

**THE RELATIONSHIP OF SELF-EFFICACY, SOCIAL SUPPORT, SELF ESTEEM,
AND HOPE WITH SEX RELATED HEALTH PROMOTION BEHAVIORS IN
HIV-INFECTED AND UNINFECTED WOMEN**

by

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DEDICATION

This project is dedicated to the memory of my parents, the late Roy and Eva Hyman Timmons. Although you never got to see me begin a career in nursing, through my eyes, you continue to live.

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First and foremost, I acknowledge the source of my being. Without God, I would not have had the motivation to begin or stamina to complete this project.

I thank my precious daughter, Eve Nichole Bowers, for making school work while parenting possible throughout so many years. You are the reason for my work.

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ABSTRACT

The Sex Related Health Promotion Behaviors Model (SRHPBM), suggesting a positive relationship between self-efficacy, social support, self esteem, hope, and sex related health promotion behaviors, was used in this descriptive study to guide the investigation of five research questions: 1 & 2, are variables in the SRHPBM (self-efficacy, hope, social support, self esteem) significantly associated with sex related health promotion behaviors in HIV+ and HIV- women?; 3 & 4, are there significant differences in self-efficacy, social support, self esteem, hope, and sex related health promotion behaviors in HIV+ and HIV- women?; and (5) Do self-efficacy, social support, self esteem, and hope predict sex related health promotion behaviors in HIV+ and HIV- women? Data were collected on 81 HIV- women recruited from rural/urban South Carolina sites and 89 HIV+ women recruited in the Sowell et al. (1998) HIV+ Women: Decisions Decreasing Perinatal Transmission study from South/North Carolina and Georgia sites chosen to maximize number and diversity of participants. HIV+/HIV- women shared study inclusion criteria: (a) age, 18 - 44; (b) no dementia, and (c) English speaking. After informed consent, respondents completed a Demographic Questionnaire and six data collection tools: (a) Health Promotion Behavior Self-efficacy, (b) Tangible Support Scale, (c) Emotional Support Scale, (d) Rosenberg Self Esteem Scale, (e) Herth Hope Index and (f) Sex Related Health Promotion Behaviors. Descriptive data analysis, Pearson's correlation coefficient, analysis of covariance, and multiple regression analysis were used to analyze demographic data, questions 1 & 2, questions 3 & 4, and question 5, respectively. For HIV+ and HIV- women, significant predictors of monogamy and sex without drugs/alcohol were monogamy self efficacy and sex self-efficacy without drugs/alcohol, respectively. For HIV+ women, health services seeking also predicted sex

without drugs/alcohol. Monogamy self-efficacy predicted decreased health services seeking for HIV+ women and emotional support predicted increased health services seeking in HIV- women. No factors predicted condom use in HIV- women and condom use self-efficacy predicted condom use in HIV+ women. HIV+/HIV- women should be targeted for self-efficacy research and comprehensive skills training designed to meet diverse needs (bio-psycho-social) associated with sex related health promotion behaviors.

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CHAPTER 1

The relationship of health promotion to behavioral outcomes has received increased attention in recent years. Health promotion emphasizes strategies related to personal lifestyle choices made in a social context that can have a powerful influence over an individual's health prospects (Department of Health and Human Services [DHHS], 1991). Factors important to health promoting behaviors of women infected with the human immunodeficiency virus (HIV) can contribute to the development of interventions that improve health. Considering that there is no cure for HIV infection, health promotion interventions especially offer hope for enhancing the well-being of the currently expansive population of women who are HIV seropositive.

The World Health Organization predicts that 3 million women in the world have HIV and over 250,000 have developed acquired immune deficiency syndrome (AIDS), a consequence of HIV infection (Nicolas & Schilder, 1997). Although it is predicted that there are between 120,000 and 160,000 women in the United States (US) who are infected with HIV, this number is likely to be an underestimate (Centers for Disease Control and Prevention [CDC], 1999a). Whereas in 1996 the number of HIV infection diagnoses declined by 3% among men and African Americans in general and by 2% among whites, the incidence of infection increased 3% among women (CDC, 1998).

Currently, minority women are infected with HIV faster than any other segment of the population (DHHS, 1998). Even though African American women represent only 13% of the total US population, they constitute 52% of all women diagnosed with AIDS (Kurth, 1998). Women of Hispanic/Spanish origin constitute 25% of total women with AIDS. Of the 92,242 AIDS cases among women reported to CDC through June 1997, 18,663 occurred among Hispanic women and an overwhelming 51,410 cases occurred

among African American women (DHHS, 1998). Within the growing population of HIV infected African American women, AIDS now constitutes the leading cause of death among 25 to 44 year olds (CDC, 1999a).

