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The relationship between specified dispositional and cognitive variables and AIDS related health behaviors

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**THE RELATIONSHIP BETWEEN SPECIFIED DISPOSITIONAL
AND COGNITIVE VARIABLES AND AIDS
RELATED HEALTH BEHAVIORS**

by

Robert J. Pellegrino, BBA, MBA

Submitted in partial fulfillment of the
requirements for the degree of
Doctorate in Business Administration

**LOUISIANA TECH UNIVERSITY
COLLEGE OF ADMINISTRATION AND BUSINESS**

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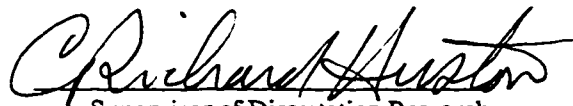
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We hereby recommend that the dissertation prepared under our supervision
by Robert Joseph Pellegrino

entitled The Relationship Between Specified Dispositional and Cognitive
Variables and Aids Related Health Behaviors

be accepted in partial fulfillment of the requirements for the Degree of

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ABSTRACT

The research presented here provides evidence for the use of dispositional psychological states within the Ordered Protection Motivation model. Specifically, the use of dispositional variables is supported when the threat is one related to health (such as AIDS). The study examined a sample of undergraduate students from Louisiana Tech University. Regression was used to determine if four dispositional variables (Health Locus of Control, Sexual Locus of Control, Narcissism, and Sociosexual Orientation) added explanatory power to the ordered protection motivation model.

This study is of particular interest to marketers who produce public service announcements. The objective of any public service campaign is to change the public's behavior in some manner. By using dispositional psychological states to target high risk groups of people, the promotion (public service announcement) becomes more effective.

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CHAPTER 1

INTRODUCTION

Public Service Announcements (PSAs) are one manifestation of current trends in social marketing. The proliferation of public service announcements that deal with everything from AIDS to drug use to the evils of secondhand smoke makes the study of PSAs extremely important to social marketers. Public service announcements attempt to inform individuals in an effort to modify an individual's socially unacceptable behavior.

The long-term effectiveness of PSAs within a public policy campaign is questionable (Warner, 1977). The short-term effect of PSAs can be seen clearly when one looks at the effect of PSAs on cigarette smoking.

While both studies (Warner, 1977; Hamilton, 1972) conclude that the anti-smoking ads were effective in the short-run, it is plausible that their marginal effectiveness would have diminished over time as their early successes reduced the smoking population to more "hard-core" smokers (Warner, 1977, p. 649).

As a result of the anti-smoking campaign, society adopted new norms that made smoking unacceptable in many situations (Warner, 1977). It is important to note that PSAs are a powerful tool within the context of a public policy campaign (Warner, 1977). Hamilton (1974) indicated that the use of anti-smoking advertisements deterred smoking much more powerfully than pro-smoking advertisements encouraged it.

Additionally, Warner (1977) presented empirical evidence as to the effect of public policy on the reduction of smoking. A change in basic cultural values toward smoking can be seen by noting the proliferation of "non-smoking areas."

The anti-smoking campaign had a clear, identifiable message: STOP SMOKING! The AIDS PSAs ask for a modification of behavior and focus the viewer on information gathering. The recommended modifications in behavior include drug users not sharing needles, appropriate use of condoms during sex, or complete abstinence from the sex act. The effect of AIDS PSAs, which have been running since 1987, can be seen in the general public's greater understanding of how AIDS/HIV is transmitted and how individuals can protect themselves (Global Aids News, 1993).

It seems appropriate to say that the physical and psychological effects that are felt by individuals when they quit smoking, while painful and difficult, may not be comparable to the physical and psychological effects of regulation of sex in one's life. Because of these potential differences in the two campaigns (anti-smoking and AIDS), it is prudent to separate the research done on AIDS PSAs from anti-smoking PSAs.

One important dimension of AIDS PSAs concerns the effectiveness and relevance of fear-arousing communications. Much of the available research in this area deals with how fear-arousing communications affect an individual's attitudes and behavior. Specifically, Sutton and Eiser (1984) as well as Rogers and Deckner (1975) identified the effect of fear when presented in anti-smoking advertisements. Several other articles have also examined the effects of fear-arousing communications (Brooker, 1981; Burnett and Oliver, 1979; Dembroski, Lasater and Ramirez, 1987;

Janis, 1967; Leventhal, 1970; Leventhal, Singer and Jones, 1965; Radelfinger, 1967; Ray and Wilkie, 1970; Robbins, 1962; Rogers, 1983; Rogers and Mewborn, 1967; Schwarz, Servay and Kumpf, 1985; Sherer and Rogers, 1984; Spence and Moinpour, 1972; Sutton, 1982; Wheatley, 1971). None of these studies, however, identified the effect that such fear-arousing communications might have on the adoption of suggested behaviors related to minimizing AIDS risk.

A useful model for explaining how threats are psychologically processed and controlled is Rogers' Protection Motivation Theory (1975). Rogers' Protection Motivation Theory attempts to explain how threat communications are acquired, processed, and resolved.

Several articles have elaborated on the Protection Motivation Theory (Rogers, 1983; Maddux and Rogers, 1983; Rippetoe and Rogers, 1987; Van der Velde and Van der Pligt, 1988; Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1994). Initially, Rogers based his Protection Motivation Theory exclusively on cognitive processes. However, as Rogers' model was refined, non-cognitive psychological processes such as fear and efficacy were also included. The inclusion of additional non-cognitive (dispositional and behavioral) variables appears to represent the next stage in the elaboration of the Protection Motivation Model.

Research on PSAs and their effect on behavior change is not exclusively the realm of Protection Motivation. Five articles specifically discussed the psychological processing and effects of PSAs from other theoretical perspectives (Hill, 1988; LaTour,

1989; Bush and Boller, 1991; Singer, Rogers and Glassman, 1991; Bagozzi and Moore, 1994).

Several articles employing other theoretical models attempt to identify cognitive variables as determinants of behavior and attitude change (Dommeyer, Marquard, Gibson and Taylor, 1989; Dinning and Crampton, 1989; Manning, Balson, Barenberg, and Moore, 1989; Thurman and Franklin, 1990; Singer, Rogers and Glassman, 1991; Petosa and Jackson, 1991; Goertzel and Bluebond-Langner, 1991; Carroll, 1991). Each of these articles used cognitive (knowledge-based) variables to explain changes in behavior and attitudes.

The use of dispositional psychological variables (e.g., locus of control, narcissism, and sexual orientation) to explain changes in AIDS-related attitude and behavior in subjects exposed to specific stimuli dealing with AIDS has not been as widely researched as has the use of cognitive variables. Several articles have identified non-cognitive psychological variables that may moderate the effect of AIDS PSAs (Aspinwall, Kemeny, Taylor, Schneider and Dudley, 1991; Hayes, 1991; LaTour, 1989; Perkel, 1992; Rosenthal, Moore and Flynn, 1991; Hill, 1988). These articles do not, however, identify specific measurable dispositional non-cognitive psychological states that may affect the manner in which an individual processes information provided to him/her through a PSA.

This study proposes that some specific dispositional non-cognitive psychological variables may, in fact, moderate AIDS-related sexual behavior. These dispositional, non-cognitive psychological variables include health locus of control,

sexual regulation locus of control, sociosexual orientation, and narcissism. These variables are referred to as dispositional variables for the remainder of this study. The reasoning for the selection of these particular variables is discussed in greater detail later in this study.

Statement of the Problem

The underlying problem that is being investigated by this research deals with how individuals process threat-related information presented to them through a social marketing communication. Information that is presented within PSAs related to AIDS has a high level of threat-communication content. The effectiveness of these communications is of prime concern to marketers engaged in social marketing. Any information, therefore, that assists marketers in understanding the behavior of targeted groups of consumers is beneficial.

A current trend in social marketing is to describe threat communications, such as AIDS PSAs, using the theory of Ordered Protection Motivation (OPM) (Tanner et al., 1989; Tanner et al., 1991; Eppright et al., 1994). In the past, Protection Motivation models have excluded dispositional or non-cognitive variables (Rogers, 1975; Maddux and Rogers, 1983; Rogers, 1983; Rippetoe and Rogers, 1987). By including such dispositional, non-cognitive variables in the Protection Motivation model, this research enhances understanding of health-threat behaviors. The central problem of this study relates specifically to the determination of whether or not certain dispositional variables, when added to a set of traditional Ordered Protection

Motivation variables and regressed against behavior variables, significantly increases the explanatory power of the model.

Purpose and Justification

The reasoning for the selection of the specified dependent variables (adaptive and maladaptive behavior) used in this study follows standard procedures in Ordered Protection Motivation (OPM) research. Ordered Protection Motivation research generally classifies respondents' actions, following exposure to the stimulus, as either adaptive behavior (ADAPT; i.e., acts in a manner consistent with the message presented in the stimulus) or maladaptive behavior (MALAD; i.e., acts in some manner inconsistent with the stimulus (Eppright et al., 1994). For example, if an individual who views PSAs regarding AIDS remembers the information from the PSA but nevertheless engages in unprotected sex with a previously unknown partner, such behavior would be considered maladaptive. If, however, the same individual makes appropriate use of a condom or abstains from intrusive sex, the individual's actions would be considered adaptive behavior.

The independent variables used in this study that relate to knowledge acquisition (cognitive-based variables) were previously identified by Eppright (Eppright et al., 1994). These cognitive-based variables were experiential prevention knowledge (EPK), generalized problem knowledge (GPK), threat source certainty (TSC), probability of AIDS threat (PROB), vulnerability of AIDS threat (VULN), and fear of AIDS threat (FEAR). Cognitive-based models were developed as an extension of

Rogers' Protection Motivation theory. The Eppright model proposed that certain types of efficacy may moderate behavior. Efficacy relates generally to the ability to achieve results. However, Eppright's empirical results only indicated a marginal relationship between self-efficacy and information search behavior and showed no relationship at all between self-efficacy and either adaptive or maladaptive behavior.

Even though the results of the Eppright studies were, in general, not significant with regard to Eppright's efficacy and behavior variables, the theoretical reasoning for including non-cognitive variables in Ordered Protection Motivation models was sound. With this in mind, the study presented here identifies several independent dispositional variables that may be significantly related to behavior variables within an Ordered Protection Motivation framework. The dispositional variables that were selected were health and sexual locus of control, sociosexual orientation, and narcissism. A detailed description of the definitions and rationale for selecting these variables follows.

Locus of control concerns the beliefs that individuals hold regarding the relationship between actions and outcomes. Lefcourt identifies locus of control as follows:

Locus of control refers to assumed internal states that explain why certain people actively, resiliently, and willingly try to deal with difficult circumstances, while others succumb to a range of negative emotions. . . . [A] generalized expectation of external control is defined as a pervasive belief that outcomes are not determinable by one's personal efforts. The converse, an internal locus of control, is the belief that outcomes are contingent upon actions. Within social learning theory it is possible to describe individuals as holding expectations that are more "internal" or "external" with regard to causation and thus to control (Lefcourt, 1988, p. 413-414).

Lefcourt's explanation of general locus of control may not, in and of itself, justify using locus of control as a dispositional variable in this study. It is reasonable, however, that those individuals holding a more internal health or sexual locus of control (i.e., believing that their behaviors could affect whether or not they acquire AIDS) would be more likely to engage in adaptive AIDS-related behavior than those individuals holding a more external health or sexual locus of control (i.e., believing that their behaviors would not affect their probability of acquiring AIDS).

The second general dispositional variable that the researcher included to explain AIDS-related health behavior was narcissism. Wink described an aspect of narcissism that indicated that the variable may be appropriate.

The inflated sense of self-esteem of the narcissist masks feelings of vulnerability and insecurity which surface only in times of crisis and in response to failure. Through a mechanism called splitting, the narcissists are generally unaware of their conflict and contradictory attitude toward the self (Wink, 1992, p. 51).

Thus, those individuals who have a higher level of narcissism might believe themselves less vulnerable to AIDS. Therefore, these individuals may be less likely to conform to adaptive AIDS-related health behaviors because of the perceived invulnerability associated with high levels of narcissism.

The third dispositional variable that was examined was sociosexual orientation. The sociosexual orientation variable was assessed within three domains. The first domain concerns various aspects of an individual's overt sexual behavior; i.e., how often someone has sex. The second domain concerns aspects of an individual's covert sexual activity; i.e., how often someone fantasizes about sex. The third domain in the

sociosexual orientation inventory concerns an individual's attitudes toward engaging in casual, uncommitted sexual relations. By assessing both overt and covert sexual behavior as well as an individual's attitudes toward sex, the construct provides a more comprehensive indication of an individual's overall orientation towards sexual behavior. Simpson and Gangestad (1991) indicated that the sociosexual orientation inventory may be correlated with maladaptive behavior regarding the contraction of the AIDS/HIV virus.

Individuals who score high on the inventory tend to possess an unrestricted sociosexual orientation. Such individuals typically have engaged in sex with more partners in the preceding year, they foresee more partners in the near future, they have engaged in more one-night stands, they fantasize more often about having sex with someone other than their current partner, and they adopt more permissive attitudes toward engaging in uncommitted sexual relations (Simpson and Gangestad, 1991, p. 873).

Thus, health and sexual regulation locus of control, narcissism, and sociosexual orientation were included because of their potential relationship to adaptive and maladaptive AIDS-related health behaviors. It is the purpose of this research to establish a basis for possibly including dispositional psychological variables within the Ordered Protection Motivation model.

Statement of Hypothesis

The major hypothesis of this study is that the addition of specific dispositional variables (health and sexual regulation locus of control, narcissism, and sociosexual orientation) to the Ordered Protection Motivation model will significantly increase the explanatory power of the model.

Methodology

The methodology for this investigation followed conventional procedure. First, the researcher assessed the respondent's cognitive state (general problem knowledge) using a scale developed by the Centers for Disease Control and other researchers (Tanner et al., 1989; Tanner et al., 1991; Eppright et al., 1994). Second, the subjects were tested for the dispositional variables health locus of control, sexual regulation locus of control (Lefcourt, 1988), narcissism (Emmons, 1987), and sociosexual orientation (Simpson and Gangestad, 1991). Third, measures for the Ordered Protection Motivation variables were obtained from the subjects using scales identified in Eppright et al. (1994). Last, the subjects were measured for behavior intentions (adaptive, maladaptive, and information search behavior). These behavior intentions served as the dependent variables. All subjects for this study were Louisiana Tech University undergraduate students. A complete description of the sample follows in Chapter 3.

Due to the sensitive nature of the information that was obtained from the subjects, anonymity was guaranteed. Procedures were used to assure the anonymity of the respondents. This anonymity was achieved in accordance with Louisiana Tech University's Human Use Committee directives. The respondents were not required in any way to participate in the survey. Additionally, the subjects were given the option of terminating their participation at any time during the study. The respondents read and signed a human subjects consent form that was approved by the Human Use

Committee. All completed measurement instruments were deposited in a sealed box and not removed until the data collection process was completed.

The analysis of the information was sectioned into two parts. First, all of the variables used in the study were correlated in order to test for multicollinearity. This analysis was done using the Pearson correlation procedure. The correlation procedure was also performed in order to identify possible relationship paths in future research.

Second, the researcher tested whether the dispositional variables added any explanatory power to the cognitive variables. This analysis was accomplished by observing three sets of regression procedures. Seven regression equations were calculated using each of the three dependent variables.

The first set of regression equations used adaptive behavior as the dependent variable. The independent variables for the first regression equation included only the Ordered Protection Motivation variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy). The second regression equation added sociosexual orientation to the OPM variables as an independent variable. The third regression equation included the dispositional variable narcissism and the Ordered Protection Motivation variables as independent variables. The fourth regression equation included the dispositional variable health locus of control and the Ordered Protection Motivation variables as independent variables. The fifth regression equation included the dispositional variable dyadic sexual regulation locus of control and the Ordered Protection Motivation

variables as independent variables. The sixth regression equation included all four of the dispositional variables and the Ordered Protection Motivation variables as independent variables. The seventh regression equation included sociosexual orientation, narcissism, health locus of control, and dyadic sexual regulation locus of control as independent variables.

The second set of seven regression equations used maladaptive behavior as the dependent variable. The independent variables were selected in the same manner as in the adaptive behavior regressions.

The third set of seven regression equations used information search behavior as the dependent variable. The independent variables were selected in the same manner as the previous two sets of regression equations.

The study observed if any of the dispositional variables significantly increased the explanatory power of the regression equations. The results of this study should indicate whether or not the dispositional variables should be included in future Ordered Protection Motivation research.

Limitations and Delimitations

A limitation of the study concerns the students' possible reluctance to respond truthfully to sensitive questions posed to them in the assessment instrument. Because of the private, sexual nature of some of the questions that were asked, anonymity was assured. While all reasonable measures were taken to assure completely anonymous responses, some of the subjects may not have responded truthfully to the more sensitive

questions. To reduce such response bias, all participants deposited their completed questionnaire in a sealed box and were assured that none of the questionnaires would be removed until the entire data collection process was completed.

The first delimitation of this study concerned the sample on which the research was based. The sample was drawn from a population of Louisiana Tech University students enrolled during the winter quarter of 1993-94. Since the sample was a convenience sample, external validity was limited. This delimitation does not allow for the results of the study to be generalized to the population. This is not a serious delimitation, however, because the major hypothesis of this study does not require a representative sample since it was a test of a theoretical idea (Churchill, 1991), that being whether or not dispositional variables need to be added to the Ordered Protection Motivation theory.

A second delimitation of the study involved the sample size. Because of the large number of variables and the potential relationships between these variables, the limited sample size prohibited the use of structural equation modeling.

Organization

This dissertation is presented in five chapters. Chapter 2 contains a detailed review of the literature that supports the premises and theory of the dissertation. Because of the limited research done in this specific area, several different research streams were combined and presented to support this dissertation. The research within

each stream is presented in chronological order to demonstrate the development of the research over time.

Chapter 3 is concerned with the methodology employed in this study. The chapter first presents a description of the sample drawn for the study. The chapter then presents a description of the variables used in the study and the measurement tools used to operationalize those variables. Hypotheses are then presented. The third chapter also reviews the statistical methods employed in the study. Finally, the chapter differentiates the study from prior studies.

The results of the study are presented in Chapter 4. Chapter 4 first presents the analysis of the validity and reliability of the measures. The chapter then reports the results of the study. Lastly, a summary of Chapter 4 is presented.

