, unrealistic optimism (the belief that "it can't happen to me") may lead some people to believe that the worst negative consequences will not materialize. In as much as optimism is a dispositional trait, such dispositional factors and the impact on the decision to go for VCT, also have to be studied directly.

In as much as people's assessment of the advantages and disadvantages of VCT is critical in their decisions whether or not to go for VCT, the IM suggests a number of persuasive strategies that could be used in designing pro-VCT messages: (a) only focusing on the advantages of VCT (but this may have a negative effect on source credibility if people hold a number of beliefs about a number of disadvantages of VCT; cf. Atkin 2002), (b) providing both the advantages of VCT and the disadvantages, but minimizing the disadvantages, refuting beliefs people may have about the disadvantages, or making tactical concessions about the existence of possible disadvantages, but downplaying their importance (cf. also Atkin 2002: 63), (c) to emphasize the negative consequences of not going for VCT. However, the principle of informed decision-making in health matters and the ethical consequences of trying to persuade people to adopt a behaviour that might do them harm should inform the choice of strategies in this regard (cf. Guttman 1997).

4.3 Normative beliefs

The normative construct of the IM aims to capture the motivational aspect that behavioural norms (descriptive and injunctive) have in individual-level decision-making processes on whether or not to engage in a behaviour. According to Fishbein and Yzer (2003:166), subjective norms are viewed in the IM as being "a function of normative beliefs (i.e. beliefs that a specific individual or group has regarding whether one should or should not perform the behaviour in question) and motivations to comply to this norm (i.e. the degree to which, in general, one wants to do what the referent thinks one should do)".

Much of the confusion around the conceptualization and measurement of the normative construct in VCT uptake behaviour is side-stepped in surveys by simply asking respondents whether they agree with a statements as to (a) whether they think each of the significant others in their lives think that they should go for VCT if they have run the danger of being infected with HIV, and as to (b) whether they personally think that they should/would do so if they are at risk of having contracting the virus. However these survey items measure the normative construct only directly and they do not test (or elicit) the more specific beliefs that constitute or motivate

communal and personal norms about the uptake of VCT.

In this regard the IM is theoretically underspecified in as much as it does not provide an explicit theory which indicates which (kinds of) beliefs constitute a behavioural norm, how norms are negotiated in interpersonal and communal contexts and how such norms have an impact on personal decision-making processes (cf. Rimal and Real 2003, but also Albrecht and Goldsmith 2003).

With regard to the uptake of VCT, very little research has also been forthcoming as to these issues. Precisely what the norm or norms are with regard to VCT and how they impact on VCT uptake behaviour has not been systematically researched. For one, people enter into different role relationships when in interaction with either a sex partner, peers, one's family or with a health care provider and different norms about VCT may in fact be operative in such contexts.

As indicated in Section 1 though, it could be ventured that the general (medical) norm is the one propagated in pro-VCT campaign messages and in medical contexts. However, different norms may be propagated in different role-relationships and different motivations to comply with these could be at stake when people consider what impact VCT may have on themselves and their relationships (with one's sex partner, your parents or your friends) (cf. Cline 2003).

The complexity that arises when opposing norms are at stake is clearly illustrated in Skinner et al. (2002) with regard to provision of ART to pregnant women in an Eastern Cape community. Leclerc-Madlala (1997) also suggests that in some communities the general VCT norm is not propagated because of the beliefs people have about the negative consequences of knowing one's HIV-status (depression, dementia and hastened death) and the belief that there is in fact nothing one could do if you have been infected by the virus (HIV/AIDS-related fatalism). Fear of secondary stigmatization may also discourage people in advising family members to go for VCT.

The low uptake of VCT in South Africa, would suggest that the VCT norm is not widely adhered to, and that people may infer that going for VCT is not the descriptive norm. The literature does, however, report ambiguous findings as to whether people indeed propagate VCT in interpersonal and community contexts: some authors report that people do go for VCT on the advice of sexual partner(s), peers, or authority figures such as parents, teachers, and health care providers. On the other hand, people also discourage their sex partners to go for VCT, as this may either reveal their own HIV-status or emphasize their own risk. Data such as that provided by the evaluation of the impact of the Tsha Tsha series (cf. Kelly et al. 2005) also indicate that peers could be hesitant to suggest to others to get tested.

The latter suggests that people's beliefs in the VCT norm and either their willingness to suggest to others to comply with it or to comply to it themselves, is also a function of the beliefs they personally hold about the advantages and disadvantages of knowing one's HIV-status, the severe consequences of having to live with the disease should you test HIV-positive, and the consequences of a positive test on

those closely associated with the testee.