AIDS prevalence also increased in women between 1996 and 1997 (CDC, 1999a). This increase was due largely to longer post diagnosis survival times afforded by pharmacologic management and treatment (CDC, 1999b). It has been predicted that if medical treatment continues to improve survival and if the incidence of HIV infection does not decrease, the number of persons living with HIV/AIDS will increase each year for some time to come (CDC, 1999b).

These statistics highlight HIV/AIDS in women as one of the most critical and frightening health concerns of this century (Kurth, 1998). These data highlight the need for health promotion interventions that can assist women in living better with the sequelae of HIV infection. Despite growing awareness of the increasing prevalence of women with HIV infection, research pertaining to health promotion behavior, especially sex related, of HIV infected women remains scant (MacLaren & Imberg, 1998). Similarly, common health behavior correlates, including self-efficacy, social support, self esteem, and hope have seldom been examined with sex related behaviors of HIV infected women. Instead, investigations about the behaviors of HIV seropositive women center around the identification and prevalence of risk behaviors with little association of factors known to promote health behavior (Mallory & Fife, 1999).

HIV Infected Women

Many HIV infected women are sexually active (Bedimo, Bennett, Kissinger, & Clark, 1998), neglect health promotion practices (Heckman, Kelly, Somlai, 1998), and delay health seeking activities (Siegel, Karus, Raveis, 1997; Williams et al., 1997; Simoni et al., 1995; Ickovics, Forsyth, Ethier, Harris, & Rodin, 1996). Each of these characteristics predisposes HIV infected women to contracting other infections and the possibility of subsequent debilitating health complications (Gaskins, 1997).

HIV infection leads to the gradual impairment of the immune system (Williams, Andrews, Tashima, Mezger, & Yu, 1998). Women who are infected with HIV are susceptible to opportunistic infections and experience excess morbidity of sexually transmitted diseases (STDs) and gynecological disorders (Kissinger, Clark, Dumestre, Bessinger, 1996). Compared to uninfected women, HIV positive women are more prone to sex related disorders that include genital ulcer disease, herpes simplex, chancroid, and bacterial vaginosis because of impaired immunity (Khalsa & Currier, 1997). Pelvic inflammatory disease (PID) and HIV infection are two of the most consequential STDs that affect women (Korn, 1998). HIV infected women have been reported to have more frequent and severe episodes of PID than HIV uninfected women (Korn, 1998).

Although HIV infected women are at risk for compromised health relative to sexual behavior, some of the women report making conscious efforts to promote their health and sense of well-being (Sowell et al., 1997). Some HIV infected women report choosing celibacy as a mechanism to protect their psychological health (Nicolas & Schilder, 1997; Massad et al., 1995). Although women infected with HIV desire sexually intimate relationships, they often fear becoming involved and subsequent disclosure. Fear of rejection causes some HIV positive women to resist giving as well as receiving physical affection (Coward, 1994).

A significant portion of HIV infected women who do choose to be sexually active attempt to promote their health by practicing safer sex behaviors, especially condom use (Taha et al., 1996; Massad et al., 1995). Some of these women are greatly influenced by their partners in making condom use decisions (Clark, 1997). Many who use condoms do so, not out of concern for their own health, but to prevent disease in their partners (Hankins, Gendron, Tran, Lamping, Lapointe, 1997). Still other women limit their number of sexual partners to only one as a way of protecting and promoting their health (Clark, Kissinger, Bedimo, Dunn, Albertin, 1997). Other HIV infected women participate in health promotion education; risk reduction skills building; and buy, carry,

and use condoms (Kissinger et al., 1996; Sacco, 1993) in efforts to promote their health. Other HIV infected women receive post-test (HIV serostatus) counseling including information about how to access support services (Simone, Mason, Marks, Ruiz, & Richardson, 1995). Yet, there continues to be a need to further enhance sex related health promotion practices of HIV infected women (Gaskins, 1997).

Sex related health promotion behaviors in HIV infected women and factors associated with those behaviors may be similar in uninfected women. Just as self-efficacy, social support, self esteem, and hope are potential health promoting factors associated with sex related behaviors of HIV infected women, these factors may also shed light on sex related behaviors of women who are uninfected since some behaviors of HIV uninfected women are similar to those found among infected women (Bedimo et al., 1998), putting them at risk for HIV infection and other STDs.