Chapter 5 includes four sections. The first of these provides an overview of the study. The second section presents a discussion of the research findings. The third section presents study contributions. Lastly, study limitations, delimitations and directions for future research are discussed. All data collection instruments used during the research are included in the appendix to this dissertation.

CHAPTER 2

A REVIEW OF THE LITERATURE

Understanding consumer behavior is a goal central to marketing. For an organization to effectively implement the marketing concept, the organization must first understand the reasoning and behavior of its consumers. The concept of consumer behavior applies not only to for-profit organizations, but also to organizations whose purpose is solely to improve the public good. The need for non-profit entities to understand consumer behavior provides the basis upon which the researcher began this investigation.

Modern American society provides many subjects of interest to public marketing. One of these subjects is the education of the population as to the dangers of sexually transmitted diseases (STDs). The most dangerous of the STDs that exist in modern society is AIDS. This particular STD has been called the plague of the 20th century. Once the HIV (Human Immunodeficiency Virus) is contracted, AIDS invariably overcomes the infected individual's immune system, and the individual dies of some secondary infection. According to the World Health Organization, there are an estimated 1,000,000 cases of HIV infection and over 800,000 cases of adult AIDS in North America (W.H.O., 1994). The World Health Organization also estimates that 85

percent of those infected with HIV in North America are men (W.H.O. 1994). Because of the inevitable death of infected persons and the limited number of approved treatments, public health organizations are focusing on prevention as opposed to treatment. Much work has been done with respect to educating people about AIDS and how this disease is contracted (Dommeyer et al., 1989; LaTour, 1989; Manning et al., 1989; Solomon and DeJong, 1989; Thurman and Franklin, 1990; Bush and Boller, 1991; Carroll, 1991; Goertzel and Bluebond-Langner, 1991; Singer et al., 1991). The results of these studies seem to indicate that information campaigns are very effective in increasing the knowledge base of the targeted population. However, since behavior change regarding "high risk activities" in the population is the ultimate goal of these campaigns, the success of these campaigns is questionable. It should be noted that information campaigns (social products) that are presented to individuals through mass media, such as television, follow the same rules as private sector advertising.

Emotions' Effect on Advertising

When trying to understand how individuals process information regarding some personal threat, one must include the concept of emotion or feeling. AIDS poses an immense personal threat to individuals. Therefore, the inclusion of emotion is of special interest when one is considering information regarding AIDS.

According to Lavidge and Steiner (1961), individuals must pass through a series of steps before they accept the message of any advertisement. It is the ultimate hope of the advertiser that the individual will respond with behavior suggested by the

advertisement. While the number of steps developed by Lavidge and Steiner (1961) has been adjusted over time, there are still three basic functions that advertising must serve.

These three advertising functions are directly related to a classical psychological model which divides behavior into three components or dimensions: 1. The cognitive component--the intellectual, mental, or rational states. 2. The affective component--the emotional or feeling states. 3. The conative or motivational component--the striving states, relating to the tendency to treat objects as positive or negative goals (Lavidge and Steiner, 1961, p. 60).

Most of the more recent literature is consistent with this basic view (Shimp, 1981; Gardner, 1985; Hill and Mazis, 1985; Batra and Ray, 1986; MacKenzie et al., 1986; Edell and Burke, 1987; Holbrook and Batra, 1987; Aaker et al., 1988; MacKenzie and Lutz, 1989; Homer, 1990; Olney et al., 1991). Several studies have identified the sequential order of processing as knowledge, feeling, and behavior (Shimp, 1981; MacKenzie et al., 1986; MacKenzie and Lutz, 1989; Homer, 1990). These articles focus on the concept of attitude toward the ad and the ad's effect on brand choice. The articles also include three aspects of the affective process: mood, emotion, and feeling. These affective states are used to explain mediating states between information processing and behavior.

More specifically, several articles relate mood states, emotion, or feelings to advertising effects (Hill and Mazis, 1985; Gardner, 1985; Batra and Ray, 1986; Edell and Burke, 1987; Holbrook and Batra, 1987; Aaker et al., 1988; Olney et al., 1991). All of the articles listed previously agree as to the importance of identifying the "feelings" that are elicited from a particular advertisement.

Fear in Advertising

When considering the use of social marketing as a tool to battle a health crisis, one must evaluate the subject of fear appeals. The use of fear in marketing is well documented in the literature (Wheatley and Oshikawa, 1970; Ray and Wilkie, 1970; Stuteville, 1970; Wheatley, 1970; Spencer and Moinpour, 1972; Brooker, 1981; Rotfeld, 1988; Strong et al., 1991). These articles seem to indicate that moderate fear messages can be more effective than very high or very low fear messages. Stuteville (1970) indicated that the content of the message may affect acceptance of the fear feeling. He suggested that individuals insulate themselves against certain fear messages if they relate to a "favorite vice" such as cigarette smoking, as opposed to an unexpected message such as cyanide in a pain reliever (Stuterville, 1970).

The use of fear communications has been well documented (Janis, 1967; Leventhal, 1970; Sutton, 1982). When the fear construct is studied in a communications framework, the focus usually relates to some sort of danger. "Most studies of fear communication have dealt with dangers to the body. These communications typically consist of two parts: (1) information describing a danger and (2) information (recommendations) on how to avoid the danger" (Leventhal, 1970, p. 121). When public service announcements are produced regarding AIDS/HIV, it is not uncommon for these announcements to focus on the physical danger that the virus poses.

The effectiveness of fear communications has been found to depend on the level of fear that is imposed on the receiver.

. . . [T]he average person will be most likely to accept precautionary recommendations when his level of reflective fear is aroused to an intermediate degree, rather than when it is either very low or very high. This prediction would apply to all plausible threat-reducing recommendations in all types of warning communications-- . . . the news releases by public health authorities that call attention to the harmful effects of cigarette smoking or to any other hazards requiring adaptive changes in attitudes and action (Janis, 1967, p. 192).

All three of the studies cited (Janis, 1967; Leventhal, 1970; Sutton, 1982) indicated that the perceived efficacy of the recommended action is of key importance when anticipating reactions to the communications.

The effect of a fear-arousing communication should depend upon the amount of reassurance the recipient is given as to the effectiveness of the recommended action in averting the threat. If the recommended action is perceived by the recipient to be highly effective, then increasing fear should lead to more acceptance (assuming that there is no residual fear in the high-fear condition). If, on the other hand, the action is perceived to be ineffective, then increasing fear should lead to defensive reactions and hence less acceptance (Sutton, 1982, p. 314-315).

Sutton (1982) clearly suggests that an efficacy variable, or set of variables, should be used in any model that includes the fear construct.

Fear communications have been used in a variety of public service campaigns. Some specific articles that deal with public service campaigns have focused on anti-smoking (Rogers and Deckner, 1975; Warner, 1977; Sutton and Eiser, 1984; Schwarz et al., 1985; Moschis, 1989). In the case of the anti-smoking campaign, behavioral change has accompanied attitudinal change. According to Warner (1977), the consumption of cigarettes was significantly decreased by the 1964 Surgeon General's report on the dangers of smoking. Additionally, Warner reported that the anti-smoking advertisements did contribute to significant reductions in cigarette consumption.

Sutton and Eiser (1984) found that the cognitive component of the anti-smoking advertisements (direct information) influenced the smoker's decision to quit smoking (behavior change). However, they also indicated ". . . that it may be premature to discount the level of fear aroused by a communication as having no causal role in the mediation of communication effects" (Sutton and Eiser, 1984, p. 32).

Several articles have investigated the effect of fear appeals on attitude change with regard to health beliefs (Leventhal et al., 1965; Radelfinger, 1965; Rogers and Mewborn, 1976; Dembroski et al., 1978; Beunett and Oliver, 1979; Rogers, 1983; Sherer and Rogers, 1984; Robberson and Rogers, 1988). Rogers (1983) indicated that individuals do not always behave rationally when confronted with real health threats. He further indicated that this irrational behavior may suggest that there should be some evidence of variables other than cognitive variables affecting the behavior.

Perhaps the answer is that, when confronted with real danger, many cognitive (e.g., limited storage capacity, inertia) and motivational (defensive avoidance, denial) processes prevent an optimal (i.e., multiplicative) integration of information (Rogers, 1983, p. 179).

Rogers also indicated that if the subjects being studied were presented with a hypothetical or potential threat, as opposed to an immediate one, cognitive and motivational barriers would be less likely to be aroused. Rogers did find some evidence that the response to a potential threat was far more rational than the response to a real current threat. The effectiveness of health-crisis education may therefore be accentuated by communicating a potential threat. Because of the hypothetical nature of the information presented in such educational programs, one can probably discount

explaining maladaptive responses with defense avoidance, hypervigilant coping strategies, or hyperdefensive strategies. Additionally, because the potential threat information is more apt to be processed in a highly rational manner, the effect of personality differences should be clearly observed (Rogers, 1983).

Another effect that has been documented in the literature with regard to health beliefs relates to vividness. According to Sherer and Rogers,

Vivid information differs from pallid or nonvivid information on three dimensions. These three dimensions or components of vividness are (a) emotional interest, (b) concreteness, and (c) proximity (Sherer and Rogers, 1984, p. 323).

The authors reported that the emotional interest component had a significant impact on behavioral intentions. However, the components of vividness had little, if any, effect on behavior intentions. The sparse support for this construct as a mediator of behavior precludes its use in this particular study.

When considering fear appeals in health-related education, it is reasonable to assume that the specificity of the recommended action could affect the individual's subsequent behavior. This situation was addressed in a 1965 article by Leventhal, Singer and Jones. They found that adaptive behavior occurred more often when the individual was given a specific plan as opposed to general recommendations (Leventhal, Singer and Jones, 1965). This finding seems reasonable and should be considered when developing tests of specific public service announcements to identify these PSAs' effectiveness.

AIDS in Education and Advertising

Bush and Boller (1991) indicated that television is an important "weapon" in the fight against AIDS. The authors provided a rhetorical analysis of the federal television AIDS advertising campaigns from 1987 to 1989. Their findings indicated that the 1987 campaign started by building awareness of facts. The 1988 campaign continued by attempting to build worry and fear in the viewers. The 1989 campaign then attempted to provide viewers with a coping response. This process of knowledge leading to fear and fear leading to coping response is supported by most models related to threat appraisal (Rogers, 1975; Rogers, 1983; Maddux and Rogers, 1983; Rippetoe and Rogers, 1987; Van der Velde and Van der Pligt, 1988; Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1992; Eppright, Tanner and Hunt, 1992).

In recent years, several articles have appeared in the literature concerning AIDS information campaigns. Many of these articles focus on college students (Hill, 1988; Dommeyer et al., 1989; LaTour, 1989; Manning et al., 1989; Thurman and Franklin, 1990; Carroll, 1991; Goertzel and Bluebond-Langner, 1991). The focus on college students is reasonable and expected. According to Hill, using a sample population of college students is appropriate "because of their relatively high level of sexual activity when compared with other segments of the population" (Hill, 1988, p. 37). Thus, the issue is personally relevant to them.

Three of the articles relating to college students focused on AIDS-related knowledge and behavior. The first, a 1989 article by Manning, Balson, Barenberg and Moore, examined freshmen's perceived susceptibility to AIDS and perceived barriers to

prevention. The researchers used the nominal group method to identify attitudes of students toward several AIDS-related questions. The students indicated several actions that they believed would be effective in preventing the spread of AIDS on their campus. These actions included the use of campus-wide education programs designed to show AIDS as a health risk, rather than campaigns indicating that pre-marital sex is bad. Additionally, many of the subjects reportedly believed in prevention behaviors that did not reduce the risk of HIV/AIDS infection. These behavior beliefs included perceived invulnerability, exclusive heterosexual behavior, being able to tell if a potential partner is infected, and believing the AIDS problem is elsewhere. Generally, men and women both indicated that practicing abstinence is a realistic option. Additionally, both groups showed high levels of resistance to both the use of a condom and inquiry about a partner's sexual history. Inasmuch as these findings are generalizable, these results indicate that incoming college freshmen lack understanding about AIDS and AIDS-related risk behaviors.

The second article that deals with college students' attitudes and knowledge about AIDS was published in 1990 by Thurman and Franklin. The sample was randomly selected from students attending a northeastern university. The researchers found that the students were well informed about AIDS and the precautions one must take to prevent infection. The researchers also found that the students were reluctant to change their behavior unless the AIDS threat was personalized. This reluctance to change behavior indicates that knowledge is not the primary motivator of behavior change where AIDS is concerned.

The third study sampled 195 sexually active college students at one university. This article, published by Carroll in 1991, observed the relationships between AIDS knowledge, self-reported sexual behavior change, and independent measures of those behaviors. The author found the level of AIDS information to be high in the sample population. This particular study found some empirical evidence that AIDS knowledge was significantly associated with safer sexual practices among some college students. This finding is contrary to much of the prior research in the area. One of the interesting results of this study was that women reported that they were at less risk of contracting AIDS than were men (Carroll, 1991).

The three previous articles focused on education methods and their effectiveness. A 1989 article by LaTour focused on the use of condom advertising in AIDS education. LaTour compared two different condom advertisements to determine which was more effective in producing a response in the subject. The first of the advertisements was a mild ad that showed people discussing the concept of AIDS and the use of condoms. The second advertisement showed a "Grim Reaper" turning people into dead bodies. LaTour indicated that:

. . . [T]he "Grim Reaper" advertisement produced significantly more tension and energy, and less calmness and fatigue than the "Condom Discussion" advertisement. Advertisement response was significantly more favorable for the "Grim Reaper" ad (LaTour, 1989, p. 27).

However, LaTour later contended that the advertisements' ability to invoke reactions did not differ greatly. These results would support the assumption that the level of fear arousal presented in the advertisements did not affect post-advertisement actions.

Dommeyer, Marquard, Gibson and Taylor (1989) measured differences in AIDS-related attitudes of students, faculty, and staff before and after a week-long AIDS awareness campaign. Dommeyer et al. (1989) found that, while the campaign was effective in exposing the campus population to AIDS information, the change in attitudes was negligible. This lack of effect was explained by pre-stimulus attitudes that were already at acceptable levels. Additionally, the authors concluded that:

The impact of the awareness week may have been limited by the manner in which most of the information was received. That is, the majority of people on campus received AIDS information through passive sources, pamphlets, posters, banners, billboards, and the campus newspaper. Less than half of one percent of the campus community attended treatment events that were dramatic and highly involving, such as the symposia that included AIDS patients and mothers of AIDS patients. Had a greater percentage of the campus community attended these events, AIDS Awareness Week might have had a greater impact on attitudes (Dommeyer et al., 1989, p. 134).

Another article described a different approach. Goertzel and Bluebond-Langner (1991) observed the effect of AIDS information being presented in a college course that is required for graduation. The students who took the course were compared to students who had not taken the course to determine the course's effect. The authors found that:

When compared with the control group, students in the course had become more knowledgeable about the disease, less fearful of AIDS, and less homophobic. They perceived the AIDS epidemic as more severe than they did before the course, but they were more likely to believe that effective prevention measures were possible. They were also more likely to believe that others in their peer group were taking action to prevent HIV infection. . . . There was no significant increase in either the experimental or the control group in the students' belief that they were personally vulnerable to AIDS, nor was there any statistically significant change in AIDS-related sexual or drug-abuse behaviors (Goertzel and Bluebond-Langner, 1991, p. 87).

This article suggests that changes in risk-increasing behavior are resistant to educational programs, even when the education is presented in an active rather than a passive manner.

AIDS Knowledge and Behavior Change

Specific articles that relate AIDS knowledge to prevention beliefs and actions (Solomon and DeJong, 1989; Koopman et al., 1990; Carrol, 1991; Thurman and Franklin, 1990; Aspinwall et al., 1991) show little relationship between the individual's AIDS-related knowledge beliefs and preventive beliefs. The lack of correlation between AIDS-related knowledge and preventive beliefs is a problem that requires the attention of researchers.

Three articles relate to AIDS behavior change in populations other than college students (Solomon and DeJong, 1989; Koopman et al., 1990; Aspinwall et al., 1991). The Solomon and DeJong paper studied patients at an STD (sexually transmitted disease) clinic in a Boston city hospital. The researchers measured the effectiveness of an AIDS intervention that included subjects watching a videotape and then orally recalling information contained on that videotape. The results of the study indicated that those who saw the video had a significantly higher level of knowledge. Additionally, the individuals who participated in the intervention were more likely to try to persuade their sexual partners to use condoms. These individuals indicated that the use of condoms during sex could be enjoyable. Additionally, the subjects indicated that the use of condoms during intercourse would not be an interrupting or de-stimulating activity. It is

interesting to note that the active presentation of information to these individuals produced a significant change in anticipated sexual behavior.

The second article was published in 1990 by Koopman, Rotheram-Borus, Henderson, Bradley and Hunter. This study sampled high-risk adolescents between the ages of 12 and 18. The study included male and female runaways and self-identified gay males. Here, the authors found no correlation between AIDS knowledge and age for adolescents between the ages of 12 and 18. However, this study did discover a statistically significant correlation between AIDS knowledge and AIDS prevention beliefs.

The third article, published in 1991 by Aspinwall, Kemeny, Taylor, Schneider and Dudley, focused on risk-reduction behavior in homosexual men. The authors found that homosexual men who were HIV-negative and without primary partners reduced their number of sexual partners as their perceived risk increased. The general findings of the authors are as follows:

First, increased self-efficacy predicted reduction in the number of sexual partners overall and in the number of anonymous partners over a 6-month interval. Second, perceived risk and response efficacy, which are components of both protection motivation theory and the health belief model, predicted risk-reduction behavior for some subgroups of gay men.

Finally, although it did not predict decreases in the total number of sexual partners, barriers to change, a component unique to the health belief model, proved to be the only significant psychosocial predictor of "risky" unprotected and receptive intercourse. Barriers to change also predicted increases in the number of anonymous partners among men without primary partners.

That prior sexual behavior predicted half the variance in number of sexual partners 6 months later may illustrate, in part, the importance of habit in determining AIDS-related behaviors. Indeed, one reason barriers to change may

not have emerged as a significant predictor of number of sexual partners in this analysis is that barriers, or the extent to which it is hard to refrain from a behavior, may overlap substantially with habit, such that controlling for prior behavior may remove the variance that could be explained by difficulties in controlling sexual impulses. This overlap may explain why studies that do not control for prior sexual behavior find negative correlation between barriers to change and AIDS risk-reduction behavior (Aspinwall et al., 1991, P. 442).