Given the impact that norms may have on people's decisions to go for VCT, the IM suggests the following persuasive strategies could be used in designing pro-VCT messages: (a) changing current negative VCT norms on the community and interpersonal level, (b) portraying the uptake of VCT as the descriptive and injunctive norm, and (c) priming people's concerns for their own well-being and those of (significant) others. Again, however, a number of ethical principles are at stake here. For example, the VCT uptake statistics don't justify portraying uptake of VCT as descriptive norm, but given the health promoting goals of VCT, it may be portrayed as the injunctive norm, provided that people are also made aware of the possible negative consequences of going for VCT (cf. the principles of informed decision-making).

4.4 Efficacy beliefs

The efficacy construct in the IM refers to self-efficacy, and as defined by Fishbein and Yzer (2003), captures the role that people's subjective assessment of their ability to present themselves for VCT, irrespective of the negative consequences they foresee of doing so, would play in forming an intention to go for VCT.

In surveys this construct could be measured by simply asking people whether or not they think they will be able to go for VCT (despite the possible negative consequences of doing so). It is then hypothesized that low self-efficacy scores will correlate negatively with the intention to go for VCT, while high self-efficacy levels will correlate positively with the intention to go for VCT.

In most stress and coping models of behaviour (cf. Miller 2001 and Witte, Meyer and Martell 2001), however, it is hypothesized that people's self-efficacy beliefs with regard to the performance of a behaviour, are themselves a function of (a) an assessment of whether or not one possess the skills to perform the behaviour and to cope with its negative consequences, and (b) an assessment of whether or not the performance of the behaviour itself will provide one with the means or measures to redress or mitigate the negative consequences of performing the behaviour (response-efficacy of VCT).

These theories suggest that part of the formation of the intention to go for VCT would entail a process wherein people make subjective assessments of

- VCT and its possible negative consequences
- what their chances are of being subjected to these negative consequences
- what skills and/or means/measures would be needed to redress the negative consequences
- whether they personally have the necessary means or will get access to the means (via social support) required to redress these negative consequences (individual or social capital; cf. Burris 1999), or whether going for VCT will provide them access to such means.

As indicated by Bandura (1994), if people feel that they either do not possess the required skills to successfully tackle the negative consequences of VCT, or if they feel that going for VCT will not provide them with the means required, considerations of self-efficacy will in fact not even arise.

With regard to the response-efficacy of VCT, major concerns/beliefs of people seem to relate to (a) the accuracy of HIV-tests in determining one's HIV-status and (b) whether or not one has the skills or access to means to cope with the negative consequences of testing HIV-positive.

Some people seem to have major concerns about the accuracy of HIV-tests in establishing one's HIV-serostatus. For example, although rapid testing technologies decrease the waiting time for test results, concerns about their accuracy are often raised. Beliefs about the inaccuracy of tests is also fed by confusion concerning the waiting period and the need for retesting. Fears about inaccuracies of tests are also fueled by newspaper reports of inaccurate tests being done and the immense emotional stress this has caused to individuals (cf. Birdsall et al. 2005(a)/2005(b)).

Most of the documented concerns however, relate to beliefs people have about whether or not going for VCT will in fact provide them with the means to cope with the negative consequences of testing HIV-positive: getting emotional support to cope with an HIV-positive test result, having to disclose one's HIV-positive status, facing up to threats to one's self-concept and sense of future, coping with stigmatization and discrimination, coping with the physical and mental trajectory of the disease, and coping with the economic consequences of being ill.

AIDS-related fatalism and helplessness, for example, is premised on the belief that AIDS is a death sentence, that one will die soon after receiving a positive test result, that there is in fact very little that one can do to avert or minimize the negative consequences of having the illness. Therefore, it makes little sense to go for VCT. In fact, it is also assumed that going for VCT and testing positive will lead to major depression, which will hasten one's death.

Very little research has been forthcoming on how intervention designers approach the problem of redressing people's concerns about the response efficacy of VCT. An informal analysis does indicate though that some of these concerns are addressed, not only in VCT messaging, but especially in messaging aimed at PLWA on how to cope with the negative consequences that may befall them.

Major strategies seem to be to minimize or underplay the possible negative consequences of VCT, but then to focus on what potential testers can expect by way of help and support in coping with the negative consequences of the VCT process and of an HIV-positive test.

The problem solution-format is typically used in this regard and advice is provided on, for example, how to cope with the fear of going for VCT, how to cope with an HIV-positive test, how to disclose one's HIV-status, how to protect your immune

system, treating opportunistic infections, what support groups can help one with specific problems, and what grants are available to help one cope with the economic consequences of the disease. Very often, the focus falls only on how counselors will or could support potential testees with problems and concerns in the VCT process and what role support groups (as follow-up after a test) can play in this regard.