HIV Uninfected Women

As with HIV infected women, sex related health promotion behaviors of HIV uninfected women have focused primarily upon condom use as a physical barrier to disease and pregnancy. Similarly, condom use has been found to be absent or inconsistent in HIV uninfected women even though many of these women admit to recognizing that this behavior may jeopardize their health (Leigh, Temple, & Trocki, 1993). Some women view condom use primarily as a mechanism for protection against pregnancy and are more prone to use condoms for contraception and protection from disease, collectively, rather than for protection from disease (Marion & Cox, 1996).

Women who are uninfected with HIV also practice monogamy to promote their health (Kurth, 1998). Nevertheless, some women who rely upon monogamy admit to having doubt that their sexual partners are also simultaneously practicing monogamy in the relationship (Sobo, 1993). Similar to HIV infected women, many uninfected women fail to adequately promote their health through sex related activity.

This study builds upon findings of recent research (Timmons & Sowell, in press)

that used focus group methods to examine perceptions of HIV infection related risk behaviors and practices designed to limit those behaviors in 19 heterosexual African American women. Women in the Timmons and Sowell study reported the belief that "safe" or monogamous relationships, and a sense of self love or self esteem helped to protect them from engaging in behaviors that increased their risk for contracting HIV. Some of the women also reported that efforts to promote their health through participation in sex related health promotion behaviors were compromised due to their partner's inability or unwillingness to engage in monogamy, negative social influences including racial discrimination and inadequate finances, as well as a sense of victimization. Based upon what is currently known about the sexual practices of HIV positive and HIV negative women, it is likely that the investigation of important health promoting factors can facilitate the understanding of sex related health promotion behaviors of both groups of women.

Little research has examined sex related health promotion behaviors within HIV infected women and how those behaviors are similar or different from behaviors of HIV uninfected women. Even fewer studies have investigated the association of commonly accepted health promoting factors, self-efficacy, social support, self esteem, and hope with sex related health promotion behaviors. These key health promoting factors have seldom been investigated in HIV infected women, yet each has been implicated as a significant contributor to health promotion outcomes (Williams, Shahryarnejad, Andrews, & Alcibes, 1997). In addition, no studies were found in the published literature that compared sex related health promotion behaviors of HIV infected women with uninfected women. This study seeks to address these gaps in knowledge and to better understand sex related health promotion behavior of HIV infected women and how that behavior is similar or different in HIV uninfected women.

Research Problem/Study Purpose

Knowledge about sex related health promotion behaviors of HIV infected women is incomplete even at a time when many women, being pharmacologically managed, are living for longer periods of time (Crespo-Fierro, 1997; Klaus & Grodesky, 1997). Even less is known about how sex related health promoting behaviors of HIV infected women compare to that of HIV uninfected women. Therefore, the purpose of this descriptive study is to describe the relationship among self-efficacy, social support, self esteem, and hope, with sex related health promoting behaviors of HIV infected women. This study also aims to describe how these behaviors compare to those of HIV uninfected women. This study addresses the following research questions:

Research Questions

1. Are the variables in the Sexual Health Promotion Behaviors Model (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are infected with HIV?
2. Are the variables in the Sexual Health Promotion Behaviors Model (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are not infected with HIV?
3. Are there significant differences in self-efficacy, social support, self esteem, and hope in women who are infected with HIV and those who are not infected with HIV?
4. Are there significant differences in sex related health promotion behaviors of women who are infected with HIV and women who are not infected with HIV?
5. Do self-efficacy, social support, self esteem, and hope predict sex related health promotion behaviors in women who are infected with HIV and those who are not infected with HIV?

Significance of the Study

With HIV becoming more of a chronic illness and an increase in the prevalence of HIV infected women, it is important to understand health promotion behaviors of this

population. Currently, relatively little empirical data exist about sex related health promotion behaviors of HIV seropositive women. Knowledge that can aid the understanding of these behaviors is key to developing effective health promotion programs. The explication of factors associated with sex related behaviors in HIV infected women will provide direction to the formulation of interventions that promote well-being. The significance of this study is that knowledge about sex related health promotion behaviors and the factors associated with those behaviors will assist women to promote their health relative to HIV infection and AIDS.