These results and interpretations indicate that some measure of past sexual activity should be included in any analysis regarding AIDS-related sexual behavior change. Additionally, the authors found some evidence that self-efficacy was related to sexual behavior. Self-efficacy is related to one's own belief in his or her ability to carry out a coping response (Maddux and Rogers, 1983). The authors then suggest that the presentation of efficacy-producing stimuli may be effective in changing risky behavior with regard to AIDS. The article did not, however, suggest a specific efficacy-producing stimulus.

Measures of Sexuality

Two articles by Simpson and Gangestad provided a measure of an individual's sociosexual orientation and history of sexual activity (Simpson and Gangestad, 1991; Simpson and Gangestad, 1992). The first of these articles discussed the development and validation of the Sociosexual Orientation Inventory (SOI).

The developers of the SOI (Simpson and Gangestad, 1991) used six separate studies to create and validate the five-item scale. Their first study used factor analysis to identify the five items that were used to form the Sociosexual Orientation Inventory (SOI). The authors used studies two through six to test the validity of the measurement

instrument. The study examined the convergent validity of the scale as a whole (study 6) as well as the convergent validity of the attitudinal and behavioral items within the scale (studies 2, 3, 4). Studies two, three and four compared the self-reported attitudes and behaviors against independent peer reports (external criteria). Study six compared the SOI with other comparable existing measures of sexuality. Discriminant validity was examined in study five. Study five examined differences between sociosexuality (willingness to engage in uncommitted sexual relations) and individual differences in sex drive or general sexual interest.

The sexual orientation inventory scale includes measures of three dimensions of sexuality: (1) overt behavior, (2) covert behavior, and (3) attitudes. An example of questions used to measure each of the three dimensions follows: (1) overt behavior, "How many times have you had sex in the last month?"; (2) covert behavior, "How frequently do you think about sex?"; (3) attitudes, "Sex without love is OK."

In general, individuals who score low on the SOI possess a restricted sexual orientation. Conversely, individuals who score high on the SOI possess an unrestricted sociosexual orientation.

Such individuals typically have engaged in sex with more partners in the preceding year, they foresee more partners in the near future, they have engaged in more one-night stands, they fantasize more often about having sex with someone other than their current partner, and they adopt more permissive attitudes toward engaging in uncommitted sexual relations. Individuals who score low on the inventory tend to possess a restricted sociosexual orientation in that they typically display the opposite tendencies (Simpson and Gangestad, 1991, p. 873).

During the second, third, and fourth studies presented in the 1991 article, the authors found that individuals who scored high on the SOI (unrestricted sociosexual orientation) reportedly engaged in sex at an earlier point in their personal relationships, engaged in sexual relations with more than one partner in a particular time period (i.e., demonstrated more frequent non-monogamous relationships), and became involved in relationships reportedly characterized by less investment, commitment, love, and dependency. As was suggested by Aspinwall et al. (1991), willingness to engage in uncommitted sex may simply be the result of an individual's level of sexual drive.

The fifth study that Simpson and Gangestad reported in their 1991 article indicated that ". . . individual differences in sociosexuality appear to be discriminant from those underlying general level of sex drive per se" (Simpson and Gangestad, 1991, p. 877). These results support the assumption that the SOI can be considered a satisfactory measure of an individual's willingness to engage in sexual activities. Sexual activities that are driven by an individual's unrestricted sociosexual orientation are also activities that can put that individual at risk for sexually contracting the AIDS/HIV virus. With this in mind, the SOI may be a good predictor of AIDS/HIV risk-related sexual behavior.

The second article by Simpson and Gangestad related the SOI to romantic partner choice. The results of this investigation indicated that unrestricted individuals were more prone to date partners who were highly attractive and socially visible, while those persons who scored low on the SOI (restricted sociosexual orientation) preferred dating partners who were more responsible, faithful/loyal, and affectionate. These

results again support the idea that the SOI may be a good predictor of AIDS/HIV risk-related sexual behavior.

Protection Motivation

Several models have been developed to explain how individuals process threat-related information, such as information relating to AIDS/HIV. The Ordered Protection Motivation model (OPM) has been used in both marketing articles (Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1992;) and psychology articles (Rogers, 1975; Rogers, 1983; Maddux and Rogers, 1983; Rippetoe and Rogers, 1987; Van der Velde and Van der Pligt, 1988) concerning health-related threat processing.

The concept of Protection Motivation was first developed by Rogers (1975).

The model that was tested in this dissertation was largely derived from Rogers'

Protection Motivation theory. Rogers defined Protection Motivation as follows:

A protection motivation theory is proposed that postulates the three crucial components of a fear appeal to be (a) the magnitude of noxiousness of a depicted event; (b) the probability of that event's occurrence; and (c) the efficacy of a protective response. Each of these communication variables initiates corresponding cognitive appraisal processes that mediate attitude change (Rogers, 1975, p. 93).

While Rogers' particular three-component framework for explaining threat appraisal is not unique, his Protection Motivation theory has been elaborated on and developed in marketing more than any other model. One of the applications of Rogers' Protection Motivation theory in marketing is the Ordered Protection Motivation model (Tanner,

Hunt and Eppright, 1991). The authors modified the Protection Motivation model as follows.

We amend the PM model in four ways. First, the emotion component is emphasized rather than ignored. Second, we posit that the PM model appraisal processes occur in an ordered or sequential way. Third, we address more fully the issue of maladaptive coping behaviors (i.e., the tendency of threatened persons to use coping responses that reduce fear but do not reduce the actual threat or danger). Finally, because many adaptive behaviors are influenced by normative components (Goffman, 1971), the social context of the danger is introduced in the model (Tanner, Hunt and Eppright, 1991, p. 37).

Rogers' original Protection Motivation model tends to discount the effect of emotional states such as fear. Refinements to the Protection Motivation model, such as those developed by Rippetoe and Rogers (1987), suggest that fear does not directly change attitudes or behavior. The inference is that all persuasion mediation is a result of cognitive appraisal (Maddux and Rogers, 1983; Mewborn and Rogers, 1979; Robberson and Rogers, 1988; Rogers and Deckner, 1975; Rogers and Mewborn, 1976). By not including the effect of emotional mediation with respect to attitude and behavior change, the Protection Motivation model ignores the fact that emotion may increase an individual's attention to and acceptance of a persuasive message (Folkman, Schaefer and Lazarus, 1979; Friestad and Thorson, 1985; Ray and Batra, 1983).

While cognitive variables may explain much of the response to a threat, these variables fail to explain why an individual may engage in a coping response that reduces the level of fear without reducing the level of danger. For example, an individual may report believing that by reducing his/her number of sexual partners, he will protect himself/herself from contracting the AIDS/HIV virus. This belief may lead the individual

to have unprotected sex with three different new partners per month instead of five different new partners per month. While the change in the individual's behavior has reduced his/her fear of contracting HIV, it has not actually protected the individual from becoming infected. A behavior that causes an individual to reduce the perceived threat without reducing the actual threat is called "maladaptive coping response" (Rippetoe and Rogers, 1987).

The Ordered Protection Motivation model allows for dispositional variables such as self-efficacy. It is plausible to believe that other dispositional variables can be used to help explain an individual's actions within a Protection Motivation framework.

The independent variables included in the Ordered Protection Motivation model were experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy (Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1994). The three dependent variables included in the Ordered Protection Motivation model were information search behavior, adaptive behavior, and maladaptive behavior (Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1994). Both the independent and dependent variables cited above are defined in the following section.

Cognitive Protection Motivation Variables

The first variables identified were the knowledge variables. These knowledge variables were generalized problem knowledge (GPK) and experiential prevention

knowledge (EPK). Generalized problem knowledge measures an individual's general knowledge concerning some threat. Generalized problem knowledge is differentiated from experiential prevention knowledge, or EPK. Experiential prevention knowledge is a measure of knowledge gained from prior experience. For example, if an individual has had unprotected sex many times in the past and has not contracted the HIV virus, then the individual may believe he is protected from contracting the virus. Generalized problem knowledge does not significantly increase maladaptive behavior (Eppright, Tanner and Hunt, 1994). This finding is consistent with prior research done in Protection Motivation and Ordered Protection Motivation (Tanner, Hunt and Eppright, 1991; Rogers, 1975). However, experiential prevention knowledge, because of how it is acquired, can lead to potential maladaptive behaviors (Eppright, Tanner and Hunt, 1994). The knowledge variables have been shown to have a significant effect on the Ordered Protection Motivation model (Eppright, Tanner and Hunt, 1994).

The second set of variables related to Ordered Protection Motivation were threat-processing variables. The first of these variable included in the Ordered Protection Motivation model was threat source certainty. The variable threat source certainty is a measure of the certainty attributed to the transmission of AIDS from various sources (Eppright, Tanner and Hunt, 1994). In other words, this variable measures how strongly an individual believes that the AIDS virus can be contracted from a particular activity, such as sharing drug needles or having unprotected sex. According to the Ordered Protection Motivation model, belief in threat source certainty is the first step in developing a coping response to a particular threat.

The next step, according to the Ordered Protection Motivation model, involves the individual identifying the probability of the threat with respect to himself or herself. This variable measures the individual's perception of the strength of his or her probability of personally contracting the AIDS virus through some act identified in the threat source certainty variable.

Eppright et al. (1994) found that increases in the threat source certainty variable increased the probability of AIDS threat variable. The correlation between threat source certainty and probability of AIDS threat may provide an estimate of the individual's probability of AIDS/HIV transmission. This use of the probability of AIDS threat variable is consistent with prior research in the Protection Motivation area (Rogers, 1975; Rogers and Mewborn, 1976).

The third variable in the Ordered Protection Motivation model was perceived vulnerability to the AIDS threat. This variable differs from probability of AIDS threat in that it is a general feeling of vulnerability with regard to contracting the AIDS virus. The difference between the two is that probability of AIDS threat asks for a measure of how likely an individual might be to have an opportunity to catch the AIDS virus in a particular situation. However, vulnerability to the AIDS threat indicates the general level of vulnerability that the individual feels towards AIDS (Eppright, Tanner and Hunt, 1994). The final variable included in the Ordered Protection Motivation model was fear. Fear can be defined as ". . . an emotional response to a threat that expresses, or at least implies, some sort of danger" (Tanner, Hunt and Eppright, 1991, p. 36). According to Rippetoe and Rogers (1987), fear is a specific response to appraisal and thereby appears

to be an outcome of threat appraisal (threat source certainty). Additionally, Rippetoe and Rogers (1987) found that increases in vulnerability increased the variable fear. However, most of the Protection Motivation and Ordered Protection Motivation studies have found that fear does not directly influence adaptive or maladaptive behavior (Rippetoe and Rogers, 1987; Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1994).

Non-Cognitive Protection Motivation Variables

The remaining Ordered Protection Motivation independent variables were non-cognitive in nature. Two of the non-cognitive Ordered Protection Motivation variables relate to efficacy. These variables were self-efficacy and coping response efficacy. Coping response efficacy can be defined as "the perceived ability of a coping behavior to remove a threat" (Tanner, Hunt and Eppright, 1991, p. 37). Self-efficacy is defined as "the individual's perceived ability to carry out the coping behavior" (Tanner, Hunt and Eppright, 1991, p. 37). Several studies have confirmed that coping response efficacy and self-efficacy may increase adaptive behavior and decrease maladaptive behavior (Maddux and Rogers, 1983; Rippetoe and Rogers, 1987; Eppright, Tanner and Hunt, 1992; Eppright, Tanner and Hunt, 1994).

The dependent variables within the Ordered Protection Motivation model involve individual behavior regarding behavioral activities related to the threat. The variable adaptive behavior is defined as coping behaviors that serve to remove the threat and to lessen the fear that may be associated with the threat (Eppright, Tanner and Hunt, 1994).

The Eppright et al. study (1994) identified a second dimension of adaptive behavior. The second adaptive dimension that was presented in the study was called information search behavior. Information search behavior may be defined as active participation by an individual in order to find information relating to some subject of interest. While information search behavior can be considered adaptive behavior with regard to AIDS-related health information, the variable is substantively different from the adaptive behavior variable. The difference manifests itself in the scope of behavior that each variable includes. Information search behavior relates specifically to the active search for information, while adaptive behavior relates broadly to any activity that is recommended for reducing some identifiable threat (Eppright, Tanner and Hunt, 1994). For this reason, both adaptive behavior and information search behavior may be included in any Ordered Protection Motivation study.

The other dependent variable in the Ordered Protection Motivation model was maladaptive behavior. Maladaptive behavior was defined as coping behaviors that served to reduce the fear of a threat without actually reducing the threat itself (Eppright, Tanner and Hunt, 1994). It was discussed previously in this chapter that changing risky behavior in individuals was the objective of AIDS education campaigns. The dependent variables adaptive behavior, information search behavior, and maladaptive behavior relate to AIDS education objectives and changes regarding AIDS-related risk behaviors.

Locus of Control

The model proposed in this study includes two dimensions of the construct locus of control. General locus of control has been shown to affect fear appeals (Burnett, 1981). Because fear will be used as a variable in the model under investigation, this relationship appears important.

The two relevant measures of locus of control were the Multidimensional Health Locus of Control scale (Wallston, Wallston and DeVellis, 1978) and the Dyadic Sexual Regulation Locus of Control scale (Catania, McDermott and Wood, 1984).

The Multidimensional Health Locus of Control scale measures an individual's control beliefs about health. The Multidimensional Health Locus of Control scale consists of three self-administered subscales. The three subscales are Internal Health Locus of Control, (i.e., the extent to which an individual believes health is a function of the individual's own behavior); Chance Health Locus of Control, (i.e., the degree to which an individual believes that one's health is determined by chance, luck, or fate); and Powerful Others Externality Health Locus of Control, (the extent to which an individual believes that health is determined by powerful others such as health professionals) (Wallston et al., 1978).

The Multidimensional Health Locus of Control scale was derived from the original eleven-item health locus of control scale (Wallston et al., 1976). Validity and reliability have been upheld in both the health locus of control and the Multidimensional Health Locus of Control scales (O'Loony and Barrett, 1983; Cooper and Fraboni, 1988).

Locus of control has been associated with health-related behaviors in several studies (Wurtele et al., 1985; Dinnin and Crampton, 1989; Hunt and Tanner, 1990). These studies all used a unidimensional measure of health locus of control. However, it has been recommended (Wallston and Wallston, 1981) that the Multidimensional Health Locus of Control scale be used instead of the unidimensional health locus of control scale. The internal health locus of control and chance health locus of control dimensions can be combined to approximate the internal dimension of health locus of control (Wallston and Wallston, 1981). The remaining dimension of the Multidimensional Health Locus of Control scale, powerful others health locus of control, is unique and approximates the external dimension of health locus of control (Wallston and Wallston, 1981). Therefore, the adaptability of the Multidimensional Health Locus of Control scale makes it preferable to the Health Locus of Control Scale (Wallston and Wallston, 1981).

The Dyadic Sexual Regulation Locus of Control scale measures ". . . assessed control beliefs relevant to sexual activity with partners (as opposed to masturbatory activity) (Robinson, 1988, p. 491). The scale items were derived from open-ended interviews about sexual attitudes with heterosexual and homosexual couples (Catania, McDermott and Wood, 1984). Higher scores indicate a greater degree of internal control with regard to sexual activity (internal sexual regulation locus of control). Additionally, higher scores have been associated with higher frequencies of intercourse and sexual relations (Catania, McDermott and Wood, 1984). Reliability and validity

have been supported for the Dyadic Sexual Regulation Locus of Control scale (Catania, McDermott and Wood, 1984).

The researcher could not find any specific citations that related the Dyadic Sexual Regulation Locus of Control scale to AIDS beliefs. However, because high scores on the Dyadic Sexual Regulation Locus of Control scale (internality) are associated with a greater frequency of sexual relations, and one of the main sources of AIDS/HIV infection is unprotected sexual contact with an infected person, it can be assumed that Dyadic Sexual Regulation Locus of Control may relate to the Protection Motivation variables associated with AIDS health threats.

Narcissism

Individuals who exhibit narcissistic personality traits

. . . appear to be highly energetic, extroverted, experience-seeking, self-confident individuals who typically report having high self-esteem. They also appear to have a grandiose conception of themselves and are typically seen by others as being egotistical and conceited. They are also highly competitive, achievement-oriented, aggressive, exhibitionistic, self-focused individuals who tend to be manipulative and self-seeking in their interpersonal relationships and express little empathy for others (Raskin and Novacek, 1989, p. 67).

Narcissism is measured using a variation of the Narcissistic Personality Inventory.

The variation (Emmons, 1987) divides the Narcissistic Personality Inventory into four dimensions. These dimensions are as follows: Leadership/Authority, Self-Absorption/Self-Admiration, Superiority/Arrogance, and Exploitativeness/Entitlement.

These four dimensions are hypothesized to relate to the variables included in the Ordered Protection Motivation model (Eppright, Tanner, and Hunt, 1994). These variables are

also examined in order to determine if they have any effect on an individual's disposition towards maladaptive behavior.

Research concerning the concept of narcissism has followed several trends in recent psychological literature. One research finding seems to indicate that our society is becoming increasingly narcissistic and self-absorbed (Emmons, 1987). A second research finding relates to highly narcissistic people's tendencies to accept responsibility for successful outcomes and deny blame for unsuccessful outcomes. This second trend has been labeled self-serving bias (Emmons, 1987). One of the major reasons for conducting this research is to try to explain why people act in ways that increase their chances of contracting the AIDS virus.

Because narcissists do tend to place more weight on personally relevant positive outcomes, narcissistic individuals may become more accepting towards high-risk sexual behavior every time that they engage in this behavior and do not contract an STD. This type of behavior is assessed with the Ordered Protection Motivation variable experiential prevention knowledge. The variable experiential prevention knowledge was described earlier in this chapter. The potential for correlation between narcissism and experiential prevention knowledge justifies the examination of narcissism in this study.

Summary and Closing Remarks

This chapter first explored general research related to public service announcements and their use in combating socially undesirable activities. Secondly, the chapter focused on the use of public service announcements with regard to combating

AIDS. The next subject discussed related to the measurement of sexuality. The Protection Motivation model and the subsequent Ordered Protection Motivation model were discussed as a means to measure and understand the process individuals use to assimilate threat-related information. Lastly, the chapter provided evidence that locus of control and narcissism may be useful when included in an Ordered Protection Motivation framework.

