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**WHEN THE FEAR CONTENT OF A FEAR APPEAL MIGHT BE IRRELEVANT:
CAN YOU SCARE THE ALREADY SCARED?**

By

Nithya Muthuswamy

A DISSERTATION

**Submitted to
Michigan State University
in partial fulfillment of the requirements
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ABSTRACT

WHEN THE FEAR CONTENT OF A FEAR APPEAL MIGHT BE IRRELEVANT: CAN YOU SCARE THE ALREADY SCARED?

By

Nithya Muthuswamy

Fear appeals have long been used to persuade audiences to adopt protective and healthy behaviors. The fear appeal literature, however, is equivocal about the implications of fear inducing message content in a context in which high fear preexists. Yet, fear inducing messages are frequently used in such contexts. Based on the extended parallel processing model framework (Witte, 1991), this dissertation assesses the impact of fear arousing messages and efficacy in a high fear situation, specifically HIV/AIDS in Namibia, Africa. Research questions and propositions concerning the impact of fear inducing content on perceived threat and outcome variables are presented. A 2 (high fear, low fear) x 2 (high efficacy, no efficacy) experiment with a no message offset control and efficacy only conditions is presented to test the propositions and research questions on 374 undergraduate participants from the University of Namibia. The data revealed that participants held pre-existing high fear with regard of HIV/AIDS. Further, results suggested that threat levels of a message had little impact on perceptions of fear, or the outcome measures including attitudes, intentions, or behaviors. Also, the efficacy content of the message had little impact on attitude, and intentions, and an ambiguous impact on behaviors related to condom use. The limitations of this study as well as its implications to fear appeal theory and practice are detailed in the discussion section. It is concluded that the use of fear appeals to persuade audience with high levels of pre-existing fear is ill-advised and ineffective.

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**To all the scholar practitioners around the world who are working tirelessly
to stem the tide of HIV/AIDS.**

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Chapter 1

Introduction

Scaring people into changing their behaviors has been a frequently used persuasive strategy (Witte, 1994). This strategy, labeled as a fear appeal, has been studied and used for decades across diverse locations and populations. It is particularly common in the context of health communication as a tool to persuade focal audiences to adopt protective and healthy behaviors (Hale & Dillard, 1995; Witte & Allen, 2000). Health scholars and practitioners have been deeply interested in understanding exactly what types of messages motivate health protective behaviors and what types of messages minimize the probability of inadvertent and counterproductive reactions in target audiences (Witte, Cameron, Mc Keon & Berkowitz, 1996).

The extended parallel processing model (Witte, 1991, 1992b) represents the state of art in thinking about the effectiveness of fear appeals by specifying with precision the conditions under which fear appeals work or boomerang. Specifically, the model suggests that when perceived threat is lower than perceived efficacy, cognitive processes are triggered resulting in the acceptance of message recommendations and positive changes in attitudes, behavior, and intentions. On the other hand, when levels of threat exceed perceptions of efficacy, emotional reactions to the message are triggered resulting in maladaptive responses and rejection of message recommendations.

As one strategy to prevent the potential negative outcomes that can result from the use of fear inducing messages, Witte recommends that researchers and practitioners survey the focal audience to ascertain preexisting levels of severity and susceptibility toward the threat object prior to planning a fear appeal campaign. The results of this

diagnosis are intended to inform the implementation of a fear appeal campaign. Whereas an audience analysis is an important step toward averting the potential negative impact of a scare tactic, in certain circumstances the fear appeal literature is equivocal about exactly how the audience analysis might be used to inform and direct the strategic planning of a campaign. In particular, given a context in which audiences' levels of fear are high to begin with, the specific guidelines that the model suggests will be the most effective in motivating the audience to adopting pro-healthy behaviors, while at the same time reducing possibilities of defensive avoidant behavior resulting in message rejection, are unclear. Under such circumstances, findings in the fear appeal literature do not lend themselves to unequivocal interpretations. That is, if high levels of fear pre-exists, there is considerable lack of theoretical and empirical clarity concerning whether it is useful to reinforce/validate the existing high perceptions of fear, to present messages with low levels of fear, or to do away with fear completely so as to minimize the probability of defensive reaction.

This paper seeks to investigate the role of fear inducing content in a high fear context, as applied to the case of the HIV/AIDS pandemic in Namibia. HIV/AIDS is a serious challenge facing Namibia (www.cdc.org). AIDS has become the single most serious threat to life, education, social, and economic progress in the country (www.cdc.org) and is the primary cause of death and hospitalization (USAID, 2002). Further, more than one in five individuals (22.5%) in the adult population (14-49 years) are infected with the virus (Ministry for Health and Social Services, 2002). The serious impact of the illness on the lives of Namibians, and the extent to which it has spread in Namibia puts this country in a unique situation. It is likely that Namibians are

experiencing high pre-existing fear toward HIV/AIDS. This study will investigate the role of fear content in this high pre-existing fear context.

Toward this end, the EPPM is detailed, and the contribution of this theory to the fear appeal literature is presented. Next, the ambiguity in literature with regard to the role of fear in the context of a high fear message will be highlighted. Third, a brief description of the HIV/AIDS pandemic in Namibia will be presented. Fourth, the propositions regarding the role of fear in a high fear context (HIV/AIDS issue in Namibia) will be advanced. Lastly an experiment testing these propositions is detailed, and the findings of this experiment are reported, and discussed.

The Extended Parallel Processing Model

The extended parallel processing model (EPPM) was developed by Witte (1991, 1992) as a model to assist scholars and practitioners in the development of effective risk communication messages and offer insight into how to channel an individual's fear into motivation for effective action, rather than an inhibitor of self-protective behavior. The EPPM is a synthesis of three major theoretical approaches, the fear as acquired drive model (Hovland, Janis & Kelly 1953; Janis 1967), the parallel process model (Levanthal, 1970) and protection motivation approach (Rogers, 1975, 1983).

According to the EPPM, upon perceiving a threat in the environment, individuals cognitively appraise the extent of the threat by engaging in a primary appraisal process (Witte, 1994). Threat is defined as an external stimulus variable in the environment that exists with or without a person's knowing (Witte, 1992). The cognitive appraisal of a threat is contingent upon two underlying dimensions – perceived severity and perceived susceptibility. Perceived severity refers to an individual's perceptions about the

magnitude of a threat (e.g., “AIDS leads to death,” Witte, 1992). Perceived susceptibility refers to individual’s belief about his or her chances of experiencing the threat (e.g., I am at risk of contracting HIV/AIDS, Witte, 1992).

If individuals assess that the significance or magnitude of the threat is low, and their risks of experiencing the threat are low, then further processing of the message is stalled and no response is elicited (Witte, 1991; Witte, 1992b). On the other hand, as individuals’ perception of severity of the threat and their perceived susceptibility toward experiencing the threat increases, they experience fear. According to EPPM, fear is defined as an internal emotional reaction comprising of psychological and physiological dimensions that may be aroused when a serious and personally relevant threat is perceived (Easterling & Leventhal, 1989; Lang 1984; Ortony & Turner, 1990). The heightened perceptions of fear motivate individuals to engage in a secondary appraisal process in which they evaluate efficacy (Witte, 1992). Fear is the motor that is the propelling force that drives individuals to action, and thus is a central variable in this model.

Efficacy is defined as the effectiveness, feasibility and ease with which a recommended response impedes or averts a threat (Witte, 1994). Specifically, perceived efficacy refers to thoughts or cognitions about the effectiveness and ease of two underlying dimensions, response efficacy and self-efficacy. Self efficacy refers to the individuals beliefs about their ability to perform the recommended response (Witte, 1994). Response efficacy is the assessment of the ability of the response to avert the threat (Witte, 1994).

According to the model, when individuals' perceptions or beliefs about their ability to perform the recommended response and their faith in the ability of the response to avert the threat are lower than levels of perceived threat (susceptibility and severity of threat), individuals engage in a process called fear control (Witte, 1994). Fear control is an involuntary and automatic (Bargh, 1989; Lazarus, 1991) emotional coping process that occurs when people are faced with a significant and relevant threat, but believe that they are unable to perform a recommended response and/or that the response is ineffective (Witte, 1992). Coping responses that diminish fear, such as defensive avoidance (Hovland, Janis & Kelly, 1953; Janis & Mann, 1977), denial, and reactance (Brehm, 1966) including issue/message derogation and perceived manipulative intent are classic manifestations of fear control responses (Witte, 1994). When individuals engage in fear control, they psychologically reduce fear rather than the danger causing the fear. Consequently, messages invoking fear control are counter productive.

In contrast, when individuals perceive that their self efficacy and response efficacy is higher relative to their perceptions of fear, then danger control processes are triggered. Danger control is a cognitive process eliciting protection motivation that occurs when a person believes he or she is able to effectively avert a significant and relevant threat through self-protective changes (Witte, 1994). When in danger control, people are motivated to reduce the threat. Danger control responses are beliefs, attitude, intention and behavior changes in accordance with message's recommendations. Thus, messages leading to danger control are by definition effective, and achieve the desired effects.

In summary, cognitions (and not emotions) about threat and efficacy cause attitude, intention or behavior changes. When levels of efficacy exceed levels of threat

then adaptive responses are elicited. Maladaptive responses result when perceptions of threat exceed levels of efficacy. Thus according to EPPM, the higher the threat, the more likely that message recommendations will be accepted, so long as threat levels do not exceed levels of efficacy. The point where threat and efficacy are equal, that is where any greater threat or any less efficacy would result in a shift from danger control to fear control might be called the critical point (Witte, 1994).

One of the crucial contributions of EPPM to the fear appeal literature is the emphasis that the model places on the role of efficacy, and its relationship to threat. Efficacy is viewed as an important moderator variable that explains the relationship between perceived threat and response outcomes. The model specifies that while some fear may be aroused from the initial appraisal of threat, it is the heightened and intensified fear resulting from the perception of low efficacy/high threat together that activate defensive motivation and result in maladaptive outcomes (Witte, 1992b). A lack of efficacy explains why people sometimes do the opposite of what was advocated in the message (Rippetoe & Rogers, 1987; Witte, 1992b).

A second critical contribution to fear appeal literature is Witte's (1992b) subtle and yet critical distinction between fear and threat. According to Witte, threat is an external stimulus variable (i.e., a property of the message) that exists with or without a person's knowing, whereas fear is a negatively valenced emotion elicited by a threat. O'Keefe (1990) echoes this important difference by distinguishing message content versus audience reactions as two definitions of fear appeal. He notes that messages with gruesome contents might not arouse fear, and fear might be aroused without gruesome contents. These two definitions of fear appeals have nonetheless been conceptually and

operationally confounded in most fear appeal studies. Overall, it has been observed that the higher the message threat (message content) the greater is the fear experienced (audience reaction) (Witte, 1992).

Thus, EPPM synthesizes and integrates the vast, diverse, and seemingly inconsistent fear appeal literature. In the fear appeal literature, some studies substantiated the effectiveness of fear appeals (e.g., Beck, 1984; Stainback & Rogers, 1983) others demonstrated their ineffectiveness (e.g., Janis & Feshback 1953; Kohn, Goodstadt, Cook, Sheppard, & Chang, 1982.) and still others documented mixed results (Hill & Gardner, 1980; Rogers & Mewborn 1976). Overall, the empirical findings were “disappointingly inconsistent, if not contradictory” (Witte, 1992, p. 331). In addition, the fear appeal theories were only able to account for the positive linear association between fear and message acceptances observed in many studies, but were not able to explain the curvilinear results occurring in other studies (Witte, 1992b).

The EPPM expanded on previous approaches and explained why fear appeals failed by reincorporating fear as a central variable in the model, and by specifying the relationship between threat and efficacy. Witte’s model explained that the reason why health risk messages sometimes backfire was because the message induced fear control processes (high fear/low self efficacy combination) instead of the cognitive danger control process (Witte, 1994). This model has been tested in nearly 50 studies across a wide variety of topics including skin cancer (Stephenson & Witte 1997), HIV/AIDS prevention (Casey, 1995; Murray-Johnson, Witte, Liu, & Hubbel, 2001; Witte, 1992a; Witte, 1994, Witte, Cameron, Lapinski, & Nzyuko, 1998; Witte & Morrison, 1995; Witte, Sampson, Liu, & Morrison, 1995), teen pregnancy (Witte, 1997), genital warts

(Witte, Berkowitz, Cameron, & McKeon, 1998; Witte, Cameron, McKeon, & Berkowitz, 1996), breast cancer (Kline, 1995), radon awareness (Witte et al., 1998), and tractor safety (Witte et al., 1993). In addition, EPPM has focused on many different populations, including high school students (Witte, et al., 1995), juvenile delinquents (Witte & Morrison, 1995), college students (Witte, 1992; Witte, 1994; Witte et al., 1998), African-Americans (Witte et al., 1996), farmers (Witte et al., 1993), and Kenyan prostitutes (Witte, et al., 1998), and claims good empirical support (see Witte & Allen, 2000; Witte, Meyer & Martell, 2001). The predictions of the theory in a high fear context will now be considered.