CHAPTER II

Literature Review

The incidence of HIV infection in women, especially African American women, is rising fastest than among any other population (CDC, 1999b). Due to advances in the pharmacologic management of HIV disease, many women infected with HIV are living longer. However, a significant portion of these women continue to engage in sexual behaviors that can further jeopardize their health (Khalsa & Currier, 1997). Concurrently, little research has examined sex related health promotion behaviors of HIV infected women and the association of commonly accepted health promotion factors, including self-efficacy, social support, self esteem, and hope. Just as these factors may be associated with sex related behaviors in HIV infected women, they may also be important to the behaviors of HIV uninfected women since some behaviors of HIV infected women are similar to those found among uninfected women (Bedimo et al., 1998) putting them at risk for STDs including HIV.

The literature review is organized around the health promoting factors; self-efficacy, social support, self esteem, and hope. The review ends with the study's outcome variable, sex related health promotion behaviors of women. These constructs form the study's conceptual framework.

Self-efficacy

Self-efficacy, underlying causal mechanism in Bandura's (1997) social cognitive theory, refers to an individual's perceived ability to perform a specific behavior (Bandura, 1997; Berarducci & Lengacher, 1998). Self-efficacy is a mediator between knowledge and action and influences the initiation of behavior, how much effort will be expended to

perform the behavior, and how long that effort will be sustained even in view of obstacles (Lev, 1997).

Generally, social cognitive theory poses that efficacy mediates the application of knowledge and skills in the pursuit of behavioral attainment (Bandura, 1986). Since people tend to avoid tasks they feel exceed their capabilities while pursuing those they feel competent to perform, self-efficacy plays an influential role in the process of choosing behavior (Bandura, 1986).

Engaging in behavior requires a certain degree of effort and persistence. Compared to persons with lower self-efficacy, individuals who feel highly efficacious regarding their capability are more persistent in the face of difficulties (Maibach & Murphy, 1995). In addition, a strong sense of efficacy motivates people to engage themselves fully in the activities they undertake.

Bandura (1986) posed that the origin of efficacy beliefs includes experiences of performance accomplishment, observation of successful performance accomplishment by others through vicarious experience, encouragement of influential others, and somatic reactions during anticipation or experience of physiologic responses. In this context, self-efficacy informs judgment and individuals make judgments about their capability to perform specific future behaviors (Berarducci & Lengacher, 1998).

Consistent with Bandura's (1997) claims, studies using self-efficacy to predict health related behavior reveal that even if motivated to perform a behavior, people's perceptions of their ability to do so are important indicators of the likelihood they will perform that behavior (Lev, 1997). Accordingly, self-efficacy has been found to be associated with a wide range of health promotion behaviors including healthy lifestyle activities (Stuifbergen & Becker, 1994; Conn, 1997; Wilson, Sisk, & Baldwin, 1997), exercise (Vidmar & Rubinson, 1994; Keller, Fleury, Gregor, Holt, & Thompson, 1999), healthful diet (Lev & Owen, 1996; AbuSabha & Achterberg, 1997), and sex related practices (Buunk, Bakker, Siero, van-den-Eijnden, & Yzer, 1998; Longshore, Stein,

Kowalewski, & Anglin, 1998; Schieman, 1998; Montoya, 1997; Semaan, Lauby & Walls, 1997).

Stuifbergen and Becker (1994) found that a sample of 117 disabled adults were more likely to engage in a health promoting lifestyle if they had higher specific self-efficacy for health behaviors and higher general self-efficacy. Both specific self-efficacy and general self-efficacy were measured using subscales of the Self Efficacy Scale. Health promoting behaviors were measured using the Health Promoting Life Style Profile and included activities related to exercise, self actualization, health responsibility, interpersonal support, nutrition, and stress management that are directed toward increasing health and well-being. Scores for specific self-efficacy were highly correlated with scores for health behaviors, suggesting that interventions aimed at enhancing health promotion behaviors among persons with disabilities would be strengthened by addressing their perceived ability to perform these behaviors. It should be noted that individuals in the Stuifbergen and Becker study had at least one physically disabling condition. Therefore, generalizability of the findings is limited to persons with disabilities. Although 75% of the participants in the study perceived their health as good or excellent, individuals not affected by disability may perceive themselves differently (Stuifbergen and Becker, 1994).