The work that has been cited in this chapter reveals several areas in the literature that have not been extensively researched. Notably, psychological constructs such as locus of control, efficacy and narcissism have been all but ignored as an explanatory tool for behavior change variables such as adaptive behavior, maladaptive behavior and information search behavior. Additionally, it was suggested in this chapter that measuring an individual's sociosexual orientation may provide some insight as to whether the individual engages in sexual behavior that puts him or her at risk for AIDS. By incorporating these new psychological and attitudinal constructs within the Ordered Protection Motivation framework, a more valid and comprehensive explanation of behavior may be achieved.

CHAPTER 3

RESEARCH METHODOLOGY

The data collected for this study were drawn from a convenience sample of 224 Louisiana Tech University undergraduate students. The population from which the sample was drawn, undergraduate college students at Louisiana Tech University, was appropriate to the study because of the relevance of sexually transmitted diseases (STDs) to this particular population. The sampling method was consistent with prior Ordered Protection Motivation studies in the field of marketing (Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1992; Eppright, Tanner and Hunt, 1994). Because the sample drawn was non-parametric in nature, the results of this study cannot be generalized to the population of college students at Louisiana Tech University or to college students as a whole.

Each subject received a questionnaire booklet and was given 30 minutes to complete the questionnaire. All rules and policies regarding the use of human subjects at Louisiana Tech University were followed.

Description of the Sample

The sample was obtained by surveying 224 undergraduate students at Louisiana Tech University. The study was conducted during the winter quarter of 1993-94. Due

to the sensitive nature of some of the questions included in the study, each student signed a consent statement before being included in the study. To ensure consistency, all questionnaires were distributed and collected by the primary researcher. The entire data collection process was completed in three days. It took about thirty minutes, on average, to complete the survey, and respondents received no compensation for their participation in the study. The surveys were collected from two lower-division psychology classes and five upper-division business classes.

The respondents ranged in age from eighteen to forty-eight, with a mean of twenty-two and a median of twenty-one. Over ninety percent of the sample was twenty-five years of age or younger. The sample was fifty-seven percent male and forty three percent female. Eighty-three percent were white, fourteen percent were black and three percent were classified as other race. Family income ranged from \$4,000 to \$500,000 per year. The mean family income was \$59,060. Five percent of the sample population were freshmen, twenty-four percent were sophomores, thirty-one percent were juniors, and forty-one percent were seniors. Forty-five different majors were reported by the sample population.

The highest level of education attained by the respondent's parents were as follows: Grade School, two percent; High School, twenty-one percent; Some College, twenty percent; College Graduate, thirty-eight percent; Graduate Degree, eighteen percent. Respondents indicated that on average they watched fourteen hours of television per week, listened to the radio eleven hours per week, spent two hours per week reading the newspaper, and spent two hours per week reading magazines. Half

of the sample indicated that they were Baptist. Seventeen percent of the sample responded that they were Catholic. Thirteen percent of the sample stated that they were Methodist. No other specific denomination received more than a three percent response rate.

The average number of sexual partners that the sample had had in the last year was 1.7. On average the respondents had sex 1.8 times per week. Fifty-nine percent of the respondents indicated that they were in a monogamous relationship. Almost ten percent of the sample admitted to contracting a sexually transmitted disease (STD). Twenty-one percent of the respondents indicated that they know someone that is HIV positive or has AIDS.

Variable Description and Measurement

The dependent variables that were being assessed for the purposes of the study are listed in Table 3.1. These variables measure three aspects of behavior regarding sexual activity and AIDS risk. The variable adaptive behavior (ADAPT) was defined as coping behaviors that serve to remove the threat (in this case, acquiring AIDS) and to lessen the fear that may be associated with the threat. The variable adaptive behavior was measured with four questions taken from the Eppright et al. (1994) study. "Yes" answers were given one point, and the points were totaled to form a composite score.

Table 3.1: Dependent Variables

ADAPT	Adaptive Behavior
MALAD	Maladaptive Behavior
ISB	Information Search Behavior

The second dependent variable in the study was maladaptive behavior (MALAD). Maladaptive behavior was defined as coping behaviors that serve to lessen the fear of a threat without actually removing the threat. Maladaptive behavior was measured using two questions taken from the Eppright et al. (1994) article. "Yes" answers were given one point, and the points were totaled to form a composite score.

The last dependent variable included in the study was information search behavior (ISB). The information search behavior variable contained four questions related to four different methods by which the respondent could obtain information regarding AIDS/HIV. The respondent was instructed to check all the listed sources of information that he/she had used. The number of checks was summed to determine the respondent's information search behavior score.

The independent variables included in the regression model tested in this study are shown in Table 3.2. Locus of control was measured using the Multidimensional Health Locus of Control scale (Wallston, Wallston, and DeVellis, 1978) and the Dyadic Sexual Regulation Locus of Control scale (Catania, McDermott and Wood, 1984).

Table 3.2: Independent Variables

HLOC	Health Locus of Control includes the three dimensions; 1.(PHLC) Powerful Others Health Locus of Control 2.(IHLC) Internal Health Locus of Control 3.(CHLC) Chance Health Locus of Control
DSLCL	Sexual Regulation Locus of Control
NAR	Narcissism
SOI	Sociosexual Orientation
EPK	Experiential Prevention Knowledge
GPK	Generalized Problem Knowledge
TSC	Threat Source Certainty
PROB	Probability of AIDS Threat
VULN	Vulnerability of AIDS Threat
FEARA	Fear of AIDS Threat (single item measure)
FEAR2	Fear of AIDS Threat (multiple item measure)
CRE	Coping Response Efficacy
SE	Self-Efficacy

The Multidimensional Health Locus of Control scale (MHLC) measures an individual's control beliefs about health. This scale consists of three, six-item, self-administered subscales. The three subscales are internal health locus of control (IHLC), (i.e., the extent to which an individual believes health is a function of the individual's own behavior); chance health locus of control (CHLC), (i.e., the degree to which an individual believes that one's health is determined by chance, luck, or fate); and powerful others health locus of control (PHLC), (i.e., the extent to which an individual believes that health is determined by powerful others such as health professionals) (Wallston, Wallston and DeVellis, 1978).

Administration of the Multidimensional Health Locus of Control scale can be in one of two separate forms. It is recommended that only one form be used during a particular study (Wallston, Wallston and DeVellis, 1978). Because the forms are equivalent, the selection of one over the other is arbitrary. Form A was chosen for use in this particular study.

The Dyadic Sexual Regulation Locus of Control scale (DSLCL) measures

... assessed control beliefs relevant to sexual activity with partners (as opposed to masturbatory activity). The DSLCL was an 11-item, self-administered Likert-type scale with seven points (1, strongly disagree, 7, strongly agree). The scale items were derived from open-ended interviews about sexual attitudes with heterosexual and homosexual couples. Five items were reversed (items 2,5,6,8,10) for counterbalancing purposes. After reversing these items, total scores were computed so that higher scores indicate a greater degree of internal control (Lefcourt, 1988, p. 491).

The narcissism variable (NAR) was measured using a variation of the Narcissistic Personality Inventory (NPI). This variation identifies four dimensions of narcissism. The dimensions are leadership/authority, self-absorption/self-admiration, superiority/arrogance, and exploitiveness/entitlement (Emmons, 1987). The narcissism measure used in this study consisted of 37 dual-choice phrases. One response was narcissistic in nature while the other was not. The respondent was given one point for every narcissistic response. The total narcissism score was calculated by summing the individual responses. Purportedly, a higher score indicates a higher level of narcissism (Emmons, 1987).

The Sociosexual Orientation Inventory variable (SOI) was calculated by using a weighted combination of seven items. A listing of the item statements in the Sociosexual Orientation Inventory can be found in Table 3.3.

The Sociosexual Orientation Inventory score was calculated as follows:

$$\text{SOI} = 5(\text{Item 1}) + (\text{Item 2}) + 5(\text{Item 3}) + 4(\text{Item 4}) + 2(\text{Aggregate of Items 5-7}).$$

To ensure that Item 2 did not have a disproportionate influence, its maximum value was limited to 30. The scale combined measures of overt sexual behavior (Items 1, 2, and 3), covert sexual behavior (Item 4), and attitudinal items (Items 5, 6, and 7) (Simpson and Gangestad, 1991).

The independent variables that were included in the Ordered Protection Motivation model were Experiential Prevention Knowledge (EPK), Generalized Problem Knowledge (GPK), Threat Source Certainty (TSC), Probability of AIDS Threat (PROB), Vulnerability of AIDS Threat (VULN), Fear of AIDS Threat (FEAR), Coping Response Efficacy (CRE) and Self-Efficacy (SE). The specific questions that were used to measure each of the constructs can be seen in Appendix A. A description of the variables follows.

Table 3.3: Sociosexual Orientation Inventory Item Statements

Item 1	With how many different partners have you had sex (sexual intercourse) within the past year?
Item 2	How many different partners do you foresee yourself having sex with during the next five years?
Item 3	With how many different partners have you had sex on one and only one occasion?
Item 4	How often do you fantasize about having sex with someone other than your current dating partner?
Item 5	Sex without love is OK.
Item 6	I can imagine myself being comfortable and enjoying "casual" sex with different partners.
Item 7	I would have to be closely attached to someone (both emotionally and psychologically) before I could feel comfortable and fully enjoy having sex with him or her.

The first cognitive independent variables identified in the Ordered Protection Motivation model were the knowledge variables. They were generalized problem knowledge (GPK) and experiential prevention knowledge (EPK). The generalized problem knowledge (GPK) is a measure of an individual's general knowledge concerning AIDS. Generalized problem knowledge (GPK) was differentiated from experiential prevention knowledge (EPK). Experiential prevention knowledge is a measure of knowledge gained from prior experience. The measures that were used to operationalize experiential prevention knowledge and generalized problem knowledge were taken from Eppright et al. (1994). Correct responses were summed to create a composite score.

The next cognitive independent variable in the Ordered Protection Motivation model was Threat Source Certainty (TSC). The threat source certainty measure was

identified and developed by Eppright et al. (1994). Threat source certainty is a measure of the certainty attributed to the transmission of AIDS from various sources. The five-question construct was measured on a five-point semantic differential scale.

Probability of AIDS Threat (PROB) was the next cognitive independent variable in the Ordered Protection Motivation model. This variable measures an individual's perception of his or her probability of personally contracting the AIDS virus. Eppright et al. (1994) used a single-item measure for assessing this variable. In the Eppright et al. (1994) study, the authors suggested that a multiple-item scale would be more beneficial. A personal letter from one of the authors (Tanner, 1994) suggests a new multiple-item scale. For this reason the probability of AIDS threat variable was measured using a four-item five-point semantic differential scale. This scale was summed to produce a single score for probability of AIDS threat.

The Ordered Protection Motivation model's next cognitive independent variable was Vulnerability to the AIDS Threat (VULN). This variable was measured by asking the respondent, "How concerned are you about catching the AIDS virus?" The variable was measured with a five-point semantic differential scale.

As stated in Chapter 2, the Fear variable was considered very difficult to measure. For this reason the variable Fear of AIDS was measured by two different methods. The first measure (FEARA) was consistent with the Eppright et al. (1994) article and measured fear with a single five-point question. The second measure (FEAR2) for assessing fear of AIDS was taken from a dissertation by Patricia Rippetoe

(1986). This measure used a combination of three adjectives with a nine-point scale to obtain a measure of fear.

The remaining Ordered Protection Motivation independent variables were dispositional in nature. The efficacy variables were coping response efficacy (CRE) and self-efficacy (SE). Coping response efficacy can be defined as "the perceived ability of a coping behavior to remove a threat" (Tanner, Hunt and Eppright, 1991, p. 37). Coping response efficacy was measured using a single five-point item. The coping response efficacy scale was used and validated by Eppright et al. (1994). Self-efficacy can be defined as "the individual's perceived ability to carry out the coping behavior" (Tanner, Hunt and Eppright, 1991, p. 37). The self-efficacy variable was assessed using three questions from the Eppright et al. (1994) article. It was the opinion of Dr. Tanner, co-author of the Eppright, Tanner and Hunt article (1994), that the wording of the questions on the self-efficacy scale was not personal enough to be sure that it was, in fact, measuring efficacy (Tanner, 1994). This problem was resolved by changing the introduction of the statements to make the questions more personal in nature. The questions were measured with a five-point semantic differential scale and were combined to create the final score.

Hypotheses

Five hypotheses were tested during the course of this study. They are as follows.

Hypothesis 1: The addition of the dispositional variable Multidimensional Health Locus of Control (MHLC) to the Ordered Protection Motivation model will significantly increase the power of the model to explain AIDS-related health behaviors.

Hypothesis 2: The addition of the dispositional variable Dyadic Sexual Regulation Locus of Control (DSLRC) to the Ordered Protection Motivation model will significantly increase the power of the model to explain AIDS-related health behaviors.

Hypothesis 3: The addition of the dispositional variable Sociosexual Orientation (SOI) to the Ordered Protection Motivation model will significantly increase the power of the model to explain AIDS-related health behaviors.

Hypothesis 4: The addition of the dispositional variable Narcissism (NAR) to the Ordered Protection Motivation model will significantly increase the power of the model to explain AIDS-related health behaviors.

Hypothesis 5: The addition of the dispositional variables Multidimensional Health Locus of Control (MHLC), Dyadic Sexual Regulation Locus of Control (DSLRC), Sociosexual Orientation (SOI), and Narcissism (NAR) to the Ordered Protection Motivation model will significantly increase the power of the model to explain AIDS-related health behaviors.

Statistical Methods

The research objective of this project was to identify new variables that may significantly increase the explanatory power of the Ordered Protection Motivation model.

The first step was to conduct a factor analysis on the relevant multidimensional scales that were used in the analysis (Narcissistic Personality Inventory and Multidimensional Health Locus of Control). These scales have exhibited more than adequate validity in previous research. However, because of their multidimensionality, the particular dimensions must be shown to be reliable within this particular research in order for the dimensions to be used in the analysis.

Factor analysis can be useful in assessing the construct validity of empirical measures (Carmines and Zeller, 1979). Stewart indicates three general functions which may be served by factor analysis:

1. The number of variables for further research can be minimized while the amount of information in analysis is maximized. The original set of variables can be reduced to a small set which accounts for most of the variance of the internal set.
2. When the amount of data is so large as to be beyond comprehension, factor analysis can be used to search data for qualitative and quantitative distinctions.
3. If a domain is hypothesized to have certain qualitative and quantitative distinctions, factor analysis can test this hypothesis. Thus, if a researcher has an a priori hypothesis about the number of dimensions or factors underlying a set of data, this hypothesis can be submitted to a statistical test (Stewart, 1981, p. 51).

Stewart's first two general functions reflect the exploratory use of factor analysis. Factor analysis can be used to ascertain the minimum number of hypothetical dimensions that can account for the observed covariation and can also be used to explore the data for data reduction. The third function that Stewart presents reflects

the confirmatory use of factor analysis: the use of factor analysis to confirm a certain hypothesis (Kim, 1978).

The research presented here is exclusively concerned with the use of factor analysis in order to determine the reliability of the dimensions within the multidimensional scales being considered. This usage of factor analysis provides evidence that a particular dimension within a construct was consistent with prior research.

The dimensions expected to exist within the Narcissistic Personality Inventory were leadership/authority, superiority/arrogance, self-absorption/self-entitlement, and exploitiveness/entitlement. The dimensions expected to exist within the Multidimensional Health Locus of Control scale were chance health locus of control, powerful others health locus of control, and internal health locus of control.

The two variables were forced to the same number of factors as the scale had dimensions. Therefore, the variable narcissism was forced to four factors, and the variable health locus of control was forced to three factors. Varimax rotation was used during the factor analysis. The factor loadings of the individual items were then observed. It was hypothesized that the set of items that was associated with any particular dimension would load together, exclusive of all other items.

If any of the items load with a set of items associated with a different dimension, it is referred to as cross-loading. Should the items not load correctly, two courses of action may be taken. The first course of action would be to drop an item that loaded incorrectly and re-run the factor analysis. Should the items load as

expected thereafter, the dimension would be assessed using the remaining items. The second course of action would be taken if dropping certain items does not solve the cross-loading problem. In this case the dimensions may not be used in the analysis, and the scale must be treated unidimensionally.

The statistical package that was used in this analysis was a main frame version of SPSS. The FACTOR subroutine was used to obtain the specific analyses that were needed. Factor extraction was done using the maximum likelihood (ML) procedure, and factor rotation was done using the VARIMAX procedure.

As was stated earlier, the scales used in this dissertation have been previously validated. However, additional validation of the scales seemed prudent.

The second step in the analysis was to include each of the dispositional variables as independent variables in regression equations using the behavior variables as dependent variables and the Ordered Protection Motivation (OPM) variables as additional independent variables. The four dispositional variables (health locus of control, dyadic sexual regulation locus of control, narcissism, and sociosexual orientation) were included, both individually and as a group, as independent variables in regression equations. Each regression equation also included as independent variables the traditional Ordered Protection Motivation variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy). The dependent variables used in the regressions were the

Ordered Protection Motivation behavior variables (adaptive behavior, maladaptive behavior and information search behavior).

Five regression equations were computed for each of the three dependent variables. The first four regressions for each dependent variable included one of the four dispositional variables (health locus of control, dyadic sexual regulation locus of control, narcissism, and sociosexual orientation) along with the independent variables currently used in assessing the Ordered Protection Motivation model (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy). The fifth regression equation for each of the three dependent variables (adaptive behavior, maladaptive behavior and information search behavior) included as independent variables all four of the dispositional variables (health locus of control, dyadic sexual regulation locus of control, narcissism, and sociosexual orientation) as well as the traditional Ordered Protection Motivation variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy).

The third step in the analysis was to examine simple correlations between all of the variables included in this study. The correlations were calculated in order to provide a basis for future research that may include structural equation modeling.

Differentiation from Prior Studies

The basis for differentiating this research from prior research was the inclusion of the health locus of control, dyadic sexual regulation locus of control, and narcissism and sociosexual orientation variables within an Ordered Protection Motivation model.

CHAPTER 4

DATA ANALYSIS AND RESULTS

This chapter presents the results of the multiple regression analyses discussed in Chapter 3. It is organized into two main sections: (1) validity and reliability of the measures involved, and (2) results of hypothesized relationships tested.