Fear appeals in a high fear context: The literature

To the knowledge of the author, the EPPM predictions have not been empirically tested in a high pre-existing fear context. That is, experiments that allow for a considerable degree of confidence in drawing causal inferences concerning EPPM predictions have not been conducted in a high fear context. For example, in Witte's (1994) experimental test of the EPPM, only those who had not taken a course on AIDS or human sexuality were eligible to participate in the study. Likewise, subjects were prescreened for eligibility in Witte's (1992) study testing the model. Only 8% of the sample screened was found eligible to take part for the study. Participants who had taken a course of AIDS or human sexuality were excluded providing a set of participants who were relatively uninformed about AIDS¹. In contrast, in conducting an EPPM study on perceptions toward skin cancer, Stephenson and Witte (1998) did not pre-screen

¹ Witte explains that this decision was made because the persuasive messages targeted only this population. One might question then if fear appeals only work for the relatively uninformed and unfamiliar segments of the population.

participants. The authors however argue that their sample was relatively uninformed about skin cancer. To substantiate this claim, they report that "... A recent national survey showed that only one third of the Americans knew that Melanoma was skin cancer and only 50% knew that it was cancer at all" (p. 147).

Whereas the reasons for prescreening, and testing a relatively ignorant sample are not clear, one plausible explanation might have to do with the role of fear appeals in the context of pre-existing high levels of fear. Individuals who are relatively unfamiliar with AIDS (or any other object in the environment) lack prior knowledge and/or personal experience with the illness. It is therefore likely that they are uncertain about its causes, consequences (severity of the impact), and the likelihood that they might be susceptible to the disease. When average individuals are not cognizant about an object, it is difficult to image that they feel threatened by it when the object has not even entered their cognitive radar. It is only upon primary cognitive appraisal of the threat that an assessment of fear is made (Witte, 1991). The uncertainty emanating from the lack of prior knowledge and/or experience might however translate into fear when a high fear message is provided. The severity and susceptibility of the threat is explicitly made known to participants in the message induction.

If this were the case, then at least two interrelated implications follow. First, high levels of fear did not pre-exist in the participants tested in previous experimental studies. Thus, existing data is uninformative about the effects of fear messages on already scared participants. Second, inducing fear with a message may require an audience with relatively low levels of pre-existing fear and it may not be possible to induce fear in the already scared. If the entire sample is already experiencing high levels of fear toward

HIV/AIDS, then inducing higher levels of fear might not be possible because of a ceiling effect. Even the most graphic message content may pale in comparison to the impact of previous, first hand experience.

In the absence of unequivocal empirical evidence that clarifies the role of fear in a high fear context, it might be useful to turn to other co-relational studies and documents that provide guidelines for fear appeals scholars and practitioners on this issue.

Researchers typically caution that one needs to be careful in using fear appeals in a high fear context (see Witte, 1998). However, there seems to be little clarity on what this means. For example, in a theoretical formative evaluation of pre-existing risk levels among Kenyans toward HIV and AIDS, Cameron, Witte, Lapinski, and Nzyuko (1999) found that the focal audience perceived that HIV/AIDS was highly severe in magnitude, and that they were highly susceptible to this killer disease. Based on this information, the researchers recommend that it is important to develop message interventions focusing on the efficacy of the recommended response, with a moderate emphasis on susceptibility and severity of beliefs. Thus Cameroon et al. advocate a moderate fear/high efficacy strategy to promote message acceptance for a high pre-existing fear audience.

However, in documents examining the role of fear appeals in tobacco control (Thesenvitz, 2000) and the Witte, Girma and Girgre (2002) assessment of the EPPM variables among Ethiopians toward HIV/AIDS, the authors speculate that even a moderate level of fear might be too much under conditions of high severity and susceptibility. These authors argue that messages that increase perceptions of efficacy are most important for people in fear control, and that people “should not be frightened further.” In other words, some authors advocate a no fear, high self-efficacy strategy in

order to avoid reinforcing fear control processes among focal audiences. They reason that fear appeals work only when perceptions of efficacy exceed level of perceived threat.

In summary, the question remains; in the unique context of high pre-existing perceptions of severity and susceptibility, what type of message is most effective? Does one induce low levels of fear in messages, or do way with fear inducing messages all together? These questions, however, rest on the premise that it is possible to affect fear in a preexisting high fear context. This assumption has not been experimentally tested. Thus it is important to investigate whether fear content in a message makes any difference in a pre existing high fear context.

HIV/AIDS in Namibia – an overview

The HIV/AIDS epidemic is the most serious challenge facing Namibia today (www.cdc.org). More than one in five individuals (22.5%) between the ages of 14 and 49 years are infected with the virus in Namibia, with infection rates ranging from 44% in Katima Mulilo to 9% in Opuwo (Ministry for Health and Social Services, 2002). This makes Namibia the fifth highest HIV/AIDS affected nation in the world. A total of 230,000 adults and children are estimated to be living with HIV/AIDS in Namibia (UNAIDS, 2002). AIDS is the primary cause of death and hospitalization in Namibia today (USAID, 2002). Thus, AIDS has become the single most serious threat to life, education, social, and economic progress in Namibia today (www.cdc.org).

HIV infection in Namibia occurs primarily via sexual intercourse and mother to child transmission (USAID, 2002). With an estimated 70,000 births a year, a 23% seroprevalence rate among mothers, and a 40% mother to child transmission rate, approximately six thousand infants are likely to be infected each year (USAID, 2002).

What makes this situation worse is that the rate of infection seems to be rising (USAID,2002). The Biannual serosurveillance report conducted by the Ministry of Health and Social Services, Namibia (2002) shows a continued increase in HIV prevalence among pregnant women. The report indicates that although the tests target only pregnant women, the results give an indication that the HIV prevalence is also increasing among the general population. It is estimated that more and more infants will die of AIDS than from all other causes (www.usaid.gov). The UNAIDS agency (2002) indicated that there are already more than 120 000 orphans and vulnerable children with a projected rate of 250, 000 children to be orphaned by 2020. (<http://allafrica.com/stories/200408130432.html>).

Given this state of affairs, most Namibians have heard about AIDS, and know about its causes and consequences. The population has high levels of literacy (83.3 %, UNDP, 2002). Also, local (non profits, church based initiatives), national (Ministry of Health and Social Services, 2002), and international programs (e.g., President's Emergency plan initiative to combat HIV/AIDS) aimed at spreading awareness about the HIV/AIDS illness are in place (USAID, 2002). Further, research conducted by the Center for Communication Programs, and the Health Communication Partnership (a USAID initiative based at Johns Hopkins University) reveals that Namibians on the whole have high knowledge about the causes (primarily sexual transmission) and fatal consequences of illnesses (Murray-Johnson, Keulder, & Witte, 2004a, 2004b). In the words of Grotinger, Mainga and Pietersen (2000), "Every Namibian is surely aware of AIDS, the risk and patterns of transmission and the effects of HIV and AIDS on individuals in the community" (p. 83). Thus, Namibians know that the illness entails severe consequences.

Given the rate of prevalence (over one in five individuals among the adult population), and the fact that HIV infection is generalized and spread across Namibia (Ministry of Health, 2002; USAID, 2002), AIDS is not just an illness that affects 'others.' For many if not most Namibians, this illness hits close to home. People have had close personal experiences with this illness (Murray-Johnson, et al., 2004a). They have either known a family member who has died of this illness or they have had to take care of orphans themselves. It is also likely that a few of them have been child victims of parents who have died of AIDS.

In addition, given that it is common knowledge among Namibians that the cause of the infection in Namibia is unprotected sexual intercourse (Haoses, 2000) combined with the normative pressures of having unprotected sex and multiple sexual partners in the African culture (see Katjire, Langa, Siwa, Mbuche & Tjongarero, 2000; Grobler, 2000), it is likely that people in Namibia also perceive themselves to be susceptible to the illness (Murray-Johnson et al., 2004; <http://chora.virtualave>). Thus, Namibians are likely aware of the possibility that they could be having sex with an infected person. The annual research conducted by the health communication partnership has also found this to be the case (Murray-Johnson et al., 2004). In short, because the prevalence rate is high (one in every five adults on an average is HIV positive or has contracted AIDS), the illness is generalized through out the adult population in Namibia, and is proximal to the lives of so many Namibians, it is likely that individuals perceive that they themselves may be susceptible to the illness. The resultant consequence of these heightened perceptions of threat is high fear (per EPPM rationale). It is therefore likely that in Namibia, the population experiences preexisting high levels fear towards HIV/AIDS

Proposition 1: In Namibia, the population has pre-existing high levels of fear with regard to HIV/AIDS.

If proposition 1 is true, then for a sample drawn from this population, threat inductions are unlikely to substantially increase fear, because of a ceiling effect. In other words, if participants already think of HIV/AIDS as being highly severe and that they are susceptible, being exposed to a high fear message will not result in a further heightening of fear levels. When pre-existing levels of fear are already high, there is little room left to make participants more frightened. At best, a high fear message is only confirming their worst fears (fears that they know, and those that correspond to the reality they live in).

Proposition 2: Threat inductions in messages are unlikely to increase fear when preexisting levels of fear are high².

If people with high pre-existing fear levels are exposed to a low fear message, it is possible that the low fear message may be read as contrary to their experience and knowledge of HIV/AIDS. Therefore, regardless of accuracy, low fear messages are likely to be perceived as inaccurate and inconsistent with the reality that participants experience and know. As a consequence, participants might also perceive a low fear message as less credible, and consequently will be less likely to be persuaded by the contents of the message. Therefore, participants might dismiss or discount the message. This line of reasoning predicts that a low fear message is unlikely to lower fear among participants and consequently will be ineffective.

Alternatively, in the case of a low fear induction, theoretically there is room for fear reduction, and it is possible that in fact a low fear message might reduce perceptions

² This proposition and many subsequent propositions predict no-difference findings. The author is aware of the inferential difficulties involved in accepting the null hypotheses. This issue is addressed in detail in the discussion section.

of threat. According to Boster and Mongeau's (1984) meta analysis of fear appeal literature, low fear messages are likely to be more persuasive than a high fear message for individuals who are more anxious. This is because people who are highly fearful and anxious tend to 'check out' (i.e., engage in fear control) in the face of a high fear appeal message, and do not engage in cognitive processes necessary for danger control. Therefore conditional on proposition 1 being true, it is plausible that a low fear message might reduce fear and be processed more rationally. In the absence of evidence that demonstrate the role of a low fear induction under conditions of pre-existing levels high levels of threat, two rival propositions are advanced.

Proposition 3a: Low threat messages will have little impact on perceptions of fear when levels of pre-existing threat is high.

Proposition 3b: Low threat messages will reduce the pre-existing perceptions of fear.³

If propositions 1, 2 and 3a are true then the fear content of the message and the perceived threat will have little impact on the adaptive outcome measures. According to EPPM, the primary appraisal of a threat is a prerequisite to further processing of the message. Because high fear pre-exists, this condition cannot have been induced by a message, and therefore cognitive appraisal of the threat severity and susceptibility occurs independent of the message. Because perceived threat is not impacted, further processing

³ If it is possible to lower fears through a message induction, it will be interesting to observe the extent to which fear is lowered. Specifically, will fear be lowered to an extent that efficacy will be higher than levels of perceived fear? If this were the case, then contrary to EPPM predictions, lowering levels of fear and not enhancing it might yield more beneficial results. This is because, consistent with EPPM, threat levels will be lower than efficacy levels – and this combination will put individuals in danger control processes that result in adaptive outcomes.

of the message is stalled and no response is elicited. Therefore message threat content is irrelevant.

Further, according to the model, fear mediates the relationship between threat (message content) and the dependent measures. Because fear (the mediator) is invariant and will not be impacted by the message content, the model predicts that there can be no impact of the message on the dependent outcomes (attitudes, intentions and behavior change). Therefore, if P1, P2, P3a, then

Proposition 4: Threat levels of a message have little impact on attitudes, intentions and behavior.

The EPPM specifies that once individuals appraise levels of threat, they engage in secondary appraisal processes. At this stage, the outcomes of perceived threat depend on how individuals evaluate their own ability to adopt the recommended response as well as the ability of the recommended response to avert the threat. These perceptions of ability are labeled self and response efficacy respectively. With regard to the role of efficacy in a high fear condition, at least two possibilities exist.

First, EPPM specifies that in order for a message to produce positive attitudinal and behavioral effects, efficacy must exceed threat. It is possible that pre-existing threat levels are so high that no amount of efficacy content can overcome the high levels of threat. If this is the case, then EPPM logic predicts that individuals will engage in fear reduction regardless of message content. Thus if proposition 1 and 2 and 3a and 4 are true, then it is possible that perceived efficacy might not exceed perceived threat because

perceived threat is already extremely high⁴. Consequently, participants might be engaging in fear control regardless of efficacy conditions (high efficacy or no efficacy).

Proposition 5a: Under conditions of high pre-existing threat, the efficacy content of the message will have little impact on attitude, intentions and behaviors.

Alternatively, it is plausible that participants exposed to a sufficiently high efficacy message (regardless of fear content) will have their self efficacy and response efficacy enhanced by the message, while participants who do not read the self efficacy message feel less affirmed. If levels of efficacy can be raised to the critical point where they meet or exceed preexisting threat levels, then high efficacy measures may provoke danger control processes, and high efficacy messages may be effective regardless of high or low fear content. A no efficacy message, however, will be ineffective due to fear control process.

Proposition 5b: Under conditions of high pre-existing fear, the efficacy content of the message will have a positive impact on attitude, intentions and behaviors.

If, however, proposition 1 and 3b are true, then only the participants exposed to the low fear/high efficacy conditions will exhibit a positive influence on the dependent outcomes. If message inductions lower levels of threat to an extent that perceived threat is lower than levels of perceived efficacy, then according to EPPM logic, dependent outcomes will be influenced positively⁵. Therefore if proposition 1 and 3b, then:

⁴ Also, if efficacy levels exceeded threat levels (and if the predictions of the model were true) then the HIV infection rates in Namibia should be seeing a downward trend and not the reverse. Since data are not consistent with this, it is possible that in fact participants are already engaging in fear control processes

⁵ This is a prediction contrary to EPPM in which lowering fear levels is predicted to result in positive impacts on outcomes.