A study conducted by Wilson et al. (1997) also reported a positive relationship between self-efficacy and blood pressure (BP) and cholesterol screening. The cross sectional study used a convenience sample of 200 workers (mean age, 34; 85.4% White) who completed questionnaires about their participation in worksite screening during the past month and their beliefs about the screening. Screening participants perceived significantly fewer barriers to BP and cholesterol screening and scored significantly higher on self-efficacy than participants who did not participate in screening. Participants in the study responded to researcher developed questionnaires that measured health beliefs about cardiac screening and history of having been treated for increased BP or

cholesterol within the past year and currently under health care treatment (Wilson et al., 1997).

Exercise is another common health promoting behavior that has been repeatedly reported as a significant correlate of self-efficacy (Keller et al., 1999). Using a cross sectional study design, Vidmar and Rubinson (1994) conducted a study to examine the relationship between self-efficacy and exercise compliance. The study used a convenience sample of 20 females and 118 males who had completed a cardiac rehabilitation program. A Total Self Efficacy scale was used in the study. In addition, an Exercise Barriers Efficacy measure that assessed individuals' perceived capabilities to continue to exercise despite certain barriers was used. Frequency, intensity, and duration of exercise were assessed and then combined to produce the dependent variable, exercise behavior. A positive correlation was observed between total self-efficacy and exercise behavior and between exercise barriers efficacy and exercise behavior. The findings of this study (Vidmar & Rubinson, 1994) offer support for the correlation of self-efficacy and the specific health promoting behavior, exercise.

Keller et al. (1999) provided additional support for findings reported in the Vidmar & Rubinson (1994) study that linked self-efficacy to exercise behavior. Keller et al. conducted a meta analysis of studies published between 1990 and 1998 that examined the relationship between self-efficacy and physical activity. Twenty-seven studies were reviewed and they all demonstrated that self-efficacy significantly increased exercise behavior. Keller et al. further suggested that other clear, systematic and theoretically comprehensive studies are still needed to further understand the self-efficacy construct.

Since increases in self-efficacy is related to changes in health promotion behavior, increases in self-efficacy may also be associated with consistent changes toward sex related health promoting behavior. Early studies (Jemmott & Jemmott, 1992; Mahoney, Thombs, & Ford, 1995; Kasen, Vaughan, & Walter, 1992; Basen-Engquist &

Parcel, 1992) as well as more recent research (Mahoney et al., 1995; Hale & Trumbetta, 1996; Buunk et al., 1998; Longshore et al. 1999; Montoya, 1997; Brown, 1998) reveal that self-efficacy has been enhanced by intervention leading to sex related health promotion behaviors in women.

Mahoney et al. (1995) investigated an 18 to 24 year old population and found that persons with higher levels of self-efficacy engage in more health promoting behaviors than those with lower levels. Mahoney et al. used a sample of 507 college students (62.6% female) to test the ability of self-efficacy (measured by the Condom Use Self-Efficacy Scale) and high-risk behaviors (number of sex partners, frequency of drunkenness during sexual intercourse, number of diagnosed STDs) to distinguish among three condom user groups (nonusers, sporadic users, consistent users). Mahoney et al. found that sporadic condom users perceived themselves as more susceptible to STDs, and were less confident in their ability to discuss and insist on condom use with a partner. This study (Mahoney et al., 1995) revealed that self-efficacy was important in classifying condom users, indicating that higher levels of confidence in using condoms is related to regular condom use.

In a different study, Hall and Trumbetta (1996) investigated 308, unmarried, heterosexually active, college women (33.3% African American) to investigate how self-efficacy was related to behavioral risks for STD transmission. The mean age of the convenience sample examined was 21 years. Participants responded to a Self-Efficacy Survey that assessed self-efficacy specific measures (self-efficacy for condom use, communicating about STD transmission, and refusing intercourse) and their ability to predict condom use, communicate with partners about their drug and sexual history, and intercourse refusal. Hall and Trumbetta found that self-efficacy was a significant predictor of consistent condom use within this group of women. There was also a positive association between self-efficacy for intercourse refusal. Hale and Trumbetta concluded that the greater the self-efficacy, the safer the sexual behavioral outcome. This

study (Hall & Trumbetta, 1996) highlights self-efficacy as a promising avenue for research concerning engaging in sex related health promotion behaviors of women.

Buunk et al. (1998) conducted a relatively large study using 711 heterosexual adult females and males to examine the predictors of intention to use condoms with new sexual partners. Women in the study perceived less support for condom use among potential new partners. In addition, a substantial part of the sample had engaged in risky sexual behavior. Among those with a risk factor for HIV infection (n=514), self-efficacy was found to be a significant predictor of condom use intention. It is important to note that condom use intention is generally viewed as being highly correlated with actual condom use (Jemmott & Jemmott, 1992; Longshore et al., 1998). Therefore, the Buunk et al. study contributed empirical support for linking self-efficacy beliefs to condom use.