Positive living (eating well, staying mentally positive), anti-stigmatization laws and other HIV/AIDS-human rights related laws are some of the measures offered to potential testees as some of the measures that could be used in averting or minimizing the negative impact of an HIV-positive test result. However, both of these measures are problematic.

As Pakenham and Rinaldis (2001) indicate, examples of people living positively with the disease, may be more of an exception than the rule. PLWA's ability to cope with the negative effects of the disease is related to such variables as the physical manifestations of the disease, amount of social support received, challenge and controllability appraisals, problem-focused coping, lower threat appraisals, and less reliance on emotion-focused coping. However, very little empirical support could be found for the stress-buffering effects of optimism or positive living with the disease. This suggests that positive living with the disease - one of the key messages of most recent pro-VCT communication interventions - might in fact have little persuasive force as it neither accords with people's perceptions of how PLWA cope with the illness or with the more objective assessments such as those of Pakenham and Rinaldis (2001).

Trying to persuade people that antidiscriminatory laws are effective tools they can use to counter possible stigmatization is also fraught with difficulties. As Burris (1998) indicates, utilizing the law requires not only awareness of the law, but also legal thinking, access to legal resources and a sense of entitlement that the law is protective of the potential testee (Burris 1998: 879). Simply advising people to use their rights in this regard may therefore be totally ineffective, especially if the communities in which they have to live out their lives as PLWA have no human-rights culture (cf., for example, Zuberi, Jones and Viljoen 2004). Informing people of their HIV/AIDS-related (human) rights has been the major task of an NGO such as the AIDS Law Project in South Africa, but no research has been forthcoming on the efficacy of these educational attempts.

Although there is currently a drive to inform the public of ART and its benefits, ART is still out of reach for most of the nearly half a million South Africans that need immediate access to it (cf. Hassan 2005)..

Precisely how people evaluate the efficacy of these measures and what impact they have on their decisions whether or not to present themselves for VCT, has not been thoroughly researched. Research on the pragmatic argumentation involved in the presentation of these problems and possible solutions, does suggest though, that potential testees would assess the proposed solutions on their efficacy in averting/minimizing a problem, the requirements for implementing them (resources needed, who is in control or has to perform the behaviour) and one's own ability to

effect such solutions. Consideration of one's personal capital to effect such solutions and/or of one's access to communal capital to do so, forms part of this appraisal. Individual capital, in turn, is linked to or explicated in terms of demographic variables (socio-economic status, education, age and race), personality trait variables (locus of control), cultural variables (beliefs about causes and control over negative life experiences) and access to and strength of communal capital (cf., for example, Burris 1999 and Rutenberg et al. 2001, which focuses on such issues as connectedness to family, friends and community as a variable in adolescents' perceptions of their ability to respond to the threats posed by HIV/AIDS).

Another question that arises in evaluating proposed solutions to expected problems, is whether or not one in fact has to go for VCT to affect these solutions. For example, going for VCT is not a prerequisite to changing one's unsafe sex behaviours or adopting a positive life style.

Self-efficacy and response efficacy (and their antecedent beliefs) could also be closely related in as much as beliefs about the efficacy of VCT co-determine one's beliefs in your ability to actually engage in the behaviour despite the barriers which may exist. Likewise self-efficacy may also be linked to one's assessment of whether you or not you possess the necessary skills to perform the required behaviours to redress the negative consequences of going for VCT (cf. discussion of the skills component in Section 4.5).

According to Bandura (1994), self-efficacy beliefs are a function of four major variables, which could provide intervention designers with strategies in changing these beliefs: mastery of skills required to perform the behaviour (as discussed above), social role modeling (portraying PLWA as living positively with the disease and doing so by utilizing their own skills, available support and care systems, and the means propagated in pro-VCT messages, such as positive living, using the law, or getting access to ART), addressing their fear of a positive test by emphasizing how the available means and measures can avert these threats, and social persuasion (persuading people verbally that they in fact do have what it takes to cope successfully with VCT and its consequences).

4. 5 Skills

The IM makes the prediction that once people have formed an intention to go for VCT, actually doing so could be mediated by two variables: beliefs and concerns about one's skills in performing the behaviour and consideration of the possible environmental barriers to performing the behaviour.

The skills required from potential testees to present themselves for VCT is also one variable that has not been adequately researched. Obviously, testing for HIV requires no skills from potential testees as this is performed by health care providers. However, going through the pre- and post-test counseling session does require some personal skills. These mainly show up in fears people have about handling the interaction with counselors (which are indicative of subjective assessments of not having the required skills), for example people fear having to discuss and disclosing

their sexual behaviour to counselors, experiencing and coping with self-blame for engaging in unsafe sex behaviours, coping with unfriendly, unsympathetic counselors, coping with the pressure to consent to HIV-testing, and not being able to control breaches of confidentiality, especially with regard to the fact that one has been for VCT or of disclosing one's HIV-testing results to others (cf. Myers et al. 2003). Effectively coping with the client-counselor power dynamic therefore requires a range of skills, often those that are the focus of life skills education programmes (cf. Rutenberg 2001 and Kelly and Parker 2000). Coping mentally and emotionally with an HIV-positive test result, of course, requires even more complicated abilities as is discussed above in Section 4.3.