Proposition 6: Under conditions of high pre-existing threat, the efficacy content of the message will have a positive impact on attitude, intentions and behaviors when used in combination with a low fear message.

Lastly, given the possibility that efficacy and threat might or might not combine to have an impact on the dependent outcomes in the context of high preexisting fear, it is interesting and informative to assess how efficacy impacts dependent outcomes in the absence of a fear induction. Given a pre-existing high fear situation, participants might not be in a position to cognitively process the high efficacy component of the message when they are presented with a fear content that precedes the efficacy component of message. In other words, even before getting to the efficacy content of the message, participants might have already ‘checked out’ (i.e., engage in fear control) while reading the fear content of the message. That is reading the message may activate and confirm their worst fears, producing defensive processing. Therefore it becomes important to investigate the impact of an efficacy only message on participants’ attitude, intentions and behaviors in the absence of a fear induction.

RQ 1: Under conditions of high preexisting fear, what is the impact of a high efficacy only message on attitude, intentions and behaviors relative to the control condition?

These propositions and research question were tested in the manner described below.

Chapter 2

Method

Participants

Four hundred and thirty-four undergraduate male and female students enrolled in various departments at the University of Namibia (UNAM) participated in this study. UNAM is a public university, and the only university in Namibia. Therefore, it attracts students from all ethnic, economic and geographical cross sections from around the country. Of the 434 students in this study, 60 students took part in the pre-study, and 374 students participated in the main experiment. Students were randomly assigned to one of six experimental conditions, with varying levels of the independent variables. This sample size, in the main experiment, allowed for approximately 60 respondents per cell with a statistical power of .77 for a medium effect (i.e., $d = .5$, $r = .24$).

In the main experiment, 69% of the respondents ($n = 254$) were female, and the rest ($n=114$, 31%) were male. Their ages ranged from 18 to 45 years, with an average of 22.67 years. The majority of participants ($n=159$, 43.8%) were between 18 to 20 years old. Half the sample in this study ($n= 175$, 50.7%) was freshmen, while a little over one fifth of the sample ($n= 79$, 22.9%) was in their final year of undergraduate education. Sixty- one respondents (17.7%) reported that they were in their second year of university education, and only a small proportion of the respondents ($n=30$, 8.7%) were third year students. A vast majority of the respondents ($n=312$, 85.5%) were Namibians, and represented regions from all around the country. The remaining fifty-three participants (14.5%) belonged to other African countries such as Angola, Botswana, Nigeria, South

Africa, Zimbabwe and Uganda. Prior to this study, these respondents had lived in Namibia between 1 ½ years to 15 years, with an average of 2.95 years.

The vast majority of the respondents in this study were single ($n=330$, 91.2%). Only thirty respondents (8.3%) were married and an even smaller proportion among them ($n=2$, 0.6%) were divorced. More than half of the sample ($n=199$, 55.1%) mentioned that they were involved in a long-term relationship (lasting three or more months) at the time of this study. In contrast, 44.9% of the respondents ($n=162$) reported that they were not romantically involved on a long- term basis with any one, at the time of this study. When asked about their behaviors with regard to HIV/AIDS, almost all respondents ($n= 364$, 98.4%) denied using needles to use drugs. A vast majority of them also denied having sexual relationships with people who use needles and drugs ($n= 333$, 90.5%). Over half the sample ($n= 187$, 54.7%) reported not having sex with any one over the last three months. The remaining students (45.3%) stated that they engaged in sexual relationships with one to as many as eleven different partners over the course of the last three months. Slightly over one-third of the respondents ($n=142$, 38.6%) indicated that they had been tested for HIV/AIDS. The rest ($n= 226$, 61.4%) had not undergone screening.

This sample was well aware of the HIV/AIDS pandemic. The majority of the respondents ($n=288$, 79.3%) had a family member or a friend who had died of AIDS. More than two- thirds of the respondents ($n= 238$, 66.3%) mentioned that they knew a family member or a friend living with HIV/AIDS. Almost all the respondents ($n=355$, 97.3%) had come across HIV/AIDS advertisements on TV, Radio and Posters. Participants were asked if these advertisements scared them. A little over half the

respondent sample ($n = 194$, 53.4%) replied in the negative, while the rest ($n = 169$, 46.6%) said that these advertisements intimidated them.

Design

Threat and efficacy was systematically varied in a 2 (high fear, low fear) x 2 (high efficacy, no efficacy) independent groups factorial design, with a no message offset control group and an offset high self-efficacy only condition. Participants were randomly assigned to one of the six experimental conditions to test the propositions of the study. The cell sizes were as follows: Sixty-six participants read a high fear message combined with high efficacy (Condition 1), 61 students read high fear message without any efficacy content (Condition 2), 59 students were exposed to a low fear message with high efficacy (Condition 3), 65 participants read a low fear message without any efficacy content (Condition 4), 60 students read an efficacy only message (Condition 5), and 63 of them did not read any message (Condition 6). The control group served as a baseline comparison of pre-existing levels of fear, and attitudes, intentions and behaviors toward AIDS and condom use. The efficacy only condition assessed the impact of self-efficacy on the dependent measures independent of a fear induction. The dependent variables in the study were attitude toward using condoms, intentions to use condoms, self-reported safe sex behaviors, defensive avoidance, message derogation, and perceived manipulation in message content.

Message Design

The messages (Appendix A) and questionnaire items were adapted from Witte (1994). The high fear and low fear messages consisted of a core message informing respondents about what HIV/AIDS was, and a case study of a fictitious AIDS patient.

Threat was varied in these two sections. In the low threat message, severity and susceptibility was minimized by showing innocuous photographs of clinical laboratory tests, and by focusing on the impact of AIDS on non-college aged risk group and by using neutral language. In contrast, in the high threat message, severity was emphasized by showing graphic photographs of late stage AIDS victims and by using extremely vivid language. Further, HIV infection among college students was highlighted in the message and their personal risk of contracting the AIDS virus was emphasized in personalistic language to maximize perceived susceptibility to AIDS. Each message was equated for order of arguments, and number of pictures. Similar inductions have successfully induced threat in previous research (Witte, 1992; Witte, 1994). A message about the effectiveness of condoms was added to the fear messages in the efficacy condition. Response efficacy was maximized by emphasizing that condoms substantially reduced the risk of HIV transmission if used correctly. Self-efficacy was increased by discussing the benefits and ease of using condoms as well as providing refutations of typical excuses partners gave for not wanting to use condoms.

Pre-study

Pre-testing UNAM students posed a conceptual problem. Conducting a pre-study with a student sample in the University of Namibia would result in testing the propositions of the study. That is, this study predicts that there will be no effects for threat in message content, due to high preexisting levels. If pre-test results are consistent with this, then this could be just because of a weak induction, or because in fact the predictions are accurate or both. There will be no way to assess which of these reasons account for the results. But pre-testing instruments on a sample drawn from a different

population would not be substantively informative. A pre-test should be conducted on a sample that is to be surveyed (Hoyle, Harris & Jude, 2002).

To overcome these problems, a pre-study was conducted on a sample of Namibian University students with the following modifications. Participants were asked to read a high and low threat inducing message and fill out a survey about their thoughts and perceptions on how other people like them (people other than themselves) reading this message were likely to react to the message in terms of threat and efficacy. This indirect approach in assessing the potency of the message had a number of advantages. When participants evaluated the messages based on other people's reactions rather than their own, it was likely that they might rate the messages more objectively. That is, given a high threat message, participants may not be likely to view a message as high fear producing when asked about their own reactions to the message content. Instead they might be more objective and would therefore be more likely to assess the contents of the message as being high in fear content when asked to give their opinion on 'other people's' reaction to the message.

Further, in order to ascertain if the message inductions (threat and efficacy) were in fact effective, the messages were pre-tested on 30 students in the University of Namibia in a repeated measures design so that subjects served as their own control. Each participant read all three kernel messages, i.e., high fear messages, low fear messages, and high efficacy messages (related to condom use) and then gave feedback on how other people (students other than themselves) would react on fear, threat and efficacy based on the messages they read. The high and low threat messages and the high efficacy message were counterbalanced so as to avoid order effects. Further, a no-message control group

($N = 30$) was also included in the pre-study to assess efficacy items only, in the absence of any message. Unlike the threat variable (high and low threat), there was no low - efficacy group that would allow for comparison of scores between high and low efficacy conditions. Therefore, a no-message group was included in the pre-study to capture baseline efficacy and serve as a comparison group for the efficacy scores obtained after reading the high efficacy message.

In short, the pre-study assessed whether the instructions, messages and the items were understood by the sample, and whether the inductions were in fact perceived as intended.

Instrumentation

The response formats for all the scales used in the pre-study were Likert- type, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Fear was assessed by using a five-point scale (e.g., “Reading this message will make people frightened”). The reliability of the fear scale that elicited participants’ responses after they read the high threat message was $\alpha = .73$. The reliability of the fear scale after respondents read the low threat message was $\alpha = .89$. Perceived severity was assessed from responses to a four-point scale with items such as, “ Reading this message will make people think that HIV/AIDS is extremely harmful.” Perceived susceptibility was also measured using a similar format. Items such as “Reading this message will make people think that they are likely to get HIV/AIDS,” were included in the perceived susceptibility scale. The perceived threat scale computed by adding the severity and susceptibility scores was also analyzed for reliability. The threat scale that participants responded to after reading the

high fear message yielded a reliability of $\alpha = .71$. This scale yielded a reliability of $\alpha = .85$ for the low fear message.

Response efficacy was measured on a 4 point scale comprising of items such as, ‘This message is likely to make people feel that condoms are effective in preventing HIV/AIDS.’ Students also responded to a 5- point self efficacy scale that included items such as, “This message will make people think that using condoms is easy.” When the condom and self-efficacy items were averaged to create an efficacy index, with a reliability of $\alpha = .80$. The reliability of this scale for the no message condition was $\alpha = .83$

Pre-study results

Participants strongly agreed ($M = 4.21$) that reading a highly threatening message would make people frightened about HIV/AIDS. In contrast, students thought that reading the low threat message would only somewhat cause people to fear about this illness ($M = 3.09$). A paired sample t-test was conducted to assess if this observed differences was statistically significant. Tests revealed that indeed participants thought that others like them would be significantly more frightened after reading the high fear message ($N = 29$, $M = 4.21$, $SD = 0.57$), than the low fear message ($N = 29$, $M = 3.09$, $SD = 0.57$), $t(28) = 5.20$, $p < .01$. In addition, respondents felt that the high fear message ($N = 29$, $M = 4.17$, $SD = 0.57$) would read as significantly more threatening to people than the low fear message ($N = 29$, $M = 3.37$, $SD = 0.96$), $t(28) = 4.22$, $p < .01$

Scores obtained after students read the efficacy message were compared to those in the no message condition. When condom efficacy and self efficacy scores were combined, tests revealed that those who read the message ($N = 29$, $M = 3.97$, $SD = .70$)

scored significantly higher on perceived efficacy than those who did not ($N = 30$, $M = 3.60$, $SD = .65$), $t(57) = 2.06$, $p = .04$.

The pre-study also included a qualitative component that asked respondents what they felt like when they read the message. Their reactions to the high threat message corroborated with the quantitative findings. “The message was too scary and at some stages I did not even want to continue. But I did,” said one participant. Another student expressed, “I turned around and counted 5 people around me and knew that 1 of them is HIV positive...this was scary.” The severity of the high threat message was highlighted in the reactions of one participant who said, “I thought that all of us people on earth will just die of HIV/AIDS.” The extent to which participants felt that other people like them would be susceptible to the illness was captured well by the reactions of one respondent. The respondent said, “I feel like its me who is infected, because the way I’m feeling when I see the picture sounds like it happened to me.”

The same set of students had contrasting reactions upon reading the low fear message. In the words of one respondent, “Knowing that having the virus does not mean your life is over was reassuring.” Another respondent felt that the low threat message made him/her feel that, “Getting AIDS is not the end of the world.” Another participant noted that the message “did not stimulate my fears.” Interestingly, many participants expressed that the low threat messages were in fact lacking in fear. This was made known in their recommendations elicited to make the message more effective. One respondent suggested that, “The message could emphasize more on the deadly consequences of getting HIV/AIDS.” Another student reasoned that “because of the statements in the text in bold, “there is less to fear now!” and “no point in worrying,” the message will not be

effective for everyone who reads it.” Similarly, another participant suggested that “there needs be a lot of examples of people who are infected so that we people can see that. At least then we are going to be afraid when we see symptoms of this disease.” The message is okay, I just want to tell the people to take it seriously not as a joke,” cautioned one respondent.

Qualitative feedback was also elicited for the efficacy message. Overall respondents felt that the message made them feel like condoms were easy to use, and that they were the best protection against HIV/AIDS for sexually active people. For example, one participant stated, Condoms are the best protection against HIV/AIDS pandemic. Another respondent felt that the message “made me feel protected when I am using condoms. I think it is very easy to save your life by using condoms as a protection when having sex. Yet another student felt that reading the message would make “all people can carry condoms everywhere they go and use it when necessary. This respondent felt that reading the efficacy message would inspire people to “stop being selfish and start protecting one another from contracting the virus.”