Another study (Longshore et al., 1998) investigating intention to use condoms found that higher perceived self-efficacy in women led to reductions in unprotected sex. The study aimed to describe psychosocial antecedents of unprotected sex and found that stronger intention to use condoms predicted subsequent reductions in unprotected sex. The study consisted of 155 heterosexual women (25% African American, 34% Mexican American) and 134 men (25% African American, 28% Mexican American) who were also injection drug users. Longshore et al. used likert type questions to measure Perceived Self-efficacy, Intention to Use Condoms, and Unprotected Sex. Based upon these findings, Longshore et al. concluded that change by this group of individuals is influenced by their perceived control over their sexual behavior.

Finally, self-efficacy for preventive sexual behaviors was also predictive of condom use with primary sex partners in a random sample of 140 female injection drug users (Brown, 1998). The purpose of the Brown study was to explore the relationship of sexual self-efficacy, drug use self-efficacy, and social support for HIV/AIDS risk behavior. Data were collected using a researcher developed structured questionnaire.

Brown concluded that HIV prevention programs that target female injection drug users should include strategies that strengthen preventive self-efficacy.

Social Support

Since the 1970s, scholars and researchers have been interested in the influence of social support on individual health behavior (Langford et al, 1997). Kahn & Antonucci (1980) suggested that social support is an interpersonal transaction that includes one or more of the following: (a) the expression of positive affect of one person toward another; (b) the affirmation or endorsement of another person's behaviors, perceptions, or expressed views; and (c) the giving of symbolic or tangible aid to another (Norbeck, Lindsey, Carrieri, 1991).

Kahn and Antonucci (1980) further suggested that social support is grounded within Attachment Theory, a time oriented development theory designed for infancy and early childhood. Bowlby (1971) laid the groundwork for the attachment view of social support which proposes that the ability to utilize social support derives from successful early relationships. From these relationships, feelings of self-worth, self-efficacy, and capacity to enjoy intimacy evolve. Although attachment was originally conceptualized as seeking proximity to the primary caretaker (usually the mother) in times of stress or danger, Kahn and Antonucci extended the concept throughout the life span suggesting that the "opposite end" state of attachment represents social support in adulthood. Kahn and Antonucci justified this correlation through three conjectures: (a) needs and circumstances change as the individual moves through the life course; (b) form and amount of social support depend upon changing needs, and since the past affects the future, the attachment/social support continuum offers a systematic way of including earlier experiences of attachment; and (c) circumstances, as well as diversity of social support, dictate proximity seeking for the primary caretaker in times of stress or danger (Kahn & Antonucci, 1980).

As a complex and dynamic concept, social support recognizes the importance of interaction between the provider and recipient of support (Hupcey, 1998). Similarly, Kahn and Antonucci (1980) described convoy or personal network to represent the interactive structure within which social support is given and received. Convoy is thus the core component of social support and has been identified as an important social support antecedent (Langford, 1997). Membership into one's convoy is limited to people who are important to the individual in terms of social support. The convoy does not include all the people known to the individual or who merely function in some role in relation to the individual. The convoy does, however, include persons perceived as providing positive affect, affirmation, and/or tangible aid (Norbeck, 1981).

The importance of convoy in the link between social support and performance/well-being is summarized through five propositions (Kahn & Antonucci, 1980):

1. A person's requirements for support at any given time are determined jointly by properties of the person and of the situation.
2. The structure of a person's convoy is determined jointly by these enduring properties of the person, the situation, and the person's requirements for social support.
3. The adequacy of social support is determined by properties of the convoy and by personal and situational properties.
4. Well-being and performance in major life roles are determined by adequacy of social support and by personal and situational properties.
5. The influence of personal and situational factors on performance and well-being is moderated by convoy properties and by the adequacy of social support thus provided. (p. 254).

The theoretical basis of social support highlights the importance of a fit between persons and their environment. The Person Environment Fit model (Kahn & Antonucci,

1980) emphasizes properties of an individual and of the situation or environment in which the individual functions. Rogers' (1970) Live Process Model also alludes to the conceptual interaction of persons and social support by posing that unitary man and his environment are in continuous, mutual, simultaneous interaction evolving toward increased differentiation and diversity of field pattern and organization. Similarly, Stack (1974) referred to social support as the phenomena of reciprocity in which there exists a fit between the person and those who participate in mutual exchanges whereby what is needed from one's environment is received and a reciprocal exchange is made at a future time.