Effectively addressing people's concerns about the fact that they do not or might not have the skills required, would require that such skills are taught, by persuading people that they in fact already have what it takes to handle the interaction with counselors, or to deny their fears by persuading them that such problematic situations in fact would not arise.

4.6 Environmental barriers

Much of the foregoing about skills in fact belong to wider range of beliefs and concerns people have about going for VCT and experiences they expect to have in going through the VCT process. A dominating communication style, stigmatization and discrimination and breaches of privacy and confidentiality of testing results are some of the negative characteristics commonly attributed to health care providers at VCT sites.

Access, cost and transport problems add to the environmental barriers of going for VCT. Other concerns, however, relate to the inadequacy of facilities and the services delivered. Many of these concerns have been researched and most of them have been or could be addressed by various changes to VCT by way of changes in infrastructure, provisions and services. Many of these also redress some of the negative consequences of going for VCT, for example, changes in HIV-testing policies (confidential testing vs. anonymous testing ;cf. Philips and Coates 1995)), improvement of counseling methods (cf. Myers et al. 2003; Norton, Miller and Johnson 1997; and Sikkem and Bissett 1997); integration of VCT services with other primary care and reproductive health care services, using rapid testing technologies, couple counseling, the use of mobile VCT facilities, and improvement of the links between VCT programmes and support and care programmes for those infected. Successful interventions on the PIP-level - specifically those that facilitate a higher uptake of VCT- are also often standardized in the various guidelines, protocols or standards with regard to the provision of VCT in specific countries (cf., for example Birdsall et al. 2005(a)/(b) and Center for Disease Control 1998, 2001).

As noted by The Ochre Research Unit (2003:17), communications can only be as good as the services they promote. If the necessary infrastructure needed to support VCT is lacking and if VCT services is not organized in such a way as to redress people's concerns about going for VCT, pro-VCT messages cannot be expected to have any impact.

Research reports extremely negatively on the attitudes and behaviours of health care providers towards people presenting themselves for VCT and the fact that confidentiality of HIV-test results are not respected (cf. for example, Stein et al. 1997, Van Dyk and Van Dyk 2003). The need to redress these attitudes and behaviours has led to the Healthworker Excellence Campaign (cf. Department of Health 2002(b)), however, it is not yet clear what effect this campaign has had. .

5 Conclusion

Intervention designers cannot simply rely on their intuition as to what determinants motivate populations decisions whether or not to present themselves for VCT and also expect that interventions to address these determinants will necessarily increase uptake of VCT. The IM specifies that interventions designers should therefore first try and get an in-depth understanding of all personal and contextual variables that could underlie these decisions. It is only in a second step that survey instruments and statistical analysis could be used to determine which are the most salient of these determinants for specific populations. As Bartholomew et al. (2001) note, this may seem a laborious path to follow, but jumping this step might inevitably lead to the design of ineffective interventions. Without it, interventions designers could have little confidence as to whether they are in fact addressing the most critical determinants in the VCT uptake behaviour of a specific population.

Even though scales have been developed for the measurement of attitudes towards VCT (cf. Awad et al. 2004 and Boshamer and Bruce 1999) and they identify critical barrier and facilitating determinants of VCT uptake behaviour, they are not universally applicable, nor do they account for all variance in the uptake of VCT. At most they could sensitize intervention developers to some of the determinants that could be at stake.

This is clearly exemplified by the limited impact of the Living Positive Campaign and the Tsha Tsha television series. In the case of the former, no theory-driven empirical research was done to inform the design of the VCT component of the campaign. In the case of the latter, the first part of the Tsha Tsha series mainly focused on the negative consequences of testing HIV-positive. As the designers self admit though, the limited impact of the Tsha Tsha series could be explained by the fact that in the first thirteen episodes the focus was in fact mostly on portraying these “limit situations” and their negative impact, with little modeling of how one can cope with them.

The analysis provided in this article underlines the fact that a complex set of variables could play a role in people’s decisions whether or not to go for VCT, and it might be that for certain subpopulations all or most of these variables have to be addressed in different kinds of interventions.

The analysis provided in the main part of this article, could thus be considered a starting point for the formative research required for the design of effective VCT communication interventions. As indicated, though, many questions remain and

current research does not yet adequately answer most of them.

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