Several respondents commented on the usefulness of the statements designed to counteract potential arguments made by sexual partners to avoid using condoms. For example, one participant stated, “I like the sentence which they wrote about excuses to your partner. The response which are given are excellent for the young people.” Similarly, another responded noted “It (the message) gives good points on how partners would help themselves when faced with a lots of excuses made by the other partner who is not willing to make use of a condom. This (the message) encourages me not allow my partner to discourage me from using condoms.”

In addition, the pre-study elicited responses on whether the messages were easy to understand, and if there were any word or sentence that were difficult to comprehend. Overall, students did not report much difficulty in message comprehension, language or structure of sentences.

The experimental study

Phase I

UNAM students ($N= 374$) who did not take part in the pre-study were solicited to participate in a study evaluating AIDS educational materials. A faculty member in the Department of Communication at UNAM collected data from the students with the help of a research assistant. Students were solicited during class hours. They were told that the materials that they were to review were at the early stages of development and that their reactions to the messages were needed in order to refine them. Anonymity of responses was emphasized. Participants were directed to read the messages carefully and to underline important passages to ensure close attention. Next, they were asked to complete a posttest questionnaire assessing their own reactions to the message, and their perceptions on the various dependent outcomes. The phase 1 questionnaire measured participants reactions to the message on fear, severity, susceptibility, response efficacy, self efficacy, attitude and intentions related to condom use, and fear control outcomes such as defensive avoidance, message derogation, perceived and manipulation. This questionnaire also elicited demographic information from the respondents (See Appendix B).

Phase II

Two weeks after the completion of phase 1 of the study, the research assistants approached the students once again to fill out a post-study questionnaire (See Appendix C). The post-study questionnaire elicited responses on participants' behavior related to condom use since they participated in the first phase of the study. This survey was matched with the phase 1 survey that they had turned in. After the questionnaires were completed, participants were debriefed about the purpose of the study and given information about the AIDS cell on campus.

The messages (Appendix A) and questionnaire items were adapted from Witte (1994). All response format for all scales used in this study were Likert-type, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). All instruments measuring the constructs of interest (See Table 1) included items identical to those tested in the pre-study, with one exception. The stem of the items used in the pre study was modified to reflect self-assessment of the message rather than 'other people's opinion. That is, instead of the stem "Reading this message will make people feel,," the items in the experimental study simply read " I feel..... ." Thus, the fear scale comprised of five items, such as "I feel frightened of HIV/AIDS. Also, all items used to measure constructs of interest in this study were screened for unidimensionality and reliability.

One item was deleted from the fear scale as it failed to contribute toward scale validity. The fear scale was unidimensional and had reliability for the fear scale was $\alpha = .91$. The severity scale included four items such as, " I believe that HIV/AIDS is a brutal disease." One item was deleted as it failed to contribute to scale reliability. This scale was unidimensional and had a reliability of $\alpha = .81$. The susceptibility scale consisted of five

items such as “ It is likely that I might be at risk of getting HIV/AIDS.” Reliability for this scale was $\alpha = .85$. The threat index that was obtained by averaging the severity and susceptibility scores had a reliability of $\alpha = .79$.

Response efficacy (condom efficacy) was measured in terms of responses to items such as “Condoms can be trusted to prevent the spread of HIV/AIDS.” Reliability of this four point scale was $\alpha = .86$. This scale was also assessed for unidimensionality. Five items were designed to create the self efficacy scale (e.g., “I feel that condoms are easy for me/my partner to use.”) The reliability of this scale was $\alpha = .87$. When combined, the nine condom and self efficacy items yielded an efficacy index with a reliability of $\alpha = .88$

Danger control and fear control outcomes were also measured in the first phase of the experiment. All the items were assessed for unidimensionality. Intentions toward condom use were assessed by using a 5- item scale that asked respondents if they planned to talk to their partner’s about using condoms, advantages of using condoms, and whether they hoped to buy and use condoms in the next couple of weeks. Scale reliability was $\alpha = .92$. Attitude towards condom use was measured by items such as, “When having sex, using condoms is the right thing to do.” The reliability of the attitude scale was $\alpha = .91$. Behavior was assessed in the second phase of the study. Responses were elicited on the behavior scale which was scored as ‘Yes’ ‘No’ responses to five items (e.g., After I participated in this study, I/my partner bought condoms) Reliability of this scale was $\alpha = .91$.

Fear control outcomes measured in this study were defensive avoidance, message derogation and perceived manipulation. Defensive avoidance assessed whether the

messages that respondents read, made them feel like they wanted to 'switch off' and stop thinking about HIV/AIDS. Items in this scale included, "The minute I realized that this message is about HIV, my first thoughts were "oh please, not another HIV/AIDS message!" This scale comprised of four items and had a reliability of $\alpha = .87$. Fear control was also assessed by investigating whether respondents tended to derogate the message content after reading it. The generic message derogation scale comprised of two items that asked participants to respond to statements such as, "This message blows HIV/AIDS out of proportion" This scale had a reliability of $\alpha = .70$. A three-item scale which assessed message derogation with specific reference to AIDS, was also constructed (e.g., According to me, this message does not give correct information about how HIV/AIDS spreads). This scale yielded a reliability of $\alpha = .77$. Third, this study also assessed if respondents tended to derogate the message with specific reference to condoms. A 3-item scale (e.g., This message gives a lot of wrong information on how useful a condom is in preventing HIV/AIDS) constructed to capture this construct yielded a reliability of $\alpha = .81$. Lastly, the perceived manipulation scale assessed if respondents felt that the message was trying to exploit them and deceive them in any way. This scale consisted of four items. One item was deleted because it failed to contribute to scale reliability. The perceived manipulation scale had a reliability of $\alpha = .80$. Means, standard deviations and reliabilities of all the scales used in this study are presented in Table 1.

Chapter 3

Results

Substantive findings

Proposition 1 stated that in Namibia, the population has pre-existing high levels of fear with regard to HIV/AIDS. Data from the control group were examined in order to test this proposition. Independent of any message induction, respondents in the control group indicated that they were very scared of the HIV/AIDS illness ($N= 63$, $M=4.31$, $SD = .91$). The majority of the respondents strongly agreed ($n=24$ 38.1%) or agreed ($n= 26$, 41.27%) that they were terrified by HIV/AIDS. Only 7 respondents (11.2%) in this group expressed that they were not afraid or were neutral towards the illness (See Figure 1). Further, the mean obtained in the control group was contrasted against the mid-point of the scale. A one sample t-test revealed that the control group mean on fear was significantly greater than the scale mid point, $t(373)=19.02$, $p<.01$.

Proposition 2 stated that threat inductions in messages are unlikely to increase fear when preexisting levels of fear are high. A two-way analysis of variance with threat and efficacy as fixed factors and fear as the dependent variable was conducted to test this proposition. No main effect for threat was detected on fear $F(1,127)=1.42$, $p=.24$, $\eta^2 = .01$. Respondents in both the high threat groups ($N=127$, $M= 4.12$, $SD = 1.11$) experienced more or less equal levels of fear when compared to those in the low threat conditions ($N= 124$, $M=3.96$, $SD=1.00$). Thus the data were consistent with Proposition 2. Regardless of the threat induction, respondents reported high levels of fear towards HIV/AIDS.

Two rival propositions were proposed to examine the role of low threat messages on fear levels. Proposition 3a stated that low threat messages will have little impact on perceptions of fear when levels of pre-existing fear are high. Proposition 3b stated that low threat messages will reduce the pre-existing perceptions of fear. The Dunnett's t-test that compares all conditions to the control group was conducted to investigate these rival propositions. Respondents in both, the low threat, high efficacy condition ($N= 59$, $M=3.99$, $SD=.95$, $p=.3$) and the low threat, no- efficacy condition ($N= 65$, $M=3.92$, $SD=1.05$, $p=.13$) were not significantly different on fear from the no-message control group ($N=63$, $M=4.31$, $SD = .91$).

However, a one-way analysis of variance that was conducted with fear as a dependent variable revealed significant between group differences, $F(5, 368)=3.15$, $p=.01$, $\eta^2 = .04$. In particular, respondents in the low fear, no efficacy condition ($N = 61$, $M= 3.92$, $SD = 1.05$) reported significantly less fear toward HIV/AIDS than those in the high fear, high efficacy group ($N= 65$, $M= 4.32$, $SD= .97$), $p=.03$. All other between-group comparisons were non-significant. Thus, results revealed that while the low threat messages did not have much impact on perceptions of fear when the message conditions were compared to the control group, this was not the case when the four experimental groups were compared with each other. Fear in the low fear, no efficacy group was significantly lower in comparison to the high fear, high efficacy group.

Proposition 4 posited that threat levels of a message will have little impact on attitudes, intentions and behavior. A two-way analysis of variance test revealed that threat levels in message content had no impact on intentions to use condoms, $F(1, 124) = .04$, $p=.84$, $\eta^2 = .02$, attitude toward condom use $F(1, 126) = .04$, $p=.85$, $\eta^2 = .01$, and

behavior, $F(1, 78) = 0.78, p = .38, \eta^2 = .01$. Respondents in the high threat conditions ($N = 124, M = 4.07, SD = 1.24$) held more or less similar intentions to use condoms when compared to participants in the low threat conditions ($N = 119, M = 4.09, SD = 1.11$). Likewise, respondents in the high threat groups ($N = 126, M = 4.42, SD = 0.75$) held similar attitudes towards condom use as those in the low threat condition ($N = 122, M = 4.44, SD = 0.83$). Lastly, no significant differences were observed between the high threat conditions ($N = 78, M = 0.41, SD = 0.51$) and the low threat conditions ($N = 71, M = 0.34, SD = 0.41$) on behavior. Thus, data were consistent with proposition 4.

Two rival propositions were advanced for Proposition 5: Proposition 5a predicted that under conditions of high pre-existing fear, the efficacy content of the message will have little impact on attitude, intentions and behaviors. In contrast Proposition 5b proposed that under the same conditions, the efficacy content of the message will have a positive impact on attitude, intentions and behaviors. A two-way analysis of variance revealed that responses in the high efficacy message ($N = 122, M = 4.16, SD = 1.12$) were not significantly different from the no- efficacy message condition ($N = 121, M = 4.00, SD = 1.13$) on intentions to use condoms, $F(1, 122) = 1.05, p = .30, \eta^2 = .00$. Similarly, in both the threat conditions, participants who read the high efficacy message ($N = 125, M = 4.42, SD = .82$) responded no differently than those in the low efficacy condition ($N = 123, M = 4.46, SD = .76$) in their attitude toward condom use, $F(1, 125) = .05, p = .83, \eta^2 = .02$. A two-way analysis of variance revealed that the efficacy levels in the message had a marginal impact on behavior, $F(1, 74) = 4.07, p = .054, \eta^2 = .03$. Regardless of threat levels, students who read the high efficacy message ($N = 74, M = 0.46, SD = .51$) were somewhat likely to adopt safe sex behaviors than those who did not read the

message ($N=75$, $M=.30$, $SD=.40$). In conclusion, proposition 5a was mostly supported. The efficacy content of a message did not have a substantial impact on intentions and attitude towards condom use, and had an ambiguous effect on behavior.

Proposition 6 stated that under conditions of high pre-existing fear, the efficacy content of the message will have a positive impact on attitude, intentions and behaviors when used in combination with a low fear message. In order to test this proposition, first the threat x efficacy interaction was assessed. Tests did not yield any significant interaction effects for intentions, $F(1, 242) = 0.93$, $p=.41$, $\eta^2 = .00$, attitudes, $F(1, 247)=.14$, $p=.64$, $\eta^2 = .00$, and behaviors, $F(1, 148)=2.06$, $p=.15$, $\eta^2 = .01$. Post Hoc tests confirmed that regardless of whether respondents were in the high fear, high efficacy group ($N=65$, $M=4.08$, $SD=1.22$), the high fear low efficacy group ($N=59$, $M=4.05$, $SD=1.27$), the low fear high efficacy group ($N=57$, $M=4.23$, $SD=1.01$), or the low fear no efficacy group ($N=62$, $M=3.96$, $SD=1.17$), their intentions to use condoms were more or less similar. $F(3, 242) = 0.57$, $p=.64$, $\eta^2 = .01$. Post hoc analyses revealed that respondents in the high fear, high efficacy group ($N=66$, $M=4.39$, $SD=0.80$) held somewhat similar attitudes toward condom use when compared to participants in the high fear, no efficacy group ($N=60$, $M=4.46$, $SD=0.69$), the low fear, high efficacy condition ($N=59$, $M=4.49$, $SD=0.85$) and the low fear no efficacy condition ($N=63$, $M=4.43$, $SD=0.82$), $F(3, 247) = 0.10$, $p=.96$, $\eta^2 = .00$. A one-way ANOVA found ambiguous effects for behavior, $F(3, 148) = 2.44$, $p=.067$, $\eta^2 = .05$. Although no significant difference was observed on behavior between participants in the high efficacy, high fear condition ($N=40$, $M=.54$, $SD=.58$) and those in the low fear, high efficacy conditions ($N=34$, $M=.36$, $SD=.41$, $p=.12$), respondents in the high fear, high efficacy condition

expressed significantly more positive behaviors than participants in the high fear, no efficacy condition ($N= 38$, $M= .29$, $SD = .41$, $p=. 01$) and the low fear, no efficacy condition ($N= 37$, $M = .32$, $SD = .41$). Thus overall, proposition 6 failed to receive complete support and message efficacy had limited impact on most dependent outcomes.