Validity and Reliability Assessment

Much attention has been focused on assessing the validity and reliability of measurement instruments used in the social sciences. The reliability and validity of all the measures used in this study have been upheld in past research. Two of the measurement instruments used in this study were multidimensional. Therefore, factor analysis was used to support the validity of the dimensions within these measures. The two multidimensional measures were the Multidimensional Health Locus of Control scale (MHLC) and the Narcissistic Personality Inventory (NPI).

During the factor analysis of the Multidimensional Health Locus of Control scale, three questions were dropped because of cross loading problems. Table 4.1 displays the Multidimensional Health Locus of Control questions that correspond with the variable designations and the Multidimensional Health Locus of Control dimensions.

Table 4.1: Description of Multidimensional Health Locus of Control Scale Questions

Var.	Dim.	Question
V8	IHLC	If I get sick, it is my own behavior which determines how soon I get well again.
V9	CHLC	No matter what I do, if I am going to get sick, I will get sick.
V10	PHLC	Having regular contact with my physician is the best way for me to avoid illness.
V11	CHLC	Most things that affect my health happen to me by accident.
V12	PHLC	Whenever I don't feel well, I should consult a medically trained professional.
V13	IHLC	I am in control of my health.
V14	PHLC	My family has a lot to do with my becoming sick or staying healthy.
V15	IHLC	When I get sick I am to blame.
V16	CHLC	Luck plays a big part in determining how soon I will recover from an illness.
V17	PHLC	Health professionals control my health.
V18	CHLC	My good health is largely a matter of good fortune.
V19	IHLC	The main thing that affects my health is what I myself do.
V20	IHLC	If I take care of myself, I can avoid illness.
V21	PHLC	When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
V22	CHLC	No matter what I do, I'm likely to get sick.
V23	CHLC	If it is meant to be, I will stay healthy.
V24	IHLC	If I take the right actions, I can stay healthy.
V25	PHLC	Regarding my health, I can only do what my doctor tells me to do.

The questions that were dropped from the Multidimensional Health Locus of Control scale were V9, V22, and V25. V9 and V22 were associated with the chance health locus of control dimension (CHLC) and V25 was associated with the powerful others health locus of control dimension (PHLC). The internal health locus of control (IHLC) did not suffer from cross loading. Table 4.2 displays the final factor loadings for the Multidimensional Health Locus of Control construct.

Three variables loaded onto unexpected dimensions. These variables were V9, V22 and V25. The V9 and V22 variables should have loaded on the CHLC dimension but instead they loaded on the IHLC dimension. The V25 variable should have loaded on the PHLC dimension but it instead loaded on the IHLC dimension. Because of the limited cross loading that occurred, V9, V22, and V25 were dropped from the Multidimensional Health Locus of Control construct. The subsequent loading can be seen in Table 4.2.

Table 4.2: Final Factor Loadings for Multidimensional Health Locus of Control

Question #	Factor 1 Loading	Factor 2 Loading	Factor 3 Loading
IHLC V24	.74493		
IHLC V20	.68132		
IHLC V13	.52741		
IHLC V19	.52542		
IHLC V8	.38355		
IHLC V15	.33051		
CHLC V18		.70929	
CHLC V16		.56672	
CHLC V11		.44744	
CHLC V23		.38500	
PHLC V17			.56543
PHLC V10			.51740
PHLC V12			.51299
PHLC V21			.42732
PHLC V14			.32349

When factors are interpreted, the magnitude of the loading must be considered. A rule of thumb often used is to consider factor loadings less than .3 as not substantial (Kim and Mueller, 1978). The larger the absolute size of the loadings the more significant the loading in interpreting the factor matrix. These guidelines are considered useful when the sample size is larger than or equal to 50 (Hair et al., 1979). These guidelines were applied in this study.

All the variables that remained in the Multidimensional Health Locus of Control scale loaded at .3 or greater. This magnitude indicates that all the multidimensional health locus of control variables except for V9, V22, and V25 loaded onto their expected factors. Variables 24, 20, 19, 15, 13, and 8 loaded on the internal health locus of control dimension. Variables 23, 18, 16, and 11 loaded on the chance health locus of control dimension. Variables 21, 17, 14, 12, and 10 loaded on the powerful health locus of control dimension. Therefore, the validity of the multidimensional health locus of control scale was upheld.

The factor loadings for the Narcissistic Personality Inventory scale can be seen in Table 4.3. The Narcissistic Personality Inventory scale was supposed to have four dimensions. These expected dimensions were: Leadership/Authority (LA), Superiority/Arrogance (SA), Self-Absorption/Self-Entitlement (SS), and Exploitive-ness/Entitlement (EE). As exhibited in Table 4.3 the variables load across four factors. However, the four factors that the Narcissistic Personality Inventory questions loaded on did not match the four factors expected by the researcher. This indicates to the researcher that the validity of the four dimensions of Narcissistic Personality Inventory

was not upheld. According to Emmons (1987) however, the use of the Narcissistic Personality Inventory as a general measure of Narcissism is appropriate even if the multidimensional properties are not present. This leaves the researcher with the ability to use the Narcissistic Personality Inventory scale without its four dimensions. All of the factor loadings, when rounded, were greater than or equal to .3. This indicated that the Narcissistic Personality Inventory scale, when considered unidimensionally, was valid for this examination. For this reason the SS, SE, LA, and EE dimensions were dropped from the regression analysis and only the unidimensional measure, Narcissistic Personality Inventory, was used.

Table 4.3: Final Factor Loadings for Narcissistic Personality Inventory

Question	Factor 1	Factor 2	Factor 3	Factor 4
LA V141	.57893			
LA V162	.57515			
LA V163	.53617			
LA V143	.51223			
LA V142	.49286			
LA V133	.48663			
LA V136	.46074			
SS V165	.43682			
EE V158	.38824			
SS V148	.38183			
SS V153	.36077			
SA V164	.35874			
SS V152	.32909			
SS V166	.29540			
SA V169		.58594		

Table 4.3 (continued)

Question	Factor 1	Factor 2	Factor 3	Factor 4
SA V149		.57745		
LA V139		.48897		
SA V160		.48344		
SA V147		.48103		
LA V161		.46454		
SA V140		.40874		
SS V157		.36802		
SS V138			.55578	
EE V145			.54609	
EE V167			.39572	
EE V159			.35305	
SS V151			.32657	
SS V154			.30205	
EE V155			.29955	
SS V135			-.29518	
EE V168				.47105
SS V134				.35484
EE V156				.33301
SA V150				.31737
EE V146				.30933

All of the variables that were used in the analysis were tested for reliability.

"Reliability refers to the consistency of repeated measurements across persons"

(Carmines and Zeller, 1979 p.31). Reliability was evaluated through measures of internal consistency. Currently the most popular of the reliability estimates is Cronbach's alpha (Cronbach, 1951). In a 1967 article by Novick and Lewis, Cronbach's alpha was shown to be a lower bound to the reliability of an unweighted scale of N items. If the items in the scale are parallel, the Cronbach's alpha value for

the scale is equal to the reliability. Therefore, the reliability of a scale can never be lower than alpha, even if the items in the scale substantially deviate from being parallel measurements.

The Cronbach's alpha was calculated for each of the multiple item scales used in the research. The results of this analysis can be found in Table 4.4.

Table 4.4: Cronbach's Alpha Reliability Estimates for All Variables

Variable	Cronbach's Alpha
SOI	.7814
IHLC	.6488
PHLC	.5520
CHLC	.6036
DSLCL	.5524
SE	.7072
TSC	.2075
PROB	.7622
GPK	.5014
EPK	.1040
ADAPT	.5206
MALAD	.6394
FEAR2	.7465
NPI	.8367

A potential weakness to using Cronbach's alpha is that the statistic assumes the items within the scale are parallel. This assumption requires that all the questions in the

scale measure the underlying dimension equally. Armor (1974) suggests that real data can violate the assumption that the items measure a single dimension equally. Further, Armor observes that reliability estimates based on factor analysis are not as restrictive as other methods that assume parallel measures (Armor 1974).

Carmines and Zeller (1979) suggest the use of coefficient theta to relax the assumption of parallel measures. Theta uses principal components factor analysis to overcome this assumption. If the items within the scale are in fact parallel, the theta and Cronbach's alpha will be equal to each other and to the reliability of the scale. If the two are unequal then alpha will be less than theta. Theta provides a higher estimate of reliability. In other words, if the items in the scale are not parallel, theta can provide a closer estimate than can Cronbach's alpha (of the true reliability of the measure).

Theta can be estimated for a particular scale using the following equation:

$$\text{theta} = (N/N-1) (1-1/\lambda_{1})$$

Where N = the number of items in the scale and λ_{1} = the largest eigenvalue in a principle components analysis of the scale under consideration. The theta estimates and λ_{1} estimates are shown in Table 4.5.

The values of theta indicate reliability increases for all of the dimensions. Further, the values of theta are high enough to support the reliability of the measures.

Table 4.5: Theta Reliability Estimates
for All Variables

Variable	Lambda ₁	Theta
SOI	3.51189	.834462
IHLC	2.34460	.688186
PHLC	1.89153	.589159
CHLC	1.86694	.619152
DSLC	2.27315	.616090
SE	1.86724	.696675
TSC	1.95318	.610018
PROB	2.37165	.771137
GPK	1.99096	.539207
EPK	1.18790	.237267
ADAPT	1.66787	.533911
MALAD	1.44209	.613124
FEAR2	1.94211	.727644
NPI	6.15178	.861372

Cognitive and Dispositional Variables Effect on
Behavior in an AIDS Information Context

The following section will discuss relationships between the cognitive and dispositional variables and individual behavior. This section is divided into three subsections. The three subsections include descriptive analysis, correlations, and multiple regression analysis.

Descriptive Analysis

The results of the descriptive analysis of the variables in this study can be found in Tables 4.6 and 4.7. These tables contain the mean, mode, skewness, kurtosis, range

of the variable, and the number of valid cases that were used in calculating these statistics.

Skewness is defined as follows: "Skewness measures whether the values are symmetric about the mean. Positive values indicate that the value is skewed to the right, while negative values indicate that the variable is skewed to the left" (Hintze 1990 p.108). In other words, a skewed distribution would have the majority of values either to the left or right of the mean. The value of 0 indicates no skewness in the distribution.

Table 4.6: Descriptive Statistics for Variables IHLC, PHLC, CHLC, DSLC, SE, CRE, FEARA, FEAR2, and NPI

Var.	Mean	Mode	Skew.	Kurt.	Range	Cases
IHLC	26.571	28.0	-.296	0.040	14-36	224
PHLC	13.875	12.0	0.414	0.368	5-27	224
CHLC	11.679	9.0	0.401	-0.190	4-22	224
DSLC	36.157	41.0	0.063	-0.409	14-62	223
SE	12.741	15.0	-1.320	1.564	3-15	224
CRE	3.283	3.0	-0.310	-0.995	1-5	223
FEAR 1	4.192	5.0	-1.471	0.919	1-5	224
FEAR 2	13.873	19.0	-0.037	-0.775	3-27	220
NPI	14.411	12.0	0.443	-0.154	2-32	224

The kurtosis of a distribution measures how flat or tall the distribution is.

Positive values indicate a flat distribution with a lot of extreme values. Negative values indicate that the distribution is tall with most of the observations close to the mean.

The kurtosis of a normal distribution is zero. The skewness and kurtosis values that were generated for the variables included in the regression equations appeared to fall with the range of a normal distribution.

Table 4.7: Descriptive Statistics for Variables SOI, VULN, ISB, TSC, PROB, GPK, EPK, ADAPT, and MALAD

Var.	Mean	Mode	Skew.	Kurt.	Range	Cases
SOI	57.009	11.0	2.702	11.467	10-365	221
VULN	3.429	5.0	-0.386	-1.302	1-5	224
ISB	0.321	0.0	2.417	7.189	0-4	224
TSC	17.875	17.0	-0.827	4.896	9-23	224
PROB	14.782	18.0	-0.566	-1.059	4-20	224
GPK	11.545	13.0	-0.858	0.228	7-13	224
EPK	2.821	3.0	-2.356	5.027	1-3	224
ADAPT	1.458	2.0	0.355	-0.769	0-4	214
MALAD	1.834	2.0	-2.890	7.581	0-2	223

Correlations

Because of the number of variables that are being considered in this analysis, the correlation results are presented in three separate tables. These tables are 4.8, 4.9, and 4.10. Table 4.8 presents Pearson Correlations for the variables IHLC, PHLC, CHLC, DSLC, SE, CRE, FEARA, FEAR2, and NPI. Table 4.9 presents Pearson correlations for the variables SOI, VULN, ISB, TSC, PROB, GPK, EPK, ADAPT, and MALAD. Table 4.10 presents the correlations between the two sets of variables presented in tables 4.8 and 4.9.

Table 4.8: Correlation Matrix for Variables IHLC, PHLC, CHLC, DSLC, SE, CRE, FEARA, FEAR2, and NPI

	1	2	3	4	5	6	7	8	9
1	-	.052 P= .439	-.170 P= .011	-.078 P= .244	.064 P= .338	.099 P= .141	.135 P= .044	.146 P= .031	.137 P= .041
2		----	.098 P= .145	.096 P= .153	-.009 P= .892	-.150 P= .025	.170 P= .011	.151 P= .025	-.037 P= .587
3			----	.072 P= .287	-.032 P= .631	-.014 P= .831	.004 P= .958	.081 P= .229	-.004 P= .957
4				----	-.105 P= .118	-.098 P= .146	.021 P= .761	.085 P= .210	-.076 P= .260
5					----	.0385 P= .568	-.128 P= .057	-.133 P= .051	-.108 P= .108
6						----	.119 P= .076	.019 P= .778	.159 P= .017
7							----	.442 P= .000	.138 P= .039
8								----	-.000 P= .999
9									----

Where: 1=IHLC 4=DSLC 7=FEAR 1
2=PHLC 5=SE 8=FEAR 2
3=CHLC 6=CRE 9=NPI

The Pearson correlations were generated in order to test for multicollinearity.

The most commonly used test for multicollinearity is the inspection of a matrix of bivariate correlations. Here one examines the correlations between all pairs of independent variables, and concludes that multicollinearity is not a problem if no correlation exceeds some predefined cutoff value-typically around .80 (Berry and Feldman, 1985 p.43).

Table 4.9: Correlation Matrix for Variables SOI, VULN, ISB, TSC, PROB, GPK, EPK, ADAPT, and MALAD

	1	2	3	4	5	6	7	8	9
1	-	.183 P= .006	.220 P= .001	.003 P= .967	-.032 P= .634	-.087 P= .198	.023 P= .730	-.058 P= .404	-.022 P= .751
2		---	.218 P= .001	.055 P= .412	-.146 P= .029	-.128 P= .056	.043 P= .056	.175 P= .010	.060 P= .373
3			---	.031 P= .643	.006 P= .933	.145 P= .030	.096 P= .152	.060 P= .382	.074 P= .269
4				---	.010 P= .886	-.297 P= .000	-.070 P= .299	.030 P= .659	.053 P= .433
5					---	.054 P= .425	.100 P= .135	.002 P= .972	.092 P= .172
6						---	.096 P= .153	.023 P= .744	-.089 P= .187
7							---	.062 P= .369	.075 P= .263
8								---	.158 P= .021
9									---

Where: 1=SOI 4=TSC 7=EPK
 2=VULN 5=PROB 8=ADAPT
 3=ISB 6=GPK 9=MALAD

The correlation analysis indicated that multicollinearity was not a problem in the regression analysis that follows.

Table 4.10: Correlation Matrix Between Variables IHLC, PHLC, CHLC, DSLC, SE, CRE, FEARA, FEAR2, NPI and SOI, VULN, ISB, TSC, PROB, GPK, EPK, ADAPT, MALAD

	1	2	3	4	5	6	7	8	9
1	.132 P= .049	-.16 P= .015	.166 P= .014	-.05 P= .467	.022 P= .745	.239 P= .000	.173 P= .010	.152 P= .025	.321 P= .000
2	.138 P= .039	.059 P= .381	.012 P= .863	.000 P= .996	-.10 P= .150	.003 P= .964	.490 P= .000	.681 P= .000	.013 P= .844
3	.122 P= .068	.055 P= .414	-.04 P= .512	-.15 P= .024	.233 P= .000	.126 P= .061	.140 P= .037	.243 P= .000	.164 P= .014
4	.022 P= .747	.145 P= .030	-.05 P= .489	.055 P= .410	-.072 P= .285	-.03 P= .694	.113 P= .093	.073 P= .284	.099 P= .140
5	.002 P= .977	.037 P= .577	-.04 P= .597	-.08 P= .247	.134 P= .045	-.03 P= .607	-.13 P= .062	-.20 P= .004	-.09 P= .187
6	.090 P= .181	-.05 P= .417	-.13 P= .054	-.20 P= .003	.272 P= .000	.120 P= .074	-.06 P= .338	-.12 P= .079	-.05 P= .464
7	.007 P= .904	.038 P= .569	.050 P= .457	-.00 P= .975	.132 P= .049	.082 P= .225	.097 P= .150	.137 P= .043	.113 P= .093
8	.076 P= .267	.121 P= .078	-.07 P= .335	.262 P= .000	.069 P= .315	.048 P= .486	-.06 P= .373	.166 P= .016	-.02 P= .762
9	.002 P= .975	.066 P= .325	.107 P= .112	.008 P= .907	.063 P= .347	-.15 P= .029	.020 P= .765	.105 P= .123	-.08 P= .255

Where: Top Side
 1=IHLC 4=DSLC 7=FEARA 1=SOI 4=TSC 7=EPK
 2=PHLC 5=SE 8=FEAR2 2=VULN 5=PROB 8=ADAPT
 3=CHLC 6=CRE 9=NPI 3=ISB 6=GPK 9=MALAD

Normality and Linearity

The regression assumptions of normality and linearity were tested for each of the regression equations. Linearity is tested by observing the residual plots for each of

the independent variables included in the model. The assumption of linearity is valid if the residual plots appear to be generally centered around zero. After analyzing the residual plots in this study the assumption of linearity was upheld. Normality is tested by observing the normal probability plot. The assumption of normality is valid if the normal probability plot appears to be generally linear in nature. The normal probability plot of the variables in this study appears to be generally linear in nature. Therefore, the assumption of normality was upheld.