From these theoretical conceptualizations, the cumulative effect of one's responses to social support may promote either health or disease (Krishnasamy, 1996; Bloom, 1990). Social support can protect one from the effect of a poor person environment fit by: (a) providing direct assistance, thereby increasing the environment's resources or altering its demands and providing access to coping strategies; (b) through supportive relationships that allow a person to better perceive a more objective view of self and the environment; and (c) providing information about the availability of environmental resources and usefulness of coping strategies (Broadhead et al., 1983).

Since the middle 1970s, social support has been studied as a direct determinant of health or illness (an independent variable) and as a dependent variable with its own causes and determinants (Broadhead et al., 1983; Norbeck, 1981). However, whether conceptualized as having indirect or direct influence, social support is generally believed to affect health in three ways: (a) by regulating thoughts, feelings, and behavior so as to promote health (Durcharme, Stevens, & Rowat, 1994); (b) by fostering an individual's sense of meaning in life (Antonovsky, 1979); and (c) by facilitating health promoting behaviors (Langford, 1997). More specifically, it has been suggested that people with adequate social support are more likely to engage in health promoting behaviors than those without adequate support (McGough, 1990).

Although social support has been found to be important to the health of women infected with HIV (Barrosa, 1997; Metcalfe, Langstaff, Evans, Paterson, & Reid, 1998; Andrews, 1995; Nunes, Raymond, Nicholas, Leuner, & Webster, 1995), only one study was found in the published literature that investigated the relationship of social support to specific health promotion behaviors in this population (Williams et al., 1997). Williams et al. used a cross-sectional survey to examine the relationship between social support and the use of primary health services and found that delay in seeking care was related to lesser amounts of social support. Social support was measured using the Norbeck Social Support Questionnaire and a structured, interviewer-administered questionnaire was used to measure demographic, social, and health data (Williams et al., 1997). Williams et al. reiterated that unlike the availability of HIV/AIDS research about men, little is known about the role of social support in women with HIV.

A number of current studies about social support and sex related health promotion behaviors of men focus on gay and/or bisexual individuals (Dilley, McFarland, Sullivan, & Discepola, 1998; Strathdee et al., 1998; Heckman et al., 1998). Dilley et al. (1998) investigated attendants of a support group for HIV negative gay and bisexual men to identify psychosocial correlates of unprotected anal sex. The sample consisted of 61 mostly White (78%) gay men. Self administered questionnaires included an HIV-Negatives Social Support and Commitment to Safer Sex Survey and Kelly's AIDS Risk Behavior Knowledge survey. The principal outcome variable (engaging in anal sex without the use of a condom in the 2 months prior to enrollment in the study) was measured using items from the Kelly survey--participants were asked the number of times they had unprotected anal sex and the number of different partners with whom they had unprotected anal sex. Study findings suggested that dissatisfaction with social support was positively associated with unprotected anal sex in this group of men (Dilley et al., 1998).

Strathdee et al. (1998) found that gay/bisexual men reporting anal sex with casual partners and drug use also reported less social support (Instrumental-Expressive Social Support Scale). The study investigated 439 HIV negative men (71% White), 18 to 30 years old, to identify determinants of sexual risk taking. Risk taking included unprotected anal sex with casual male sex partners in the previous year. Risk takers were significantly more likely to have a lower social support score (Strathdee et al.).

Similarly, Heckman et al. (1998) found social support to be a significant predictor of unsafe sex behavior in a sample of 277 HIV positive individuals (222 men). Over 50% of the male sample reported same sex sexual activity in the past six months. Seventy-one percent of the respondents were White and 19% were African American. Sexual behavior included number of male and female sexual partners and frequency of condom use based upon a six-month retrospective recall period. Social support was measured using the Provision of Social Relations Scale (Heckman et al., 1998).