Lastly, a research question asked under conditions of high preexisting fear, what is the impact of a high efficacy only message on attitude, intentions and behaviors relative to control condition? An independent sample t-test was employed to examine the potential differences in attitudes, intentions and behaviors toward condom use between the efficacy only condition, and the control group. Respondents in the efficacy only group ($N=59$, $M= 4.07$, $SD=1.20$), and the control group ($N=63$, $M=4.26$, $SD =1.15$) did not differ significantly on intentions toward condom use, $t(128) = -0.879$, $p = .38$.

Likewise students in the efficacy only condition ($N= 58$, $M= 4.38$, $SD = 0.78$) did not differ from the no- efficacy condition ($N= 63$, $M=4.54$, $SD = 0.62$) on attitude toward condom use, $t(119) = 1.23$, $p=.22$. Lastly, students who read only the efficacy message ($N = 31$, $M= .43$, $SD =.43$) did not exhibit significantly different behaviors from those in the control condition ($N=38$, $M=.40$, $SD = .39$), $t(67)= 0.29$, $p=.77$. See Table 2 for a detailed description of mean values on all the dependent outcomes for all 6 experimental groups.

Supplemental Analyses

It can be argued that even though threat levels in message content did not increase fear in this context of pre-existing fear, perhaps message threat levels might impact levels of perceived threat, which in turn could influence dependent outcomes positively.

Because literature has used perceived threat and fear interchangeably, the impact of threat

messages on perceived threat is also explored. Interestingly, a main effect for message threat was found on perceived threat, $F(1,127) = 6.07, p = .01$. Respondents who read the highly threatening messages perceived these messages as more threatening ($N = 127, M = 3.76, SD = 0.73$) than those in the low threat condition ($N = 124, M = 3.53, SD = 0.70$). Nonetheless the effect size for message threat on perceived threat was very small, ($\eta^2 = .02$).

The role of low threat messages on perceived threat was further analyzed to examine proposition 3. The Dunnett's t-test revealed no significant differences in perceived threat between the low fear high efficacy group ($N=59, M= 3.51, SD=.73$) and the control ($N=63, M= 3.60 SD=0.79$). A comparison between the low fear no efficacy group ($N=65, M = 3.54, SD =0.68$) and the control group also did not yield any significance, $p = .10$.

In addition to testing the propositions in this study, an examination into the predictions of EPPM with regard to the role of fear, threat and efficacy in predicting fear and danger control outcomes (independent of message inductions) particularly in the context of pre-existing fear is worthwhile. Simple bivariate correlations revealed that fear was not correlated with intentions to use condoms $r(365) = .001, p = .99$, attitude towards condom use, $r(365) = .07, p = .21$, or behavior, $r(218) = .06, p = .37$. In contrast, threat was correlated with attitude toward condom use $r(361) = .48, p < .01$, but not intentions, $r(365) = .06, p = .28$, and behaviors, $r(218) = .11, p = .10$. Efficacy was the only variable that was positively correlated with all the dependent outcomes, intentions $r(365) = .32, p < .01$, attitudes, $r(369) = .49, p < .01$, and behavior toward condom use, $r(218) = .002, p < .01$. See Table 3 for correlations matrix for all the variables of interest.

Further, EPPM predicts that low levels of efficacy in comparison to threat levels result in fear control processes. That is, only respondents in this low efficacy/high threat situation are likely derogate the message, perceive that the message is trying to manipulate them and defensively avoid the message recommendation. To test this, respondents whose efficacy scored exceeded their threat scores were compared to those whose threat scores were higher than their efficacy measures (See Figures 2, 3 and 4). All three fear control outcomes were plotted on a scatter plot separately for both the groups. A negative relationship between the fear control outcomes (defensive avoidance, message derogation⁶ and perceived manipulation) for both the groups was found. Consistent with EPPM, an increase in the difference between the efficacy- minus- threat scores yielded lower levels of fear control outcomes. Yet, data showed that the higher the difference between the threat- minus -efficacy scores, the lower the likelihood to defensively avoid, derogate or perceive manipulation in the message. Further, no difference was observed between the high efficacy/low threat respondents and the high threat/low efficacy respondents on message derogation, $t(367) = 0.21, p = .81$, defensive avoidance, $t(367) = 1.93, p = .06$, and perceived manipulation, $t(368) = 0.81, p = .42$. In short, data revealed that the tenets of EPPM model did not hold.

⁶ Interestingly, a positive relationship between message derogation and the efficacy –threat scores were found. That is, respondents who scored higher on efficacy than on threat, also tended to derogate the message more. This finding is squarely contradictory to the EPPM predictions.

Chapter 4

Discussion

Fear appeals have long been used in numerous and diverse contexts in order to motivate people to adopt protective behaviors. Yet, the implications of using fear-based messages in contexts in which fear toward a target object pre-exists has not been empirically investigated. Nonetheless, fear based campaigns have presumed that communicating fear content can in fact influence people's fear levels even in these contexts. These vital assumptions remain to be tested.

For theoretical guidelines, the extended parallel processing model was chosen because this model represents the state of art thinking in fear appeal literature. Fear is central to EPPM and this model describes with great clarity and precision, the conditions under which fear appeals work or fail. This model has also been used in multitude of contexts and populations.

The HIV/AIDS illness in Namibia was chosen as a context to study the impact of fear based messages using the EPPM framework because of the severity of the onslaught of the disease in this country, and the rampant extent to which the pandemic has impacted the lives of people living there. More than one in five individuals in their prime (14 to 49 years) of age fall victim to this illness. AIDS is not just an illness that affects 'others.' For many Namibians, HIV/AIDS hits close to home. Indeed, HIV/AIDS is the single largest cause of death in Namibia, and given that a downward trend in the prevalence rate of HIV/AIDS is not being observed, it continues to threaten life, and socio-economic development in the country. In short, HIV/AIDS in Namibia provides an ideal context to test the impact of fear messages under pre-existing high fear.

Towards this end, the EPPM was outlined, and the ambiguity with regard to the role of fear in the context of a high fear message was highlighted in both co- relational and experimental studies. Next, an overview of the HIV/AIDS pandemic in Namibia was presented. In light of the Namibian context, propositions and research questions regarding the role of fear and efficacy in predicting attitudes, intentions and behaviors related to condom use was put forth based on the EPPM framework. A 2 (high/low threat) x 2 (high, no efficacy) factorial design with 2 offset controls, i.e., no message condition and an efficacy only condition was proposed to test these propositions. The messages and the instrument used in this study were modified from Witte's (1994) study.

First, a pre-study was conducted. This study aimed to assess if the messages constructed for the main study were easy to follow, and whether the instruments to be used in the final study were conceptually equivalent, particularly in a cross- cultural context. Most importantly, the pre-study was conducted to ensure that the messages were perceived as intended (that is, the high threat messages were in fact seen as highly threatening, and vice versa) by the target audience. However, conducting a pre-study posed a conceptual dilemma. This main proposition in this paper was that highly threatening messages would fail to scare people. In other words, one of the main propositions in the study was that the manipulation check would fail. This made it difficult to test whether in fact the messages designed were high and low in threat levels.

Two implications followed: First, it became imperative that a manipulation check be conducted in the pre-study. If the messages that the students were presented with, were not high and low on fear, then the entire study, its rationale and propositions, would remain untested. Second, unlike other studies, testing whether the messages had the

desired effect in the main study would be synonymous with testing its proposition, therefore making it impossible to conduct a meaningful manipulation check. Thus it was imperative that a manipulation check be conducted at the pre-study stage. However, even if pre-study data revealed that in fact the messages were perceived as intended, it would be unclear whether this was the case because the propositions in the study were being supported, or if in fact the message content had the desired effect, or both.

Two decisions were made to work around this conceptual problem. First, a within-subjects design was implemented. All participants were asked to read both the high and low fear messages. It was thought that if the same set of students were presented with both types of messages, they would be able to perceive the difference in the message if any. Second, subjects were asked to rate the message based on their opinion of how scary these messages might seem to people like them. Having participants withhold their own opinion and evaluate the message based on their perception of other people's reaction, was thought to increase their objectivity in evaluating the message, a criteria needed to be able to 'see' the message for what it is. Thus it was decided to avoid conducting a pre-study on a sample outside that of the student population in Namibia (e.g., expert rating of the messages, student sample in the United States). Conducting a manipulation check on the target population became possible.

The results of the pre-study suggested that the inductions were effective. Qualitative and quantitative data revealed that participants felt that the high threat message would be significantly more frightening than the low fear message. In addition, respondents felt that the high fear message would read as more threatening to people than the low fear message. Interestingly, after reading the low fear message, many participants

perceived a lack of emphasis on fear, and predicted that only a message high in threat would yield desirable outcomes. The efficacy message was also pre-tested. In comparison to participants who did not read any message on condoms, participants who read the high efficacy message were much more likely to feel that condoms could be trusted to prevent HIV/AIDS, and that using condoms was easy. Thus the results of the pre-study suggested that the message inductions were effective.

Proposition 1 posited that in Namibia, the population has pre-existing high levels of fear. The data were consistent with this proposition. Independent of any threat, the vast majority of students expressed that they were terrified by HIV/AIDS. Understanding why this is the case becomes clearer when data are viewed in the unique context of HIV/AIDS in Namibia. The degree and extent of HIV/AIDS in Namibia, and its deadly consequences to the lives of people have made most Namibians very familiar with this illness. Many Namibians have had close personal experiences with this illness, and have lived the deadly consequences that this disease entails. They have witnessed that HIV/AIDS has been the single most serious threat to their life, social and economic progress. AIDS has been the primary cause of death of their loved ones. For example, when they were asked how many people they know who are infected by the virus, many students replied, ‘ Hundreds. We cannot even count.’ The majority of the respondents reported having a family member or a friend who had died of AIDS. More than two-thirds of the respondents mentioned that they knew a family member or a friend living with HIV/AIDS. Indeed, all Namibians have high knowledge about the causes and fatal consequences of this illness (Murray-Johnson, Keulder & Witte, 2004a). Given this, it is only natural that HIV/AIDS scares them.

The question that becomes relevant given this high pre-existing fear towards HIV/AIDS is whether people's perceptions of fear can be altered (can be increased or decreased) so that fear can be channelized to persuade people to engage in protective behaviors. Proposition 2 stated that threat inductions in messages would not increase perceptions of fear. Data supported this proposition. The groups that read the high fear message did not experience higher levels of fear than the groups that read the low fear message. Because people had lived to witness the harsh realities of HIV/AIDS, a message, however potent in threat appeared too weak to make any meaningful difference to people's pre-existing fear levels. Interestingly, even though the pre-study elicited strong emotional reactions of fear, and the respondents strongly believed that other people would be terrified about HIV/AIDS after reading the message, this was not the case when respondents were asked to rate their own fears. This strongly suggests that Namibians have lived and experienced far worse situations, and reading a mere description of the consequences of the illness (however gruesome and deadly) was pale in light of their personal encounters with the illness.

If fear levels cannot be meaningfully increased by message inductions, the question remains whether they can be lowered. This is an important question (particularly in the context of high pre-existing fear), because if fear levels can be lowered to a point where efficacy levels were greater than fear levels, then people can be motivated to adopt healthy and protective behaviors (EPPM). To test if fear levels can be lowered by message inductions in a high pre-existing fear context, the data obtained in the no message control group served as a baseline against which the scores of the two low fear conditions were compared. Results revealed that participants who read the low fear, high

efficacy message, and the low fear no efficacy message were more or less equally fearful of HIV/AIDS as those who had not read any message at all. In other words, the low fear message failed to alleviate pre-existing fear levels. As argued previously, perhaps respondents found that the low fear content in message (howsoever realistic in content), was not consistent with their own real life experiences with the illness. It appears that they were not able to bring themselves to fear less about this illness.

Therefore, if the threat content of a message did not increase or reduce fear levels, this study posited that threat levels of a message would have little impact on attitudes, intentions and behaviors related to condom use. Based on EPPM, it was reasoned that because fear, the intervening variable (between message threat and dependent outcomes) is invariant, there will be no relationship between threat and the dependent outcomes. Results were consistent with this proposition. Regardless of whether respondents were in the high fear high efficacy, the high fear, no efficacy group, the low fear, high efficacy condition, or the low fear no efficacy condition, their intentions, attitudes and behaviors with regard to condom use were more or less similar. Thus, message threat made little difference to these dependent outcomes.

The role of efficacy in predicting the dependent outcomes was also examined. Two rival propositions regarding the impact of efficacy on attitudes, intentions and behaviors related to condom use were proposed. If the efficacy content in the message exceeded threat levels, then positive impact on dependent outcomes can result (per EPPM). In addition to the two rival propositions, a research question regarding the role of efficacy only messages (in the absence of any threat message) in impacting these outcomes was also posed. Because fear already pre-exists, it was thought that perhaps an

efficacy only messages could yield a desirable outcome. The data suggested that the efficacy content of a message had little impact on attitudes, and intentions related to condom use, and a marginal impact on behavior. Even though respondents in all four conditions exhibited similar attitudes and intentions toward condom use, students who read the high efficacy message (regardless of threat levels) were somewhat likely to adopt safe sex behaviors than those who did not read the message.

Proposition 6 posited that participants in the low threat, high efficacy condition would be more positive in their attitude, intentions and behaviors related to condom use than respondents in the other three conditions. Based on the EPPM, it was thought that if fear could be reduced to a level where efficacy was higher than threat, then positive impact on the dependent outcomes might result. However, when the threat x efficacy interaction was assessed, a significant interaction effect was not found on intentions, attitudes, or behaviors. Further, post hoc tests revealed that the four experimental groups did not differ in their intentions to use condoms, and that they held somewhat similar attitudes toward condom use. For behavior, although no significant difference was observed on behavior between participants in the high efficacy, high fear condition and those in the low fear, high efficacy conditions, respondents in the high fear, high efficacy condition expressed significantly more positive behaviors than participants in the high fear, no efficacy condition and the low fear, no efficacy condition.