Multiple Regression Analysis

Multiple regression was used to test the relationship between the independent and dependent variables. The independent variables included the dispositional variables (health locus of control, sexual regulation locus of control, narcissism and sociosexual orientation) and OPM variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy). The dependent variables were the three AIDS related health behavior variables. These included: information search behavior (ISB), adaptive behavior (ADAPT), and maladaptive behavior (MALAD).

Adaptive Behavior Regressions

Tables 4.11a through 4.11f exhibit the results of the regression analysis using Adaptive Behavior (ADAPT) as the dependent variable. Table 4.11a reports the results of the regression equation that included the OPM variables (experiential

prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy) as independent variables and the behavior variable adaptive behavior (ADAPT) as the dependent variable.

The regression equation was significant with a F-value of 2.14858. The R-squared of .0886 indicates that the regression equation is explaining 8.86 percent of the variation in the dependent variable (adaptive behavior).

The regression equation yielded two significant independent variables. The fear of AIDS threat (FEARA) variable was significant with a t-value of -3.00. The negative regression coefficient indicates that the lower the level of fear of AIDS the more likely an individual is to engage in adaptive behavior. This finding contradicts prior research (Rippetoe and Rogers, 1987; Tanner, Day and Crask, 1989; Tanner, Hunt and Eppright, 1991; Eppright, Tanner and Hunt, 1994) by suggesting that fear does influence adaptive behavior. Vulnerability to AIDS threat (VULN) was also found to be significant in the regression equation with a t-value of 2.15. The positive regression coefficient associated with VULN indicates that the higher an individual's perceived vulnerability to AIDS threat, the more likely that individual is to engage in adaptive behavior.

Table 4.11a: Regression Results, Dependent-ADAPT
Independent-OPM Variables, SOI

Variable	B	T	Sig. of T
CONSTANT	-.208208		
FEAR2	.027222	1.361	.1751
CRE	.064584	1.025	.3066
TSC	.029611	.623	.5338
SE	.021854	.628	.5307
EPK	.123990	.600	.5490
PROB	.006738	.359	.7198
GPK	.019704	.308	.7588
FEARA	-.230780	-3.000	.0030
VULN	.168191	2.150	.0327

$R^2=.08857$, $F=2.14858$
Significance of $F=.0272$

Table 4.11b reports the results of the regression equation that included the dispositional variable sociosexual orientation (SOI) with the OPM variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy) as independent variables and the behavior variable adaptive behavior (ADAPT) as the dependent variable.

Here we find that the addition of the dispositional variable sociosexual orientation added little to the Ordered Protection Motivation (OPM) model. The

regression coefficient for the sociosexual orientation (SOI) variable was not significant and there was only a small increase in the coefficient of determination.

Table 4.11b: Regression Results, Dependent-ADAPT
Independent-OPM Variables, NPI

Variable	B	T	Sig. of T
CONSTANT	.069061		
FEAR2	.026845	1.343	.1809
CRE	.079877	1.232	.2192
TSC	.028037	.593	.5538
SE	.028037	.692	.4896
EPK	.108433	.528	.5983
PROB	.006289	.337	.7364
SOI	-.002658	-1.516	.1310
GPK	.000729	.011	.9910
FEARA	-.221937	-2.894	.0042
VULN	.183073	2.328	.0209

$R^2=.09886$, $F=2.15027$
Significance of $F=.0224$

Table 4.11c shows the results of the regression equation that included the dispositional variable narcissism (NPI) and the OPM variables as independent variables. The dependent behavior variable was adaptive behavior (ADAPT).

Once again, the addition of the dispositional variable produced little change in the regression equation. The regression coefficient for the narcissism (NPI) variable

was not significant at an acceptable level and there was little change in either the significance levels of the other coefficients or the explanatory power of the equation.

Table 4.11c: Regression Results, Dependent-ADAPT
Independent-OPM Variables, NPI

Variable	B	T	Sig. of T
CONSTANT	-.212389		
FEAR2	.027286	1.357	.1763
NPI	.000602	.045	.9645
GPK	.019758	.308	.7588
CRE	.064199	1.007	.3152
EPK	.123079	.591	.5549
PROB	.006815	.361	.7185
SE	.022015	.628	.5309
TSC	.029369	.613	.5408
FEARA	-.231112	-2.983	.0032
VULN	.168283	2.145	.0331

$R^2=.08857$, $F=1.92422$
Significance of $F=.0438$

Table 4.11d reports the results of the regression equation that included the three dimensions of the dispositional variable health locus of control (HLOC) as independent variables. These dimensions were: internal health locus of control (IHLC), powerful others health locus of control (PHLC), and chance health locus of control (CHLC). The OPM variables were also included in the regression as independent variables. The dependent behavior variable was adaptive behavior (ADAPT).

Table 4.11d: Regression Results, Dependent-ADAPT,
Independent-OPM Variables, IHLC, PHLC, CHLC

Variable	B	T	Sig. of T
CONSTANT	-.028935		
FEAR2	.023076	1.153	.2502
CRE	.097208	1.532	.1271
TSC	.013442	.285	.7759
CHLC	-.030145	-1.673	.0959
SE	.015761	.459	.6469
EPK	.140120	.686	.4933
PROB	.002775	.150	.8810
PHLC	.053892	2.834	.0051
IHLC	.000971	.046	.9630
GPK	.011269	.177	.8598
FEARA	-.275150	-3.569	.0005
VULN	.183317	2.373	.0186

$R^2=.13066$, $F=2.45488$

Significance of $F=.0053$

As can be seen in Table 4.11d, the addition of the powerful others externality locus of control variable (HLOC) to the Ordered Protection Motivation (OPM) model substantially improved both the coefficient of determination and the t-values for the two significant OPM variables fear of AIDS threat (FEARA) and vulnerability to AIDS threat (VULN). The HLOC variable, powerful others externality locus of control, was significant at the .01 level and the positive sign of the coefficient indicates that

individuals who believe that powerful others (medical professionals) control their health will be more likely to engage in adaptive AIDS related health behavior.

Table 4.11e reports the results of the regression equation that included the dispositional variable sexual regulation locus of control (DSLCL) and the OPM variables. The dependent behavior variable was adaptive behavior (ADAPT).

The results of this regression show that the dyadic sexual locus of control (DSLCL) variable made a significant contribution to the explanatory power of the model. Not only was the regression coefficient for the DSLCL variable highly significant, but, in addition, the inclusion of this variable also improved the t-values for several of the Ordered Protection Motivation (OPM) variables. The coefficient of determination for this equation was almost twice that of the regression using only the OPM variables.

The positive regression coefficient associated with DSLCL indicates that individuals who believe that their sexual activity is under their own control will be more likely to engage in adaptive AIDS related health behavior.

Table 4.11e: Regression Results, Dependent-ADAPT,
Independent-OPM Variables, DSLC

Variable	B	T	Sig. of T
CONSTANT	-2.37040		
FEAR2	.018252	.9404	.3482
CRE	.085187	1.399	.1635
TSC	.036374	.798	.4259
SE	.027840	.833	.4058
DSLCL	.041627	4.390	.0000
EPK	.092232	.465	.6424
PROB	.009164	.509	.6111
GPK	.064792	1.039	.3002
FEARA	-.242530	-3.278	.0012
VULN	.200977	2.656	.0086

$R^2=.16938$, $F=4.01732$
Significance of $F=.0001$

Table 4.11f reports the results of the regression equation that included all four of the dispositional variables (SOI, NPI, HLOC, DSLC) and the OPM variables as independent variables. The dependent behavior variable was adaptive behavior (ADAPT).

Table 4.11f: Regression Results, Dependent-ADAPT,
Independent-OPM Variables, SOI, NPI, IHLC,
PHLC, CHLC, DSLC

Variable	B	T	Sig. of T
CONSTANT	-2.13149		
FEAR2	.015586	.792	.4295
NPI	.008989	.656	.5126
CHLC	-.022734	-1.252	.2121
DSLCL	.038873	4.076	.0001
TSC	.018262	.398	.6910
CRE	.111093	1.755	.0809
SE	.02574	.764	.4460
PROB	.006601	.367	.7142
EPK	.088576	.445	.6567
PHLC	.041113	2.173	.0310
IHLC	.009497	.459	.6467
GPK	.040588	.644	.5204
FEARA	-.275815	-3.671	.0003
SOI	-.001887	-1.018	.3102
VULN	.221214	2.901	.0042

$R^2=.20139$, $F=3.19422$

Significance of $F=.0001$

This final regression with adaptive behavior (ADAPT) as the dependent variable produced a dramatic improvement in both significance levels and the explanatory power of the expanded model as compared to the regression using only the OPM variables. Two dispositional variables, powerful others health locus of control (PHLC) and dyadic sexual locus of control (DSLCL), were significant at the .03 level or better,

and coping response efficacy (CRE) was marginally significant at a level of .08. The t-values for the two ordered protection motivation (OPM) variables with significant regression coefficients, fear of AIDS threat (FEARA) and vulnerability to AIDS threat (VULN), improved markedly, and the coefficient of determination was .201 as compared to .089 for the OPM only model.

Maladaptive Behavior Regressions

Tables 4.12a through 4.12f display the results of the regression analysis using maladaptive behavior (MALAD) as the dependent variable. Table 4.12a reports the results of the regression equation that included the OPM variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy) as independent variables and the behavior variable maladaptive behavior (MALAD) as the dependent variable. The regression coefficients, t-values and significance levels can be found within Table 4.12a.

The regression equation was found to be insignificant with an F-value of 1.53362. Only one of the independent variables was found to be significant in the regression equation. The coping response efficacy (CRE) variable was significant with a t-value of negative 2.166. The negative regression coefficient indicates that individuals with low coping response efficacy are more likely to engage in maladaptive behavior.

Table 4.12a: Regression Results, Dependent-MALAD
Independent-OPM Variables, SOI

Variable	B	T	Sig. of T
CONSTANT	1.480881		
FEAR2	.011038	1.417	.1580
CRE	-.053083	-2.166	.0315
TSC	.007467	.400	.6896
SE	.017829	1.295	.1968
PROB	.009739	1.341	.1813
EPK	.068215	.883	.3784
GPK	-.026013	-1.037	.3009
FEARA	.000410	.014	.9891
VULN	-.007849	-.258	.7964

$R^2=.06223$, $F=1.53362$
Significance of $F=.1378$

Table 4.12b reports the results of the regression equation that included the dispositional variable sociosexual orientation (SOI) and the OPM variables as independent variables. Maladaptive behavior (MALAD) was the dependent variable.

The results of this regression show that the dispositional variable sociosexual orientation added little to the Ordered Protection Motivation (OPM) model. The regression coefficient for the sociosexual orientation variable was not significant and there was only a slight increase in the coefficient of determination.

Table 4.12b: Regression Results, Dependent-MALAD
Independent-OPM Variables, SOI

Variable	B	T	Sig. of T
CONSTANT	1.498712		
FEAR2	.011085	1.403	.1620
CRE	-.053500	-2.079	.0389
TSC	.007617	.404	.6865
SE	.017909	1.286	.2001
PROB	.009633	1.314	.1904
EPK	.068310	.869	.3861
SOI	-.000085	-.120	.9046
GPK	-.027644	-1.083	.2802
FEARA	.000860	.028	.9775
VULN	-.007897	-.255	.7989

$R^2=.06323$, $F=1.37706$
Significance of $F=.1928$

Table 4.12c reports the results of the regression equation that included the dispositional variable narcissism (NPI) and the OPM variables as independent variables. The dependent behavior variable was maladaptive behavior (MALAD).

Adding narcissism (NPI) to the regression equation did not increase the explanatory power of the model. There was only a small increase in the coefficient of determination and the coefficient for the narcissism variable was not significant.

Table 4.12c: Regression Results, Dependent-MALAD
Independent-OPM Variables, NPI

Variable	B	T	Sig. of T
CONSTANT	1.504814		
FEAR2	.010537	1.347	.1793
CRE	-.050385	-2.036	.0430
TSC	.008946	.477	.6341
SE	.016719	1.207	.2286
NPI	-.004354	-.827	.4094
PROB	.009182	1.258	.2097
EPK	.077738	.994	.3213
GPK	-.026315	-1.048	.2958
FEARA	.002983	.099	.9214
VULN	-.008274	-.272	.7858

$R^2=.06531$, $F=1.44648$
Significance of $F=.1619$

Table 4.12d reports the results of the regression equation that included the three dimensions of the dispositional variable health locus of control (IHLC, PHLC, and CHLC) and the OPM variables as independent variables. The dependent behavior variable was maladaptive behavior (MALAD).

As can be seen in Table 4.12d, the addition of the chance health locus of control variable (CHLC) produced a marginally significant regression coefficient. Including the CHLC variable also slightly improved the explanatory power of the model. The positive sign of the regression coefficient indicates that individuals who believe that

their health is controlled by mere chance are more likely to engage in maladaptive AIDS related health behaviors.

Table 4.12d: Regression Results, Dependent-MALAD
Independent-OPM Variables, IHLC, PHLC, CHLC

Variable	B	T	Sig. of T
CONSTANT	.988936		
FEAR2	.009264	1.175	.2412
CRE	-.056970	-2.289	.0231
CHLC	.013969	1.949	.0526
TSC	.010863	.579	.5634
SE	.018967	1.377	.1699
PROB	.009538	1.314	.1904
EPK	.063172	.819	.4139
PHLC	.001610	.213	.8313
IHLC	.004723	.570	.5695
GPK	-.019649	-.777	.4381
FEARA	.002687	.088	.9297
VULN	-.007477	-.246	.8062

$R^2=.08099$, $F=1.50548$
Significance of $F=.1241$

Table 4.12e reports the results of the regression equation that included the dispositional variable sexual regulation locus of control (DSLCL) and the OPM variables as independent variables. The dependent behavior variable was maladaptive behavior (MALAD).

Here we find that the addition of the sexual regulation locus of control variable did not add anything to the OPM model. The regression coefficient for the DSLC variable was not significant, and there was no increase in the coefficient of determination.

Table 4.12e: Regression Results, Dependent-MALAD
Independent-OPM Variables, DSLC

Variable	B	T	Sig. of T
CONSTANT	1.559335		
FEAR2	.011819	1.496	.1361
CRE	-.055182	-2.228	.0270
TSC	.007353	.392	.6952
DSLCL	-.001218	-.316	.6952
SE	.017400	1.258	.2100
PROB	.009544	1.307	.1926
EPK	.066994	.863	.3889
GPK	-.028015	-1.096	.2743
FEARA	.001807	.060	.9523
VULN	-.010441	-.340	.7343

$R^2 = .06422$, $F = 1.41374$
Significance of $F = .1759$

Table 4.12f reports the results of the regression equation that included all four of the dispositional variables (SOI, NPI, HLOC, DSLC) and the OPM variables. The dependent behavior variable was maladaptive behavior (MALAD).

Table 4.12f: Regression Results, Dependent-MALAD
Independent-OPM Variables, SOI, NPI, IHLC
PHLC, CHLC, DSLC

Variable	B	T	Sig. of T
CONSTANT	1.122578		
FEAR2	.009517	1.171	.2432
NPI	-.003580	-.627	.5316
CHLC	.014269	1.890	.0602
DSLCL	-.002040	-.515	.6071
TSC	.012154	.636	.5257
CRE	-.057590	-2.197	.0292
SE	.017424	1.231	.2198
PROB	.008619	1.160	.2475
PHLC	.001316	.167	.8671
EPK	.071028	.888	.3758
IHLC	.006124	.710	.4787
GPK	-.025058	-.955	.3407
FEARA	.006526	.209	.8344
SOI	-.000144	-.185	.8533
VULN	-.010199	-.325	.7459

$R^2=.08725$, $F=1.26177$
Significance of $F=.2295$

This final regression equation, with maladaptive behavior as the dependent variable, produced only a slight improvement in both significance levels and the explanatory power of the expanded model as compared to the regression using only the OPM variables. One dispositional variable, chance health locus of control, was

significant at the .06 level. The t-value for the OPM variable with a significant regression coefficient, coping response efficacy, improved slightly. The coefficient of determination also increased somewhat from .062 to .087.

Information Search Behavior Regressions

The following set of tables, 4.13a through 4.13f, shows the results of the regression analysis using information search behavior (ISB) as the dependent variable. Table 4.13a reports the results of the regression equation that included the OPM variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy) as independent variables and the behavior variable information search behavior (ISB) as the dependent variable. The regression coefficients, T-values and significance levels can be found within Table 4.13a.

The regression equation, displayed in Table 4.13a, was found to be significant with an F-value of 4.70586. The R-squared of .1685 indicates the regression equation is explaining 16.85 percent of the variation in the dependent variable (information search behavior).

Table 4.13a: Regression Results, Dependent-ISB
Independent-OPM Variables, SOI

Variable	B	T	Sig. of T
CONSTANT	-2.425967		
FEAR2	.022075	2.221	.0274
CRE	.050737	1.631	.1045
TSC	.025622	1.087	.2783
SE	.061317	3.489	.0006
EPK	.008310	.084	.9328
PROB	.004301	.464	.6430
GPK	.062917	1.967	.0505
FEARA	.012121	.319	.7501
VULN	.049237	1.270	.2056

$R^2=.16850$, $F=4.70586$
Significance of $F=.0000$

Two independent variables were found to be highly significant in the regression equation. Fear of contracting AIDS (FEAR2) was significant with a T-value of 2.221. The positive regression coefficient indicates that the higher an individual's fear of contracting AIDS the more likely an individual is to engage in AIDS related information search behavior. Self-efficacy (SE) was also found to be significant in the regression equation with a t-value of 3.489. The positive regression coefficient associated with self-efficacy (SE) indicates that the higher an individual's self-efficacy the more likely that individual is to engage in information search behavior. Additionally, general problem knowledge (GPK) was marginally significant with a t-value of 1.967. The positive regression coefficient associated with general problem

knowledge (GPK) indicates that the higher an individual's general knowledge of AIDS the more likely that individual is engage in AIDS related information search behavior.

Table 4.13b reports the results of the regression equation that included the dispositional variable sociosexual orientation (SOI) and the OPM variables as independent variables. The behavior variable information search behavior (ISB) was the dependent variable.