To test whether the efficacy only message was effective in influencing dependent outcomes positively, the responses of the efficacy only condition were compared to the no message control. The data revealed that the respondents in the efficacy only condition fared no better than the no message control condition on attitudes, intentions and

behaviors with regard to condom use. Thus, the efficacy- only message did not yield a substantial impact on the dependent outcomes.

In short, data suggested that varying message threat levels in the message did not increase or lower perceptions of fear among participants. And because fear is the motor in the EPPM model that drives individuals to embrace protective or maladaptive outcomes, increasing or reducing threat levels in message did not impact dependent outcomes. This, combined with the lack of interaction between threat and efficacy, as well as evidence presented in the supplemental analyses that assessed patterns in participants' fear control respondents, showed that the tenets of EPPM did not hold. But it can be argued that perhaps message threat levels impacted levels of perceived threat (and not fear), which in turn influenced dependent variables positively. If this were the case, then respondents in the high threat message conditions would perceive higher threat than those in the low threat conditions. Data yielded support for this although the effect size for message threat on perceived threat was very small. Even though respondents in all four experimental conditions were equally scared of HIV/AIDS, participants in the high threat conditions felt more threatened with regard to HIV/AIDS than those in the low threat conditions.

Thus the data revealed the subtle and yet important distinction between fear and threat. Even though the relationship between fear and threat is substantial, $r(374) = .38$, $p < .01$, participants did not respond to these two constructs in the same way. While the difference between fear and threat is an important one, a discussion on the implications of this distinction is worthwhile. First, it is important to keep in mind that the high threat condition respondents felt as threatened by HIV/AIDS as those in the no message control

condition. Just like fear, levels of threat in the experimental conditions were not different from the no message control.

Second, even if one looked within the four experimental groups and concluded that perceived threat can be impacted (unlike fear) in the context of high pre-existing fear, the effect of perceived threat on the dependent outcomes was minimal. As presented earlier, data supported the claim that threat levels in messages have little impact on the dependent outcomes. Further more, supplemental analyses revealed that the relationship between perceived threat and behaviors is modest, and its relationship with attitudes, intentions is weak. Thus it appears that even though perceived threat can be manipulated, there is not much yield in doing so under conditions of pre-existing fear, given that threat perceptions have little impact on the dependent outcomes.

Third, given that data suggests that a) fear cannot be impacted in the context of preexisting fear, b) threat levels in messages only have minimal impact on people's perceptions of threat and c) fear and threat are not substantially associated with most dependent outcomes, it becomes evident that the role of fear and threat in a context of pre-existing fear is minimal. These findings are interesting because they contradict a rather intuitive notion that fear and threat inductions are required to elicit pro-healthy behaviors. "If only they knew how deadly HIV/AIDS is", "if only we could scare them enough," is an intuitive approach, but not one that is supported by empirical evidence in this study. Practitioners, and campaign designers are strong believers that this approach will work. Millions of dollars are being spent on fear campaigns in Namibia and elsewhere in Africa. Not only practitioners, but even Namibians themselves strongly recommend frightening others like them so that positive action can be elicited. Despite

seeing and living the consequences of HIV/AIDS, they still believe that threatening people with a message on AIDS can impact their intentions, attitudes and behaviors positively. And often the debate about the use of fear is simply an ethical one, “Should we or should we not use fear to change people’s behaviors and attitude when people are already scared of a target object?” In reality the question is much deeper, and pertains to that of potential, “Can we, or can we not use fear to change their attitudes and behaviors in a high pre-existing fear context? The response to these questions based on data obtained in this study is in the negative. Thus the assumption of campaign designers that they can modify fear levels and thereby influence people’s attitudes, intentions and behaviors positively is not supported by empirical data. Also, it appears that efficacy messages used in conjunction with fear messages do little to influence attitudes, and intentions positively. Given these findings, it appears that there is little value in using fear appeals in such contexts.

That fear appeals do not work in a pre-existing fear context, might throw light on *when* fear appeal messages might operate effectively. Perhaps when the extent and magnitude of a target object (HIV/AIDS, in this example) is so high that it crosses a threshold, fear messages might not be effective in creating additional fear, in lowering fear, or in achieving desirable outcomes. Similarly if the magnitude of the target object and its prevalence is very low or non-existent, fear is less likely to impact people’s minds. If people are unaware of a target object, it is less likely that they can be made to fear about it. Above and below these two high and low threshold points, the contents of fear appeal might be irrelevant. Between these two threshold points, it is likely that fear can be induced (increased or lowered), and can elicit desirable outcomes.

For example in the context of HIV/AIDS, instilling fear towards the illness by way of a message may not be an effective approach in Namibia, and similar results may be found in other African countries as well where the HIV/AIDS prevalence rate and the consequences it entails has crossed an upper limit. Likewise, in contexts where the prevalence rate and the impact of the illness has still not reached a minimum point, scaring people into believing that HIV/AIDS is an illness that one should beware of, might not be effective. Only in contexts where the HIV/AIDS infection has just begun to spread rapidly and has started to create a substantial but not overwhelming impact (e.g., India, China), fear messages might prove timely and effective. Thus between the high and low threshold points of fear, there is room for molding fear so that it yields beneficial results. Future research in this area will be extremely beneficial in guiding scholars and practitioners by specifying exactly when the threshold points (both high and low) are crossed for a particular target object, and when the time is right to introduce fear-based messages so that it's impact will be most effective. This information can be incorporated as part of any audience analysis and can prove pivotal in executing a meaningful campaign.

Lastly, the lack of effectiveness of fear- based messages found in this study also highlights the complexity of the target object chosen in this study, HIV/AIDS. This disease cannot be viewed outside the social context within which it is harbored. In Namibia, unprotected sexual intercourse, the primary reason for HIV/AIDS transmission is intrinsically linked to issues of gender relations, alcohol and drug abuse, poverty and unemployment. There is a strong belief that the responsibility to stem the surging tides of HIV/AIDS infections lies with the woman alone. Alcoholism is seen as the root cause

that leads to unprotected sex and HIV/AIDS. Many Namibians feel that it is meaningless for them to think about using protection when unprotected sex provides them with some money to buy food. Given this wider social context, it is no surprise that an effort focusing on scaring people and promoting condom use alone does not yield desirable outcomes. These interwoven social issues are deeper and warrant a multi-pronged approach, and any campaign that fails to acknowledge the interrelationship between these issues is likely to be less effective.

Many campaigns, and AIDS education efforts continue to treat HIV/AIDS as a medical condition, and not a social condition. For example, in Namibia, messages on AIDS rarely allude to alcohol abuse, even though alcoholism has been identified as the primary cause that promotes unprotected sex. Similarly, HIV/AIDS campaigns do not discuss gender issues, even though safe sex negotiations are housed within the context of gender relations. Instead, messages isolate HIV/AIDS from these vital issues, and such a 'stand alone' approach does not resonate with people who live within the myriad of social context. What is also needed to enhance effectiveness in addressing attitudinal and behavioral change is an attempt to build local capacity. Local capacity can be mobilized to evolve indigenous methods that address the illness 'from within.' This approach might result in the creation of communication message content, channel and medium that might be very different from mainstream approaches, and yet be very effective in achieving desired outcomes.

Lastly, it must be acknowledged that this study is not without limitations. One of the most important limitations in this study is the method in which the propositions have been tested. Many of the propositions in the study predict no effect, or the null. However,

in null hypothesis significance testing, when data reveal 'no effect,' the null is not accepted. Rather, one fails to reject it. In order to minimize the risk of failing to reject the null when it is false, a sample size large enough to provide modest power was included. However, a much larger sample size would have provided further confidence in retaining the null. Future research can employ other statistical techniques that are better suited to test propositions predicting the null. In addition, there was some attrition between phase 1 and phase 2 of the study. Although 60% of the phase 1 respondents completed the phase 2 survey, a higher proportion of participants would have provided greater confidence in interpreting the behavioral results.

In conclusion, the results of the study strongly suggest that there is little substantive yield in scaring the already scared. From a practice point of view, it appears that the consequences associated with fear-based messages are not substantial enough to justify the investment of time and money required to design and disseminate such HIV/AIDS messages. This finding is particularly important in the context of HIV/AIDS intervention. Further testing can be undertaken using different target audiences in varied settings to see if these findings are replicated. Perhaps then we can be more confidence in making any conclusive claim about the utility of fear messages in a context of pre-existing fear.

Appendix A

Tables

Table 1
Means, Standard Deviation and Reliabilities of Constructs

Variable	Mean	Standard Deviation	Alpha
Severity	4.23	0.86	.81
Susceptibility	3.20	0.96	.85
Perceived threat	3.60	0.73	.79
Fear	4.04	1.06	.91
Response Efficacy	3.46	0.10	.86
Self efficacy	3.79	0.86	.87
Perceived Efficacy	3.64	0.80	.88
Attitudes	4.44	.076	.91
Intentions	4.11	1.17	.92
Behaviors	0.39	0.45	0.91
Defensive Avoidance	2.31	1.03	.87
Message Derogation-General	1.87	0.92	.70
Message Derogation –AIDS	2.05	0.94	.77
Message Derogation – Condoms	2.53	1.07	.81
Perceived Manipulation	1.73	0.77	.80

Table 2
Group Means on Dependent Outcomes

Variable	Condition 1		Condition 2		Condition 3		Condition 4		Condition 5		Condition 6	
	<i>High Fear, High Efficacy</i>		<i>High Fear, Low Efficacy</i>		<i>Low Fear, High Efficacy</i>		<i>Low fear, no efficacy</i>		<i>Efficacy Only</i>		<i>No message control</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Intentions	4.08 (1.22)		4.05 (1.27)		4.24 (1.01)		3.96 (1.18)		4.07 (1.20)		4.26 (1.12)	
Attitudes	4.39 (0.80)		4.46 (0.69)		4.45 (0.85)		4.43 (0.82)		4.38 (0.78)		4.54 (0.62)	
Behaviors	0.54 (0.58)		0.28 (0.41)		0.36 (0.41)		0.32 (0.41)		0.43 (0.44)		0.40 (0.39)	
Defensive Avoidance	2.29 (0.96)		2.25 (0.10)		2.20 (1.01)		2.31 (1.02)		2.51 (1.09)		2.32 (1.15)	
Message Derogation	1.67 (0.79)		1.85 (1.08)		1.72 (0.81)		2.11 (0.99)		1.90 (0.83)		1.96 (0.93)	
Perceived Manipulation	1.61 (0.69)		1.71 (0.81)		1.64 (0.68)		1.72 (0.82)		1.86 (0.75)		1.86 (0.82)	

Table 3
Correlation Matrix of Variables of Interest

	Fear	Perceived Threat	Perceived Efficacy	Attitudes	Intentions	Behaviors
Fear	.					
Perceived Threat	.36**					
Efficacy	.03	.06				
Attitudes	.07	.11*	.49**			
Intentions	.001	.06	.33**	.48**		
Behaviors	.06	.11	.21**	.23**	.24**	

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

Appendix B

Figures

Figure 1
Fear Among Control Group Respondents

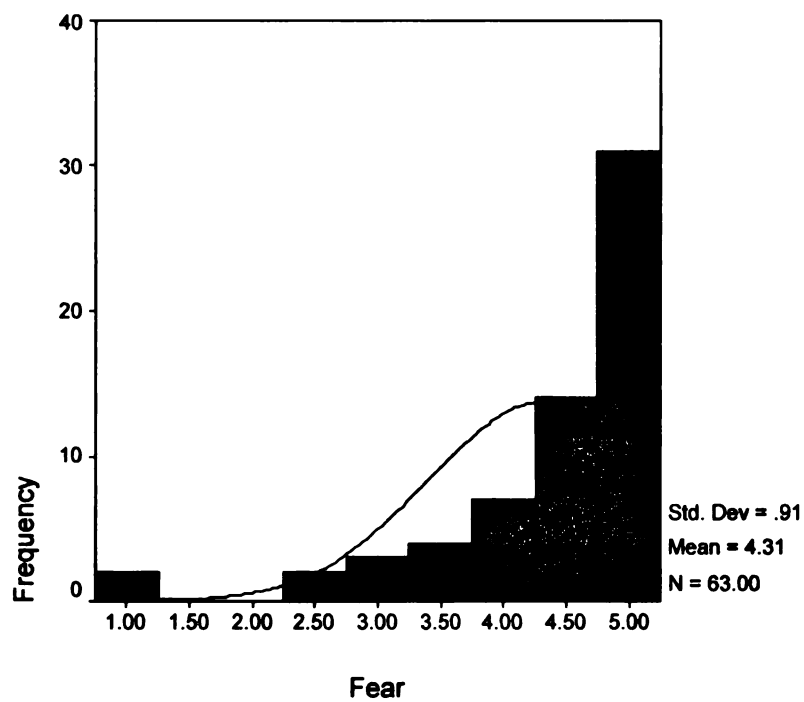


Figure 2
Defensive Avoidance for Respondents in Fear and Danger Control Groups

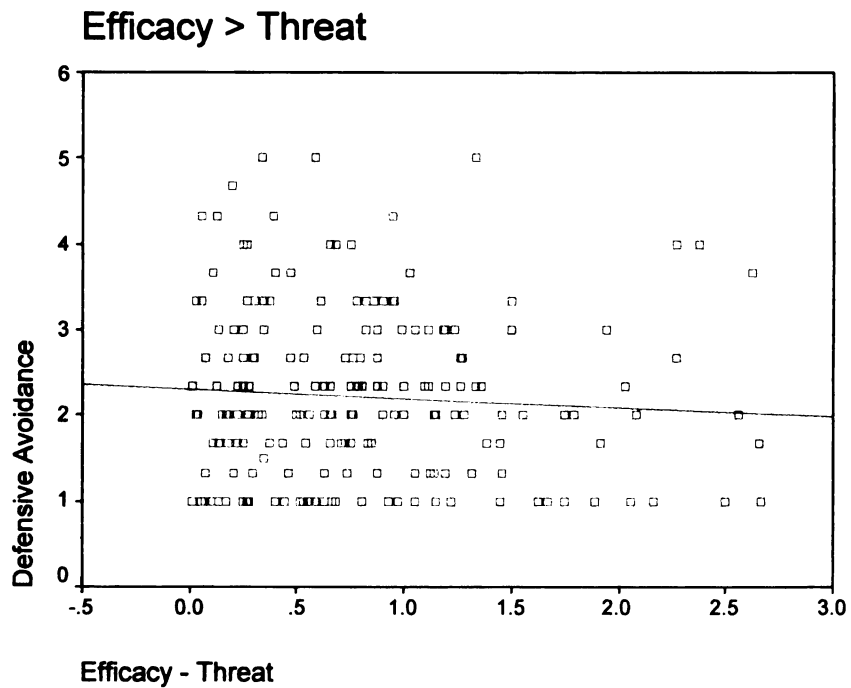
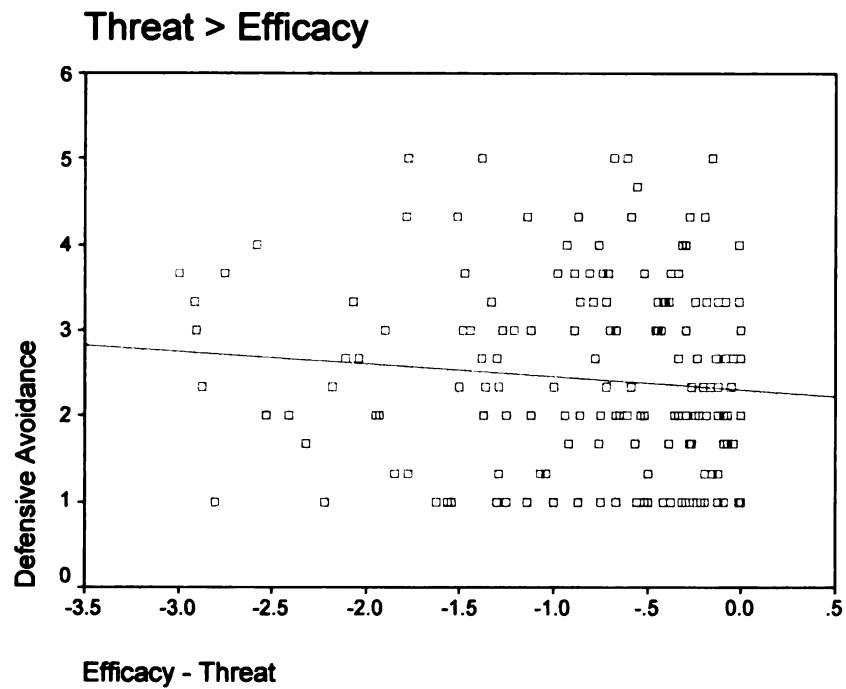


Figure 3
Message Derogation for Respondents in Fear and Danger Control Groups

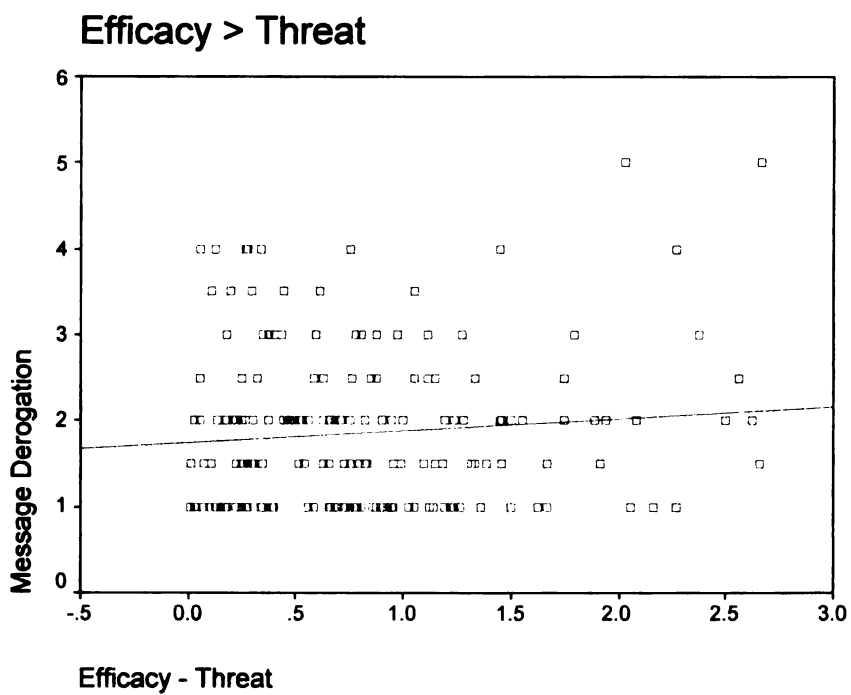
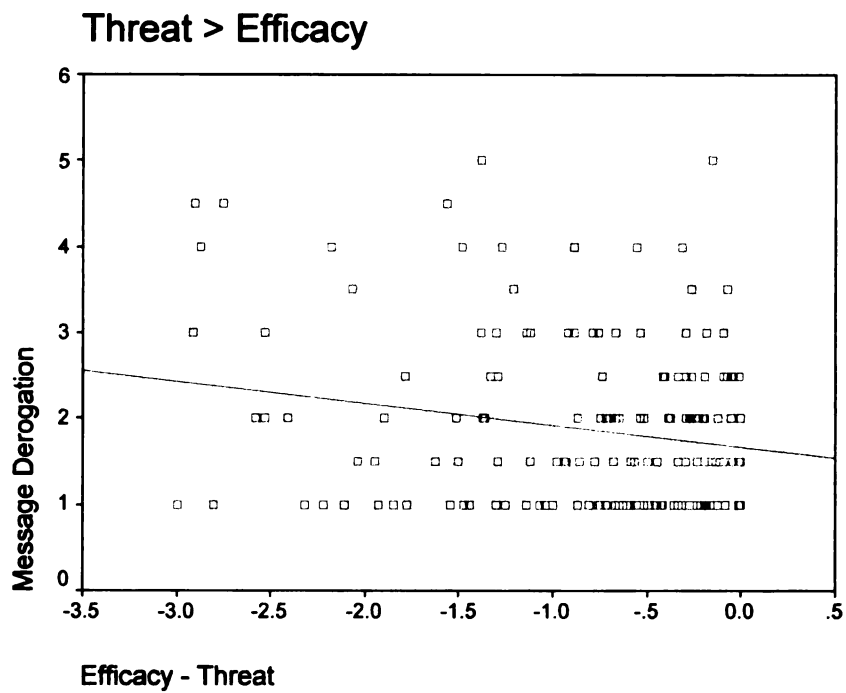
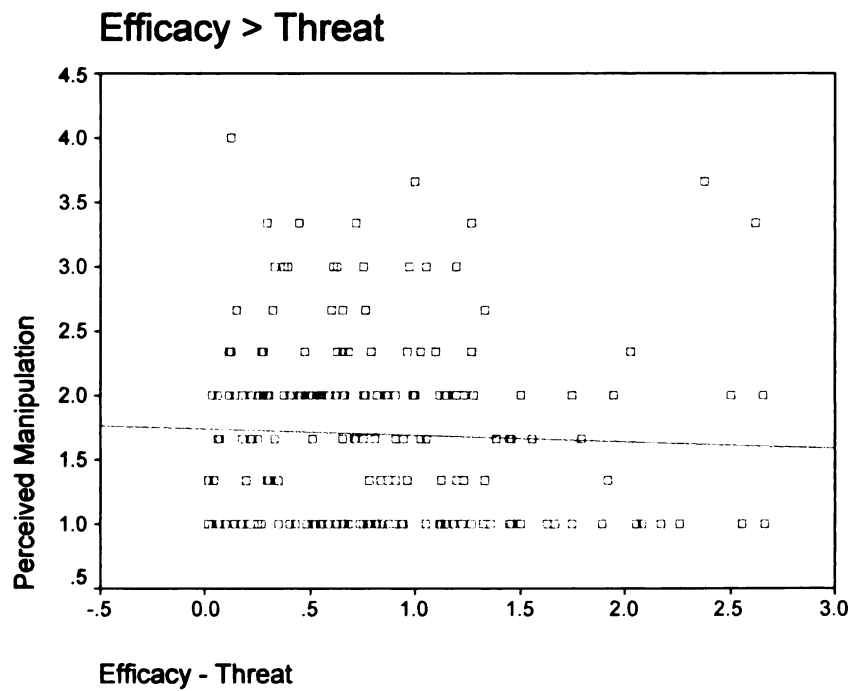
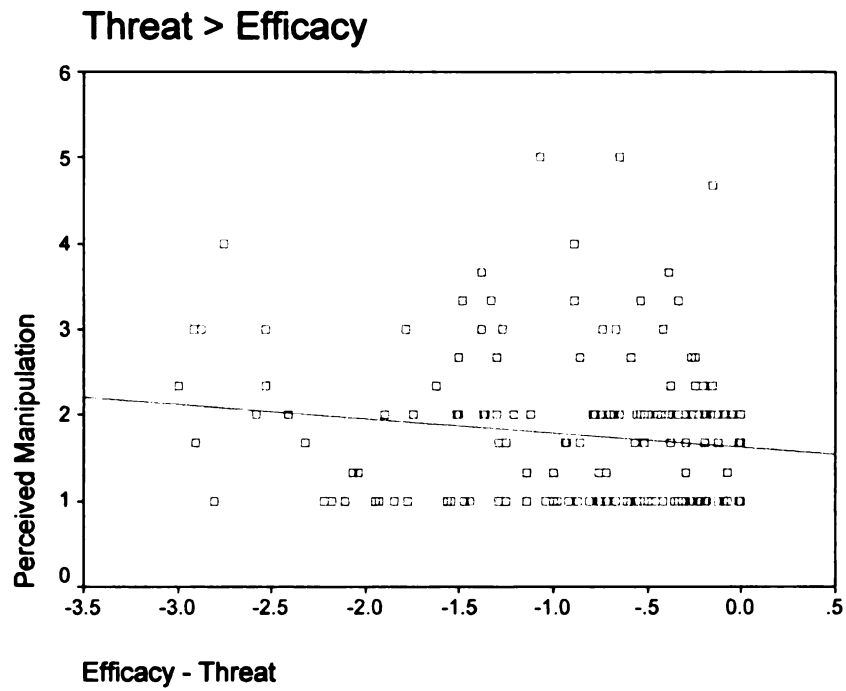


Figure 4
Perceived Manipulation for Respondents in Fear and Danger Control Groups



Appendix C

Messages

Message 1

High Fear Message

Please read the message below carefully and underline sentences and paragraphs that you think are important.

AIDS is a deadly disease. AIDS kills by damaging the brain and destroying the body's ability to fight illnesses. Having sex and sharing needles with infected persons can lead to AIDS. There is no known cure for AIDS. Therefore, a person who gets AIDS dies. Saying "no" to sex, no to sharing needles, and using condoms reduces chances of getting HIV/AIDS. The problem with AIDS is that you cannot tell by simply looking at your partner if he/she is infected. You cannot even know by asking him/her, because they cannot be trusted. What if your partner slept with some one in the past who was HIV+ and did not tell you about it? Also, your partner may be HIV+ and not even know it. Thousands of people are HIV+ and don't know it. So, think negative: If something can go wrong, it will.

AIDS is not 'out there.' but very near us, right here in Namibia. HIV/AIDS is the leading cause of death in Namibia. Namibia has the highest infection rate in Sub Saharan Africa, and is third in the world. You may think that AIDS doesn't affect you personally, but it does. Don't we all know a friend or a family member who has suffered or died from AIDS? Everyone is at risk for AIDS. Research shows that university students just like you are at a high risk for getting HIV/AIDS. According to a UNAM report, ⁷ increased sexual activity in campus, sugar-daddy practices, sexual experimentation, prostitution, unprotected sex, multiple partners, and other high-risk activities exist in UNAM. This study concludes that the UNAM culture affirms risk more than safety, and death more than life. Remember, 22.5% of people between the ages of 15- 49 are infected in Namibia. Look around your classroom—this means about 1 person out of every 5 students around you could have the AIDS virus. **THE REASONS TO FEAR ARE HERE, RIGHT NOW, AMONGST US.**

Here is a case study from Medical Journal: A doctor who had just treated a 19 year old student for sore throat referred him to a hospital in Windhoek. There, the student complained of tiredness, and bleeding wounds all over his body, including his private (genital) area. He tested HIV +. The student's mouth, throat, and private areas were badly affected by diseases named 'Kaposi Sarcoma' and 'Perianal Herpes'. Because of AIDS, his whole body was an open wound with dozens of red-blue pus-infected sores (See picture in next page). He was in unbearable and agonizing pain even when he had to eat or go to the bathroom. His skin was eroded, and he had constant diarrhea, causing acute burning in the anal area. He had several tumors on the penis. To prevent more infection, the open pus-infested wounds in his body had to be cleaned daily. This was extremely painful. Because he had difficulty in breathing, tubes were inserted into him. But then thick, choking liquid filled the wounds causing bubbling in his throat and windpipe. The patient was too ill to benefit from any treatment. He got more infections and died within 32 hours. The worst part was that nothing could be done to prevent his terrible suffering and death.