Table 4.13b: Regression Results, Dependent-ISB
Independent-OPM Variables, SOI

Variable	B	T	Sig. of T
CONSTANT	-2.493050		
FEAR2	.019101	1.953	.0522
CRE	.030620	.965	.3357
TSC	.028813	1.247	.2137
SE	.056400	3.268	.0013
EPK	.008582	.088	.9298
PROB	.003425	.377	.7064
SOI	.002127	2.436	.0157
GPK	.070301	2.224	.0272
FEARA	.005024	.134	.8932
VULN	.052432	1.367	.1732

$R^2=.19167$, $F=4.86080$
Significance of $F=.0000$

The results of the regression show that sociosexual orientation (SOI) made a significant contribution to the explanatory power of the model. Not only was the

regression coefficient for the sociosexual orientation (SOI) variable highly significant, but in addition, the inclusion of this variable also improved the t-value for general problem knowledge (GPK). The coefficient of determination also increased from .17 to .19. These results indicate that individuals who are highly sexually active are more likely to search out information related to AIDS.

Table 4.13c reports the results of the regression equation that included the dispositional variable narcissism (NPI) and the OPM variables as independent variables. The dependent behavior variable was information search behavior (ISB).

As can be seen in Table 4.13c, the addition of the narcissism (NPI) variable to the Ordered Protection Motivation (OPM) model substantially improved both the coefficient of determination and the t-values for the three significant OPM variables (FEAR2, SE, and GPK). The narcissism variable was significant at the .005 level and indicates that individuals who are highly narcissistic are more likely to engage in AIDS related information search behavior.

Table 4.13c: Regression Results, Dependent-*ISB*
Independent-*OPM* Variables, *NPI*

Variable	B	T	Sig. of T
CONSTANT	-2.535517		
FEAR2	.024227	2.472	.0142
NPI	.018965	2.872	.0045
TSC	.019463	.836	.4040
CRE	.038719	1.254	.2112
SE	.066188	3.813	.0002
PROB	.006752	.738	.4613
EPK	-.032691	-.334	.7387
GPK	.064343	2.046	.0421
FEARA	.000522	.014	.9889
VULN	.051085	1.340	.1818

$R^2=.20021$, $F=5.20695$
Significance of $F=.0000$

Table 4.13d reports the results of the regression equation that included the three dimensions of the dispositional variable health locus of control (IHLC, PHLC and CHLC) and the *OPM* variables as independent variables. The dependent behavior variable was information search behavior (*ISB*).

Here we find that the addition of the three dimensions of the dispositional variable health locus of control produced little change in the regression equation. The regression coefficients for all three dimensions were not significant. Additionally the coefficient of determination increased only marginally.

Table 4.13d: Regression Results, Dependent-*ISB*
Independent-*OPM* Variables, *IHLC*,
PHLC, *CHLC*

Variable	B	T	Sig. of T
CONSTANT	-2.355029		
FEAR2	.021290	2.111	.0360
CRE	.055729	1.754	.0808
TSC	.021249	.891	.3741
CHLC	-.008606	-.937	.3499
SE	.059626	3.375	.0009
EPK	.010899	.110	.9123
PROB	.003505	.376	.7072
PHLC	.009124	.951	.3426
IHLC	.004264	.406	.6850
GPK	.057756	1.781	.0764
FEARA	.003705	.096	.9236
VULN	.051587	1.321	.1880

$R^2=.17650$, $F=3.67922$
Significance of $F=.0000$

Table 4.13e reports the results of the regression equation that included the dispositional variable sexual regulation locus of control (*DSL*C) and the *OPM* variables as independent variables. The dependent behavior variable was information search behavior (*ISB*).

Once again the addition of the dispositional variable produced little change in the regression equation. The dispositional variable sexual locus of control (*DSL*C) did

not produce a significant regression coefficient and there was little change in either the significance levels of the other coefficients or the explanatory power of the equation.

Table 4.13e: Regression Results, Dependent-*ISB*
Independent-*OPM* variables, *DSL*C

Variable	B	T	Sig. of T
CONSTANT	-1.992238		
FEAR2	.023117	2.312	.0218
CRE	.047698	1.526	.1285
TSC	.025291	1.077	.2828
DSLC	-.008477	-1.741	.0832
SE	.060318	3.441	.0007
EPK	.014492	.148	.8828
PROB	.003425	.370	.7115
GPK	.054477	1.685	.0936
FEARA	.011312	.298	.7659
VULN	.044859	1.152	.2507

$R^2=.18149$, $F=4.58956$
Significance of $F=.0000$

Table 4.13f reports the results of the regression equation that included all four of the dispositional variables (*SOI*, *NPI*, *HLOC*, *DSL*C) and the *OPM* variables as independent variables. The dependent behavior variable was information search behavior (*ISB*).

This final regression, with information search behavior (*ISB*) as the dependent variable, produced a marked improvement in the explanatory power of the expanded

model, from .17 to .23, as compared to the regression using only the Ordered Protection Motivation (OPM) variables. The dispositional variable sociosexual orientation (SOI) was significant at the .07 level and the dispositional variable, narcissism (NPI), was significant at the .03 level.

Table 4.13f: Regression Results, Dependent-ISB
Independent-OPM Variables, SOI, NPI,
IHLC, PHLC, CHLC, DSLC

Variable	B	T	Sig. of T
CONSTANT	-2.017736		
FEAR2	.021119	2.133	.0341
NPI	.014951	2.143	.0333
DSLC	-.008164	-1.694	.0918
CHLC	-.007917	-.859	.3914
TSC	.018608	.805	.4220
CRE	.030505	.956	.3403
SE	.058556	3.386	.0009
PROB	.003443	.379	.7049
EPK	-.015860	-.163	.8710
PHLC	.014180	1.490	.1379
IHLC	-.002524	-.243	.8083
GPK	.058356	1.823	.0699
FEARA	-.013608	-.361	.7184
SOI	.001740	1.835	.0680
VULN	.055803	1.453	.1477

$R^2=.23349$, $F=4.04120$
Significance of $F=.0000$

Chapter Summary

This chapter has presented the results of the data analysis that was proposed in Chapter 3. The interpretation of these results, as well as the study's limitations, delimitations and possible directions for future research will be presented in Chapter 5.

CHAPTER 5

DISCUSSION AND CONCLUSION

This chapter is divided into five sections: 1) overview of the study; 2) discussion of empirical findings; 3) study limitations and delimitations; 4) study contributions and 5) directions for future research.

Overview of the Study

This study examined the potential for four dispositional variables (health locus of control, sexual regulation locus of control, narcissism, and sociosexual orientation) being included in the current Ordered Protection Motivation model. The subject of AIDS was chosen as the underlying threat source. Three behavior variables relating to AIDS (adaptive behavior, maladaptive behavior and information search behavior) were used as dependent variables in the regression analysis. The study used several Ordered Protection Motivation variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy) as independent variables. The research introduced the dispositional variables as independent variables in the regression equations that included the current Ordered

Protection Motivation variables. Seven regression equations were calculated for each of the three dependent behavior variables.

The research contained in this study was undertaken in order to gain a better understanding of the effect that dispositional states play on individuals' self-reported health beliefs and behaviors regarding AIDS/HIV. With a greater understanding of how individuals act regarding risk-related behavior comes a better chance to influence future related behaviors.

Discussion of Research Findings

As stated previously, this study attempted to identify dispositional variables that may be used to expand the Ordered Protection Motivation model. Most of the prior research has had little or no success in showing any relationship between dispositional variables and behavior change. This study identified four dispositional variables that may expand the Ordered Protection Motivation model.

Sociosexual Orientation Results

The first dispositional variable, sociosexual orientation (SOI), produced a significant, positive regression coefficient each of the three times it was regressed against information search behavior (ISB). Sociosexual orientation, however, did not produce a statistically significant regression coefficient in either the adaptive or the maladaptive behavior regressions.

Sociosexual orientation (SOI) associates high values with individuals who possess an unrestricted sexual orientation.

Such individuals typically have engaged in sex with more partners in the preceding year, they foresee more partners in the near future, they have engaged in more one-night stands, they fantasize more often about having sex with someone other than their current partner, and they adopt more permissive attitudes toward engaging in uncommitted sexual relations. (Simpson and Gangestad, 1991, p. 873).

The results of this study indicate that individuals who possess an unrestricted sexual orientation may be more likely to engage in information search behaviors regarding AIDS-related health information.

Narcissism Results

The second dispositional variable was narcissism (NPI). There was a statistically significant positive relationship between narcissism and information search behavior (ISB) each of the three times the relationship was observed. Narcissism (NPI) did not have a statistically significant relationship to either adaptive or maladaptive behavior.

Narcissism (NPI) associates higher scores with individuals who are highly narcissistic. The positive correlation between narcissism and information search behavior indicates that individuals who are highly narcissistic may be more likely to engage in information search behaviors related to AIDS health information.

Health Locus of Control Results

The three dimensions that make up health locus of control (HLOC) are internal health locus of control (IHLC), powerful others health locus of control (PHLC), and chance health locus of control (CHLC). Of the three dimensions, both powerful others

health locus of control (PHLC) and chance health locus of control (CHLC) produced statistically significant regression coefficients. The dimension internal health locus of control failed to produce any statistically significant relationships. The specific results related to powerful others health locus of control (PHLC) and chance health locus of control (CHLC) are reported in the following sub-sections.

PHLC Results

Powerful others health locus of control (PHLC) associates higher scores with individuals who believe that their health is controlled by health professionals (medical doctors, nurses, etc.). A statistically significant, positive relationship existed between powerful others health locus of control (PHLC) and the dependent variable adaptive behavior (ADAPT) each of the three times it was regressed. The relationship between powerful others health locus of control (PHLC) and adaptive behavior (ADAPT) suggests that individuals who believe that medical professionals control their health may be more likely to engage in adaptive health behaviors related to AIDS.

Powerful others health locus of control also produced a positive regression coefficient in one of the three information search behavior (ISB) regression equations. This relationship implies that individuals who believe that medical professionals control their health are more likely to engage in information search behaviors related to AIDS health information.

CHLC Results

Chance health locus of control (CHLC) is associated with individuals who believe that their health is controlled by mere chance or fate. Chance health locus of control (CHLC) was positively and significantly related to maladaptive (MALAD) behavior each time this relationship was examined. This finding indicates that individuals who believe that chance or fate control their health may be more likely to engage in maladaptive health behaviors related to AIDS.

Sexual Regulation Locus of Control Results

Individuals who score high on sexual regulation locus of control (DSLCL) believe that they are in control of their sexual activities. Sexual regulation locus of control (DSLCL) was positively and significantly related to adaptive behavior (ADAPT) each time this relationship was examined. Therefore, these results suggest that individuals who believe they control their own sexual activity may be more likely to engage in AIDS-related adaptive behaviors.

Sexual regulation locus of control (DSLCL) also produced a statistically significant regression coefficient each of the three times it was regressed against information search behavior (ISB). This relationship, however, was negative each time which indicates that individuals who believe that they control their sexual activities are less likely to engage in AIDS related information search behavior. Conversely, individuals who believe others control their sexual activity are more likely to engage in AIDS related information search behavior.

Limitations and Delimitations

A limitation of the study concerns the respondents' possible reluctance to truthfully answer sensitive questions posed to them in the assessment instrument. Because of the private, sexual nature of some of the questions that were asked, anonymity was assured. While all reasonable measures were taken to assure completely anonymous responses, some of the subjects may not have responded truthfully to the more sensitive questions. To reduce such response bias, all participants deposited their completed questionnaires in a sealed box and were assured that none of the questionnaires would be removed until the entire data collection process was completed.

The first delimitation of this study concerned the sample on which the research was based. The sample was drawn from a population of Louisiana Tech University students enrolled during the winter quarter of 1993-94. The sample used was a convenience sample. According to Zikmund (1989), "convenience samples are best used for exploratory research" (p. 450). The research undertaken in this study was exploratory in nature. The objective of exploratory research is to find new relationships and ideas (Boyd, Westfall, and Stasch, 1977). This delimitation does not allow for the results of the study to be generalized to the population as a whole. This is not a serious delimitation, however, because the major hypothesis of this study was to test a theoretical issue (find new relationships) and not to make inferences beyond the sample set.

A second delimitation of the study involved the sample size. Because of the large number of variables and the potential relationships between these variables, the limited sample size prohibited the use of structural equation modeling.

Study Contributions

The main purpose of this study was to lend credibility to the position that supports the use of dispositional variables in the Ordered Protection Motivation (OPM) model. The OPM model is used to describe or predict behavior in a threat environment. The analysis presented in this study supports the use of all four of the dispositional variables tested in conjunction with the Ordered Protection Motivation model.

In past research, fear was tested as a dispositional variable and found to be insignificant (see Chapter 2). However, very few other dispositional variables have been examined. The evidence presented in this study makes it clear that dispositional psychological states have an influence on how individuals process threat related information.

With respect to the specific threat source that was identified in this study (AIDS), both of the locus of control variables (HLOC and DSLC) added significant explanatory power to the Ordered Protection Motivation model that used adaptive behavior as the dependent variable. The adaptive behavior regression model that included only the Ordered Protection Motivation variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of

AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy) produced an R-square of .08857. When the three dimensions of the health locus of control variable (PHLC, CHLC, IHLC) were included in the regression model as independent variables the R-square increased to .13066. The actual increase in R-square is .04209 or 47.5 percent. Additionally, when the dyadic sexual locus of control variable was added to the original adaptive behavior Ordered Protection Motivation model, the R-square increased from .08857 to .16938. This change in R-square is an increase of .08081 or 91.2 percent. These relationships indicate that locus of control may be a good predictor of threat related adaptive behavior and should be included in future Ordered Protection Motivation research. Including all four of the dispositional variables (SOI, NPI, HLOC and DSLC) in the original adaptive behavior Ordered Protection Motivation model, R-square increased from .08857 to .20139. This is an increase of .11282 or 127.38 percent.

When maladaptive behavior (MALAD) was used as the dependent variable in the Ordered Protection Motivation model, the R-square for the original model using only OPM variables was .06223. When the four dispositional variables (SOI, NPI, HLOC and DSLC) were included in the original model, the R-square increased to .08725. This is an increase of .02502 or 40.2 percent.

The sociosexual orientation and narcissism dispositional variables (SOI and NPI) added significant explanatory power to the Ordered Protection Motivation (OPM) model when the dependent variable was AIDS related information search behavior (ISB). The original information search behavior regression model included

only the Ordered Protection Motivation independent variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy) and produced a R-square of .16850. When the dispositional variable sociosexual orientation (SOI) was added to the original information search behavior model, the R-square increase from .16850 to .19167. This is an increase of .02317 or 13.8 percent. The R-square increased from .16850 to .20021 when narcissism (NPI) was added to the base information search behavior model. This is an increase of .03171 or 18.8 percent. The full information search behavior Ordered Protection Motivation model included all four of the dispositional variables (sociosexual orientation, narcissism, health locus of control and dyadic sexual regulation locus of control) as well as all of the OPM independent variables (experiential prevention knowledge, generalized problem knowledge, threat source certainty, probability of AIDS threat, vulnerability of AIDS threat, fear of AIDS threat, coping response efficacy, and self-efficacy). The R-square for the full model increased from .16850 to .23349. This is an increase of .06499 or 38.57 percent.

These findings hold particular interest for marketers. When public policy campaigns are undertaken regarding public health threats, the most important goal of the campaign is to raise public awareness and knowledge about the specific health threat. This goal can be achieved by persuading the general population to seek out information related to the health threat in question. The message presented in the public service campaign can be adjusted to appeal to certain dispositional psychological

states, such as narcissism and sociosexual orientation, thereby improving the overall effectiveness of the campaign.

Directions for Future Research

A follow-up study should be conducted using structural equation modeling. The advantage of structural equation modeling is that relationships between several variables (both independent and dependent) can be observed simultaneously. The Narcissistic Personality Inventory should also be reevaluated and tested so that the various dimensions of narcissism may be used in any future analysis. As noted in Chapter 4, the dimensions of narcissism could not be used in this study because the Narcissistic Personality Inventory did not adequately discriminate between the dimensions.

APPENDIX

HUMAN SUBJECTS CONSENT STATEMENT

TITLE OF PROJECT: Effects of psychological variables on processing of AIDS related public service announcements in the protection motivation framework.

PURPOSE: To expand the protection motivation model to include psychological variables and to determine those variables effect on information processing under a variety of conditions.

PROCEDURE: Participants will complete a survey instrument by circling the appropriate number or checking the appropriate space.

INSTRUMENT: The survey instrument will include questions that measure the respondents current psychological state, knowledge of AIDS/HIV and related subjects, attitudes toward AIDS/HIV related behaviors, and demographics.

RISKS/ALTERNATIVE TREATMENTS: There are no risks associated with participation in this study.

BENEFITS/COMPENSATION: This research will provide the researcher with understanding of how viewers interpret and process information from AIDS' PSA's.

I, _____, attest with my signature that I have read and understood the description of the study, "Effects of psychological variables on processing of AIDS related knowledge and information in the protection motivation framework", and its purposes and methods. I understand that my participation this research is strictly voluntary. I also understand that I may withdraw at any time or refuse to answer any question without penalty. Upon completion of the study, I understand that the results will be available to me upon request. I understand that the results of my instrument will be anonymous and confidential, accessible only to the principal investigators, myself, or legally appointed representative. I have not been requested to waive nor do I waive any of my rights related to participating in this study.

Signature of Participant

Date

CONTACT INFORMATION: The principal experimenters listed below may be reached to answer questions about the research, subject's rights, or related matters:

Robert J. Pellegrino 257-2624

The Human Subjects Committee of Louisiana Tech University may also be contacted if a problem cannot be discussed with the experimenters:

Dr. Mary Livingston (257-4315)

Dr. John Maxfield (257-2293)

Ms. Margaret Nolan, secretary (251-4130)

Please answer all of the following questions honestly. For the questions dealing with behavior, write your answers in the blank spaces provided. For the questions dealing with thoughts and attitudes, circle the appropriate number on the scales provided.

1. With how many different partners have you had sex (sexual intercourse) within the past year? _____
2. How many different partners do you foresee yourself having sex with during the next five years? (Please give a specific, realistic estimate). _____
3. With how many different partners have you had sex on one and only one occasion? _____
4. How often do you fantasize about having sex with someone other than your current partner? (Circle one).
 1. never
 2. once every two or three months
 3. once a month
 4. once every two weeks
 5. once a week
 6. a few times each week
 7. nearly every day
 8. at least once a day
5. Sex without love is OK.