⁷ The name of the report is: " The impact of HIV/AIDS on the University of Namibia and the University Response"

Message 2
Low Fear Message

Please read the message below carefully and underline sentences and paragraphs that you think are important.

Very simply, AIDS is caused by a virus that prevents the body's ability to fight other diseases. AIDS is not spread by casual contact in parties, by hugging, or shaking hands with anyone. You cannot get AIDS by being near an infected person, drinking from the same cup, or sharing a toilet seat. People cannot get AIDS by witchcraft. So not everyone is at risk of AIDS. Having sex and sharing needles with infected persons may lead to AIDS. And this can be easily prevented by saying "no" to sex and drugs, or by using condoms. Remember that even if a person is HIV+, he/she need not have any symptoms of AIDS. Also, getting AIDS is not the end of the world. AIDS by itself does not lead to death. So don't think that your life is over. Do not panic!

At present, hundreds of people around the world are working on vaccines and cures for AIDS. Treatments have also improved greatly. As a result, some HIV+ people may live up to 25 years and even more without getting AIDS! Recently, Australian scientists reported that they found a simple, yet highly effective way to help fight HIV infections. So there is much to hope for!! **THERE IS LESS TO FEAR NOW!** With the help of HIV tests people can get early treatments that will help protect them from other diseases, and live longer. In short, there is no point in worrying about HIV/AIDS! You need to think positive!

When the AIDS epidemic first started, new cases were found only in 'special' risk groups, especially among gay men. In the 1990s in the United States, nearly 70% of AIDS patients were gay men. So not everyone is at risk of getting HIV/AIDS. Also, AIDS seems to have originated far away from Namibia, in Central Africa. If you are wondering about the extent of AIDS around you in UNAM, be assured! UNAM seems to be well protected from AIDS. There have been very few HIV/AIDS related deaths on campus to date.⁸ According to a UNAM report⁹, only 3 staff and 7 students died of HIV/AIDS between 1994 and 2000". So don't be afraid!

Here is a case study from a medical journal: A 45 year-old male prostitute was referred by his doctor to Central London Hospital in London. There, when he complained of tiredness and rash, tests revealed that he was HIV+. But he did not have AIDS. The results of the Western Bolt test and the RIPA test (see pictures in next page) showed that nothing was physically wrong with him. He had no signs of AIDS or AIDS-related illnesses. He recovered quickly within a week from the rashes. He became healthy again and returned to his home. His family had no problems adjusting to the knowledge of his HIV status. He also began an experimental treatment. In the future, he may benefit from other promising treatments. In this patient, there are absolutely no signs of AIDS or AIDS-related illnesses. His diagnosis appears to be excellent and he still remains healthy.

⁸ www.2ncsu.edu

⁹ The name of the report is: The impact of HIV/AIDS on the University of Namibia and the University response.

Message 3
High Efficacy Message
HOW CAN I PREVENT AIDS?

Please read the message below carefully and underline sentences and paragraphs that you think are important.

One of the main reasons for AIDS in Namibia is sexual intercourse. Therefore the only way to protect oneself is to abstain, or use condoms. The facts about condoms are clear: If you cannot abstain, then using condoms is the best protection against AIDS at this moment. Using condoms can dramatically reduce your chances of getting HIV/AIDS. People who do not use condoms are 10 times more likely to get AIDS than those who do. Other birth control methods do not protect against HIV. So if you are sexually active, use a condom. It will keep you safe! Condoms have other benefits too. They are super easy to use! They do not cost much. No one will ask you questions when you buy them! You don't even need a medical prescription. You can find condoms in many places, in shops and bars too! It's so easy to carry a condom! (Turn the page to see pictures.) Also, condoms can be pulled out in the "heat of the moment." Putting on a condom takes no time! Buy a pack and try them! Use a condom every time you have sex. Never use the same condom twice. Put on the condom before the penis makes any contact.

It may be difficult for you to talk about sex, and condoms. Here are some sentences that might make starting a conversation a little easier without even mentioning AIDS!

- a) "I care about you a lot, but I don't want to do anything that we may regret later. If we decide to go further, how do you feel about using condoms?"
- b) "If you're thinking what I'm thinking...then we'd better get condoms before we go any further."
- c) "It is not that I don't trust you, but I will relax and enjoy more if we use condoms."
- d) "Don't think that I am immoral or promiscuous. I simply don't want to regret anything later."

Talk to your partner and see what he or she thinks. If he/she comes up with excuses, here are some responses you could use!

If your partner says:	Your response could be :
"Putting it on interrupts everything"	"Not if I help put it on!"
"It does not feel as good with condoms"	"I'll be more relaxed. Then I can make it feel better for you"
"Not this time, please just this once"	"Once is all it takes!"
"But don't you love me?"	"Yes I do and if you love me too you will help protect ourselves"
"Men don't use condoms"	"But responsible men do"
"Oops I don't have one. We can use it next time"	"I have one"
"I don't sleep around, I'm not gay, and I don't do drugs"	"That's not the point. No one is safe. So let's protect ourselves"
"Condoms are too expensive"	"Protecting our lives makes the expense worth it for me"

So don't be shy to talk about using condoms. IT IS SO SIMPLE TO USE CONDOMS. YOU CAN DO IT!! The battle against HIV/ AIDS will be won only if **YOU** protect yourself. Be determined and committed to protecting yourself! Your life is in **YOUR HANDS ALONE!** **CONDOMS CAN SAVE YOUR LIFE!**

Appendix D

Questionnaires

Questionnaire 1

Phase I

Now, please respond to **all the statements** below. Remember that there are no rights or wrong answers. We only seek your **honest opinion**. Please answer all questions **truthfully and completely**. No one will ever be able to connect your questionnaire with you.

You may notice that some questions may sound similar. Please just answer them honestly and accept our apology if we seem to be asking the same thing more than once.

Using a pen or pencil, please **circle the number** that **best** reflects your feelings and opinion. Circle **only one** number per sentence.

1. I feel frightened of HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

2. HIV/AIDS scares me.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

3. HIV/AIDS terrifies me.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

4. I am worried about HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

5. I am afraid of HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

6. I believe that HIV/AIDS is a serious disease.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

7. I think that HIV/AIDS is extremely harmful.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

8. I believe that HIV/AIDS is a brutal disease.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

9. I consider HIV/AIDS to be a harsh disease.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

10. Sometimes I worry that I might get HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

11. It is possible that I might get HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

12. It is likely that I may be at risk of getting HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

13. I feel that I may get HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

14. I might be likely to get HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

15. Condoms are quite effective in helping reduce the spread of HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

16. Condoms can be trusted to prevent the spread of HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

17. Condoms can help protect oneself from HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

18. If I/my partner (sexual partner) use condoms, then I will feel better protected against HIV /AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

19. I feel that condoms are easy for me/my partner to use.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

20. Condoms are simple for me/ my partner to use.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

21. I feel that I/my partner can use condoms.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

22. Condoms are quite clear-cut for me/my partner to use.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

23. According to me, condoms are quite straightforward for me/my partner to use.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Regardless of your intentions to have sexual intercourse, please respond to the following statements as though you will have sex during the next two weeks or so. Again, your response will remain completely anonymous.

24. I intend to have sexual intercourse during the next two week or so. (Circle one number)

1. Yes 2. No

25. In the next two weeks or so, I hope to talk to my partner about using condoms.

1	2	3	4	5
Definitely No		Not sure		Definitely Yes

26. I plan to talk to my partner about the advantages of using condoms, in the next couple of weeks.

1	2	3	4	5
Definitely		Not sure		Definitely
No				Yes

27. In the next two weeks or so, I intend to talk to my partners about how easy it is to use condoms.

1	2	3	4	5
Definitely		Not sure		Definitely
No				Yes

28. In the next couple of weeks, I intend to convince my partner that we must use condoms.

1	2	3	4	5
Definitely		Not sure		Definitely
No				Yes

29. I intend to buy condoms or tell my partner to buy condoms in the next couple of weeks.

1	2	3	4	5
Definitely		Not sure		Definitely
No				Yes

30. In the next two weeks or so, I intend to use condoms or have my partner use condoms to protect myself.

1	2	3	4	5
Definitely		Not sure		Definitely
No				Yes

Please circle the number that best reflects your feelings and opinion. Circle only one number per sentence.

31. When having sex, condoms should be used.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

32. When having sex, using condoms is the right thing to do.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

33. Condoms should be used to protect oneself.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

34. Me or my partner using condoms when having sex is a good thing.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

35. When having sex, using condoms is a safe thing to do for me and my partner.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

36. If I decide to have sex, then it is beneficial for me/ my partner to use condoms.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

When answering the statements below, please think of the messages you read. Please answer all questions truthfully and completely.

37. The minute I realized that this message is about HIV, my first thoughts were "oh please, not another HIV/AIDS message!"

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

38. To be honest, this message on AIDS makes me want to 'switch off' and think of something other than HIV/AIDS!

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

39. Frankly, this message makes me feel like saying "stop, tell me no more about HIV/AIDS. I have had enough!"

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

40. While I was reading the message on HIV/AIDS, I thought to myself "I do not want to know anything more about HIV/AIDS; I'm just going to block out anything I hear about it."

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

41. HIV/ AIDS is not as big a deal as the message makes it out to be.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

42. This message blows HIV/AIDS out of proportion.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

43. This message is trying to make me feel afraid for no reason.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

44. In my opinion, there is no such thing as HIV/AIDS.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

45. There is a lot of wrong information about facts on AIDS in the message I read.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

46. According to me, this message does not give correct information about how HIV/AIDS spreads.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

47. The message I read, gives wrong information about what HIV/AIDS does to an infected person.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

48. I feel there is a lot of wrong information about facts on condoms.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

49. This message does not correctly describe how HIV/AIDS can be prevented by the use of condoms.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

50. This message gives a lot of wrong information on how useful a condom is in preventing HIV/AIDS.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

51. This message on HIV/AIDS is just trying to control my feelings, and I am not going to allow it.

1	2	3	4	5
Strongly	Disagree	Neutral	Agree	Strongly
Disagree				Agree

52. This message on HIV/AIDS is trying to exploit my feelings, so I am going to ignore it.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

53. This message is trying to manipulate (play with) my feelings.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

54. I feel that HIV/AIDS is really a foreign country's plot against us.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

55. I believe that getting or not getting HIV/ AIDS is not in our hands.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

56. The truth is, no matter what one does or does not do, one can get HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

57. In reality, there is little one can do to prevent the spread of HIV/AIDS.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

58. The fact is, getting HIV/ AIDS is not in our control.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

59. If I am destined to get HIV/AIDS, then I will get it, no matter what.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

Please indicate which of the following is true for you.

1. Which of the following best describes your sexual experiences? (Circle only one number.)

1. I have never had sex

2. I have had sex

2. How often you use condoms? (Circle only one number).

1. Never

2. Rarely

3. Sometimes

4. Most of the time

5. Always

6. Not Applicable (I have never had sex.)

3. I am currently involved in a sexual relationship.

1. Yes

2. No

4. I am currently involved in multiple (many) sexual relationships.

1. Yes

2. No

5. Have you ever-used needles to shoot up drugs , steroids, etc.? (Circle only one number)

1. Yes

2. No

6. Have you ever had unprotected sex with someone who uses needles to shoot up drugs or steroids?
(Circle only one number)

1. Yes

2. No

3. Probably

7. How many different people did you have sex with during the past three months?

8. Have you got tested for HIV? (Circle only one number)

1. Yes

2. No

9. What is your gender?

1. Male

2. Female

10. What is your age? _____

11. Currently, which year of university are you in? _____

12. What is your marital status? _____

13. Are you currently involved in long term relationship (three or more months?)

1. Yes

2. No

14. Do you know a family member or friend who is living HIV+ or has AIDS?

1. Yes 2. No

15. Do you know a family member or friend who has died from AIDS?

1. Yes 2. No.

16. How many people in your friends and family circle do you know who have been affected by the virus?

17. Are you Namibian?

1. Yes 2. No

17a. If you are Namibian, then what region of the country do you belong to? _____

17b. If you are not Namibian, what country do you come from? _____

18. If you are not Namibian, how many years have you been living in Namibia?

19. Have you come across any advertisement (radio, TV, Posters) on HIV/AIDS?

1. Yes 2. No.

20. Do any of these HIV/AIDS advertisements scare you? (Circle only one number)

1. Yes 2. No, not really

Questionnaire 2
Phase II

*The statements below are designed to get responses about your behavior since you completed the first part of the study. Please answer **all** questions truthfully and completely. No one will ever be able to connect your questionnaire with you. Please circle only one number per sentence.*

1. After I participated in the first part of the study, I talked to my partner about using condoms

1. Yes

2. No

2. After I took part in this study, I convinced my partner to use condoms.

1. Yes

2. No

3. I talked to my partner about the advantages of using condoms after participating in this study.

1. Yes

2. No

4. After I participated in this study, I/my partner bought condoms.

1. Yes

2. No

5. After I participated in this study, I/my partner used condoms.

1. Yes

2. No

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