1	2	3	4	5	6	7	8	9
I strongly disagree					I strongly agree			
6. I can imagine myself being comfortable and enjoying "casual" sex with different partners.

1	2	3	4	5	6	7	8	9
I strongly disagree					I strongly agree			
7. I would have to be closely attached to someone (both emotionally and psychologically) before I could feel comfortable and fully enjoy having sex with him or her

1	2	3	4	5	6	7	8	9
I strongly disagree					I strongly agree			

Please circle the number that most closely approximates your attitude toward the statement.

1. If I get sick, it is my own behavior which determines how soon I get well again.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

2. No matter what I do, if I am going to get sick, I will get sick.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

3. Having regular contact with my physician is the best way for me to avoid illness.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

4. Most things that affect my health happen to me by accident.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

5. Whenever I don't feel well, I should consult a medically trained professional.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

6. I am in control of my health.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

7. My family has a lot to do with my becoming sick or staying healthy.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

8. When I get sick I am to blame.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

9. Luck plays a big part in determining how soon I will recover from an illness.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

10. Health professionals control my health.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

11. My good health is largely a matter of good fortune.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

12. The main thing that affects my health is what I myself do.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

13. If I take care of myself, I can avoid illness.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree

14. When I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree
15. No matter what I do, I'm likely to get sick.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree
16. If it's meant to be, I will stay healthy.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree
17. If I take the right actions, I can stay healthy.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree
18. Regarding my health, I can only do what my doctor tells me to do.
Strongly Disagree 1--2--3--4--5--6 Strongly Agree
19. I often take the initiative in beginning sexual activity.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree
20. If my sexual relations are not satisfying there is little I can do to improve the situation.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree
21. I have sexual relations with my partner as often as I would like.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree
22. My planning for sexual encounters leads to good sexual experiences with my partner.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree
23. I feel it is difficult to get my partner to do what makes me feel good during sex.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree
24. I feel that my sexual encounters with my partner usually end before I want them to.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree
25. When I am not interested in sexual activity I feel free to reject sexual advances by my partner.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree

26. I want my partner to be responsible for directing our sexual encounters.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree

27. I find it pleasurable at times to be the active member during sexual relations while my partner takes a passive role.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree

28. I would feel uncomfortable bringing myself to orgasm if the stimulation my partner was providing was inadequate.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree

29. During some sexual encounters I find it pleasurable to be passive while my partner is the active person.
Strongly Agree 1--2--3--4--5--6--7 Strongly Disagree

Please circle the number that most closely approximates your attitude toward the statement.

1. How confident are you that you know where to get accurate information about the AIDS/HIV infection?

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

2. How confident are you that you know where to get tested to see if you are infected with the AIDS/HIV virus?

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

3. How confident are you that you know how to keep from getting the AIDS/HIV virus?

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

4. How confident are you that latex condoms are the best protection when having sex?

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

5. The possibility of contracting the AIDS/HIV virus frightens me.

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

6. The AIDS/HIV public service announcements I see on T.V. frighten me.

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

7. How concerned are you about the possibility of catching AIDS?

Very Concerned 5--4--3--2--1 Very Unconcerned

In the past month, have you:

1. called an AIDS hotline? Yes _____ No _____
2. talked to a physician or nurse about AIDS? Yes _____ No _____
3. talked to a romantic partner about AIDS? Yes _____ No _____
4. attended a program on AIDS by your choice? Yes _____ No _____

It's possible to become infected with the AIDS virus by:

1. having sex with members of the opposite sex.
Strongly Agree 5--4--3--2--1 Strongly Disagree
2. having sex with members of the same sex.
Strongly Agree 5--4--3--2--1 Strongly Disagree
3. intravenous drug use with shared needles.
Strongly Agree 5--4--3--2--1 Strongly Disagree
4. other drug use--not involving needles.
Strongly Agree 5--4--3--2--1 Strongly Disagree
5. social contact, such as shaking hands with a person who had AIDS.
Strongly Agree 5--4--3--2--1 Strongly Disagree

In your estimation how likely are you to contract the AIDS/HIV virus:

1. Through sexual contact.
Very Unlikely 5--4--3--2--1 Very Likely
2. Through drug use.
Very Unlikely 5--4--3--2--1 Very Likely
3. Through the use of contaminated blood.
Very Unlikely 5--4--3--2--1 Very Likely
4. Through casual contact with an infected person.
Very Unlikely 5--4--3--2--1 Very Likely

Please indicate whether you believe the statement to be true or false.

1. Can a person get AIDS/HIV infection from holding hands with someone?
True ___ False ___ Don't Know ___
2. Can a person get AIDS/HIV from sharing needles used to inject (shoot up) drugs?
True ___ False ___ Don't Know ___
3. Can a person get AIDS/HIV infection from being bitten by a mosquito or other insects?
True ___ False ___ Don't Know ___
4. Can a person get AIDS/HIV infection from donating blood?
True ___ False ___ Don't Know ___
5. Can a person get AIDS/HIV infection from having a blood test?
True ___ False ___ Don't Know ___
6. Can a person get AIDS/HIV infection from using public toilets?
True ___ False ___ Don't Know ___
7. Can a person get AIDS/HIV infection from having sexual intercourse without a condom (rubber) ?
True ___ False ___ Don't Know ___
8. Can a person get AIDS/HIV infection from being in the same class with a student who has AIDS/HIV infection?
True ___ False ___ Don't Know ___
9. Can you tell if people are infected with the AIDS virus (HIV) just by looking at them?
True ___ False ___ Don't Know ___
10. Can a person who has the AIDS virus (HIV) infect someone else during intercourse?
True ___ False ___ Don't Know ___
11. Can a pregnant woman who has the AIDS virus (HIV) infect her unborn baby with the virus?
True ___ False ___ Don't Know ___
12. Is there a cure for AIDS/HIV infection?
True ___ False ___ Don't Know ___
13. Is it true that only homosexual (gay) men can get AIDS/HIV infection?
True ___ False ___ Don't Know ___
14. Can people reduce their chances of becoming infected with the AIDS virus (HIV) by not having any kind of sexual intercourse (being abstinent)?
True ___ False ___ Don't Know ___
15. Can people reduce their chances of becoming infected with the AIDS virus (HIV) by using condoms (rubbers) during sexual intercourse?
True ___ False ___ Don't Know ___
16. Can people reduce their chances of becoming infected with the AIDS virus (HIV) by not having any kind of sexual intercourse with a person who has injected (shot up) drugs?
True ___ False ___ Don't Know ___

What methods are you using personally to reduce your chances of getting AIDS?

1. abstaining from sex
Yes _____ No _____
2. not engaging in sex involving sharing of blood or bodily fluids
Yes _____ No _____
3. Being more careful in choosing partners.
Yes _____ No _____
4. Reducing the number of partners. Yes _____ No _____

Within the last year, I:

1. Used condoms all or most of the time Yes _____ No _____
2. began using condoms Yes _____ No _____

Instructions. Each of the following words describes a feeling. Using the words below, describe how you feel about the possibility of contracting the AIDS/HIV virus. Circle one number that best says how you feel.

As you consider the possibility, do you feel ...

	not at all			moderately			very much	
1. Frightened.....1	2	3	4	5	6	7	8	9
2. Lighthearted.....1	2	3	4	5	6	7	8	9
3. Tense.....1	2	3	4	5	6	7	8	9
4. Angry.....1	2	3	4	5	6	7	8	9
5. Nervous.....1	2	3	4	5	6	7	8	9
6. Confident.....1	2	3	4	5	6	7	8	9
7. Anxious.....1	2	3	4	5	6	7	8	9
8. Skeptical.....1	2	3	4	5	6	7	8	9
9. Uncomfortable.....1	2	3	4	5	6	7	8	9
10. Carefree.....1	2	3	4	5	6	7	8	9
11. Nauseous.....1	2	3	4	5	6	7	8	9

Please indicate the extent to which you agree or disagree with each statement according to the following scale:

- 1-Strongly Disagree 2-Moderately Disagree 3-Slightly Disagree
 4-Neither Agree or Disagree 5-Slightly Agree 6-Moderately Agree
 7-Strongly Agree

Please circle the number that matches your attitude:

1. 1 2 3 4 5 6 7 It upsets me to go into a situation without knowing what I can expect from it
2. 1 2 3 4 5 6 7 I'm not bothered by things that upset my daily routine.
3. 1 2 3 4 5 6 7 I enjoy having a clear and structured mode of life.

4. 1 2 3 4 5 6 7 I like a place for everything and everything in its place.
5. 1 2 3 4 5 6 7 I like being spontaneous.
6. 1 2 3 4 5 6 7 I find that a well ordered life with regular hours makes my life tedious.
7. 1 2 3 4 5 6 7 I don't like situations that are uncertain.
8. 1 2 3 4 5 6 7 I hate to change my plans at the last minute.
9. 1 2 3 4 5 6 7 I hate to be with people that are unpredictable.
10. 1 2 3 4 5 6 7 I find that a consistent routine enables me to enjoy life more.
11. 1 2 3 4 5 6 7 I enjoy the exhilaration of being put in unpredictable situations.
12. 1 2 3 4 5 6 7 I become uncomfortable when the rules in a situation are not clear.

DEMOGRAPHICS

1. Indicate your age _____
2. Indicate your sex: Male _____ Female _____
3. Indicate your race: African-American _____ Caucasian _____ Other _____
4. Indicate your family income level \$ _____
5. Indicate your class level: Fr _____ So _____ Jr _____ Sr _____ Grad _____
6. Indicate your current major _____
7. Indicate the highest education level achieved by your parents:
Fr _____ So _____ Jr _____ Sr _____ Grad _____
8. Indicate how many hours per week you spend with each of the following media:
T.V. _____ hrs per week Radio _____ hrs Newspaper _____ hrs
9. Indicate your current religious affiliation:
Baptist _____ Methodist _____ Lutheran _____ Presbyterian _____ Episcopalian _____
Pentecostal _____ Mormon _____ Catholic _____ Jewish _____ Other Christian _____
Other Non-Christian _____
10. Please indicate approximately how many different sexual partners you have had in the past year. (if none indicate 0) _____
11. Please indicate, on average, how many times a week you engage in sexual activity. _____
12. Are you currently in a monogamous relationship. Yes _____ No _____
13. Have you ever contracted a sexually transmitted disease. Yes _____ No _____
14. Do you know anyone that has the HIV virus or AIDS. Yes _____ No _____

Please indicate the extent to which you agree or disagree with each statement according to the following scale:

1-Strongly Disagree 2-Moderately Disagree 3-Slightly Disagree
4-Neither Agree or Disagree 5-Slightly Agree 6-Moderately Agree

7-Strongly Agree

Please circle the number that matches your attitude:

1. 1 2 3 4 5 6 7 I may struggle with a few decisions, but not very often.
2. 1 2 3 4 5 6 7 I never put off making decisions.
3. 1 2 3 4 5 6 7 Sometimes I become impatient over my indecisiveness.
4. 1 2 3 4 5 6 7 Sometimes I see so many options to a situation that it is really confusing.
5. 1 2 3 4 5 6 7 I can be reluctant to commit myself to something because of the possibility that I might be wrong.
6. 1 2 3 4 5 6 7 I tend to struggle with most decisions.
7. 1 2 3 4 5 6 7 Even after making an important decision I continue to think about the pros and cons to make sure that I am not wrong.
8. 1 2 3 4 5 6 7 Regardless of whether others see an event as positive or negative I don't mind committing myself to it.
9. 1 2 3 4 5 6 7 I prefer situations where I do not have to decide immediately.
10. 1 2 3 4 5 6 7 I rarely doubt that the course of action I have selected will be correct.
11. 1 2 3 4 5 6 7 I tend to continue to evaluate recently made decisions.
12. 1 2 3 4 5 6 7 I wish I did not worry so much about making errors.
13. 1 2 3 4 5 6 7 Decisions rarely weigh heavily on my shoulders.
14. 1 2 3 4 5 6 7 I find myself reluctant to commit to new ideas but find little comfort in remaining with the tried and true.

Instructions: This section of the questionnaire consists of a number of pairs of statements with which you may or may not identify. Consider this example: A "I like having authority over people", versus B "I don't mind following orders." Which of these two statements is closer to your own feelings about yourself? If you identify more with "liking to have authority over people" than with "not minding following orders", Then you would choose option A.

You may identify with both "A" and "B". In this case you should choose the statement which seems closer to your personal feelings about yourself. Or, if you do not identify with either statement, select the one which is least objectionable or remote. In other words, read each pair of statements and then choose the one that is closer to your own feelings. Indicate your answer by writing "A" or "B" in the space provided. Do not skip any items.

1. ___ A I have a natural talent for influencing people.
B I am not good at influencing people.
2. ___ A Superiority is something that you acquire with experience.
B Superiority is something that you are born with.
3. ___ A I would do almost anything on a dare.
B I tend to be a fairly cautious person.
4. ___ A I would be willing to describe myself as a strong personality.
B I would be reluctant to describe myself as a strong personality.
5. ___ A I would do almost anything on a dare.
B I tend to be a fairly cautious person.
6. ___ A I can usually talk my way out of anything.
B I try to accept the consequences of my behavior.
7. ___ A I prefer to blend in with the crowd.
B I like to be the center of attention.
8. ___ A I am no better nor no worse than most people.
B I think I am a special person.
9. ___ A I am not sure if I would make a good leader.
B I see myself as a good leader.
10. ___ A I am assertive.
B I wish I were more assertive.
11. ___ A I like having authority over other people.
B I don't mind following orders.
12. ___ A There is a lot that I can learn from other people.
B People can learn a great deal from me.
13. ___ A I find it easy to manipulate people.
B I don't usually like it when I find myself manipulating people.
14. ___ A I insist on getting the respect that is due me.
B I usually get the respect that I deserve.
15. ___ A I don't particularly like to show off my body.
B I like to display my body.
16. ___ A I can read people like a book.
B People are sometimes hard to understand.
17. ___ A My body is nothing special.
B I like to look at my body.

18. ___ A Beauty is in the eyes of the beholders.
B I have good taste when it comes to beauty.
19. ___ A I try not to be a show off.
B I am apt to show off when I get the chance.
20. ___ A I always know what I am doing.
B Sometimes I'm not sure of what I am doing.
21. ___ A Sometimes I tell good stories.
B Everybody likes to hear my stories.
22. ___ A I usually dominate my conversations.
B At times I am capable of dominating a conversation.
23. ___ A I expect a great deal from other people.
B I like to do things for other people.
24. ___ A I will never be satisfied until I get all that I deserve.
B I take my satisfactions as they come.
25. ___ A Compliments embarrass me.
B I like to be complimented.
26. ___ A I have a strong will to power.
B Power for its own sake doesn't interest me.
27. ___ A I am envious of other people's good fortune.
B I enjoy seeing other people have good fortune.
28. ___ A I like to look at myself in the mirror.
B I am not particularly interested in looking at myself in the mirror.
29. ___ A I really like to be the center of attention.
B It makes me unccmfortable to be the center of attention.
30. ___ A Being an authority doesn't mean that much to me.
B People always seem to recognize my authority.
31. ___ A I would prefer to be a leader.
B It would make little difference to me whether I am a leader or not.
32. ___ A I am going to be a great person.
B I hope I am going to be successful.
33. ___ A People sometimes believe what I tell them.
B I can make anyone believe anything I want them to.
34. ___ A I am a born leader.
B Leadership is a quality that takes a long time to develop.
35. ___ A I get upset when people don't notice how I look when I go out in public.
B I don't mind blending into the crowd when I go out in public.
36. ___ A I am more capable than other people.
B There is a lot that I can learn from other people.
37. ___ A I am much like everybody else.
B I am an extraordinary person.

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

Disagree Strongly 1	Disagree a Little 2	Neither Agree nor Disagree 3	Agree a Little 4	Agree Strongly 5
---------------------------	---------------------------	------------------------------------	------------------------	------------------------

I SEE MYSELF AS SOMEONE WHO . . .

- | | |
|---|--|
| <p>_____ 1. Is Talkative</p> <p>_____ 2. Tends to find fault with others</p> <p>_____ 3. Does a thorough job</p> <p>_____ 4. Is depressed, blue</p> <p>_____ 5. Is original, comes up with new ideas</p> <p>_____ 6. Is reserved</p> <p>_____ 7. Is helpful and unselfish with others</p> <p>_____ 8. Can be somewhat careless</p> <p>_____ 9. Is relaxed, handles stress well</p> <p>_____ 10. Is curious about many different things</p> <p>_____ 11. Is full of energy</p> <p>_____ 12. Starts quarrels with others</p> <p>_____ 13. Is a reliable worker</p> <p>_____ 14. Can be tense</p> <p>_____ 15. Is ingenious, a deep thinker</p> <p>_____ 16. Generates a lot of enthusiasm</p> <p>_____ 17. Has a forgiving nature</p> <p>_____ 18. Tends to be disorganized</p> <p>_____ 19. Worries a lot</p> <p>_____ 20. Has an active imagination</p> <p>_____ 21. Tends to be quiet</p> <p>_____ 22. Is generally trusting</p> | <p>_____ 23. Tends to be lazy</p> <p>_____ 24. Is emotionally stable, not easily upset</p> <p>_____ 25. Is inventive</p> <p>_____ 26. Has an assertive personality</p> <p>_____ 27. Can be cold and aloof</p> <p>_____ 28. Perseveres until the task is finished</p> <p>_____ 29. Can be moody</p> <p>_____ 30. Values artistic, aesthetic experiences</p> <p>_____ 31. Is sometimes shy, inhibited</p> <p>_____ 32. Is considerate and kind to almost everyone</p> <p>_____ 33. Does things efficiently</p> <p>_____ 34. Remains calm in tense situations</p> <p>_____ 35. Prefers work that is routine</p> <p>_____ 36. Is outgoing, sociable</p> <p>_____ 37. Is sometimes rude to others</p> <p>_____ 38. Makes plans and follows through with them</p> <p>_____ 39. Gets nervous easily</p> <p>_____ 40. Likes to reflect, play with ideas</p> <p>_____ 41. Has few artistic interests</p> <p>_____ 42. Likes to cooperate with others</p> <p>_____ 43. Is easily distracted</p> <p>_____ 44. Is sophisticated in art, music, or literature</p> |
|---|--|

Please check: Did you write a number in front of each statement?

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