These data lend empirical support for a positive association between social support and sex related health promotion behaviors (Brown, 1998). In addition, social support has been found to be an important correlate of other diverse health promoting behaviors including healthy diet (Callaghan, 1998; Macario & Sorensen, 1998; Aish, 1996; Kelsey et al., 1996), general health practices (Tessaro et al., 1998; Mahon, Yarcheski, & Yarcheski, 1998; Yarcheski, Mahon, & Yarcheski, 1997; Boland, 1998), health screenings (Taylor, Thompson, Montano, Mahloch, & Johnson, 1998; Schaffer & Huagberg, 1997) and adherence to treatment regimes (Crane, 1996), and immunizations (Marsden & Donnelly, 1996).

McCance et al. (1996) conducted a descriptive study that found that the influence of others was highly significant to breast self-examination in a sample of 129 women (91% White, mean age 59). The study sought to examine the influence of other people in getting women to obtain breast cancer screening. McCance et al. used a researcher developed Likert type Influence of Others scale to operationalize social support. A self-

report questionnaire was used to measure frequency of breast cancer screening behaviors including breast self-examination, clinical breast examination, and mammography (McCance et al., 1996). Findings in the study underscore the potential importance of using women's social networks to reinforce health screening (McCance et al., 1996).

A similar study revealed that social support from physicians, family, and friends was independently associated with regular mammography screenings, thereby differentiating between women who were and were not regular mammography users (Taylor et al., 1998). Only half (48%) of the women in the study was obtaining regular screenings. Taylor et al. suggested that interventions to encourage regular screening among inner city women should include assessment of social support. The study was conducted to evaluate the impact of a clinic based mammography intervention using a sample of 348 women (122 Black, 67 "Other" race, 159 White). The study's variables were operationalized using a researcher developed survey that measured mammography use, breast cancer and mammography beliefs, and the influence of social referents who believed that the women should participate in screenings: physicians, family, friends, people in the media (Taylor et al., 1998).

Other studies have included adolescent samples and further support the hypothesized positive relationship between social support and health promotion practices (Mahon et al., 1998; Yarcheski et al., 1997). Mahon et al. examined the relationship between social support and positive health practices, including exercise, nutrition, relaxation, substance use, safety, and prevention of young adults, ages 22 to 34. Using the Personal Resource Questionnaire to measure social support and the Lifestyle Questionnaire, 70 individuals (42 men, 28 women; 65% White, 35% varied minority groups) were included in the study. Statistically significant correlations between social support and the health practices investigated were found (Mahon et al., 1998).

In a similar study, Yarcheski et al. (1997) found perceived social support to be a critical variable in the promotion of health behaviors among adolescents. The purpose of

the study was to develop and test two causal models of positive health practices that included exercise, nutrition, relaxation, substance use, safety, and prevention. Compared to the Mahon et al., (1998) study, Yarcheski et al. used a larger (111 females, 91 males, 75% White) and slightly younger (mean age 18 years) sample. Instruments used in the study included the Personal Resource Questionnaire, Rosenberg Self-Esteem Scale, Future Time Perspective, The General Health Rating Index, and the Personal Lifestyle Questionnaire (Yarcheski et al., 1997). Yarcheski et al. concluded that causal models explaining positive health practices should include variables with a psychosocial focus (such as social support) versus those with a health related focus.

Social support has also been found to predict success with healthy dietary change (Kelsey et al., 1996). Using telephone interviews with 442 hypercholesterolemic patients (68% women, 40.7% African American, 48.5% White), Kelsey et al. found friend support to be a significant predictor of dietary change for women. The study included the following measures: Social Support and Motivation to Change Questionnaire and a Dietary Risk Assessment (Kelsey et al., 1996).

Marsden and Donnelly (1996) conducted a study to explore the relationship between social support and the immunization status of preschool children. The descriptive correlational study used a convenience sample of 153 parents and guardians of children aged 6 to 24 months that completed the Heller's Perceived Social Support Scale, a demographic questionnaire, and a questionnaire about immunization knowledge. Data indicating completeness of immunizations were obtained from the children's health records. Similar to previous reports that support the influence of social support on health behavior, findings of the Marsden and Donnelly study also found a positive association between immunization status and support. The findings add a unique component to understanding the consequences of an individual's perceived support on others. Marsden and Donnelly suggested that assessment of support in parents/caregivers (those generally

responsible for the health behavior of preschoolers) can assist in identifying children at risk for inadequate immunization behavior.

Other specific health behaviors that have been reported as correlates of social support include prenatal health behavior (Schaffer & Lia-Hoagberg, 1997) and treatment regimen adherence (Crane, 1996). To determine the relationship of perceived social support to prenatal health behaviors, Schaffer and Lia-Hoagberg examined an ethnically diverse sample of 101 pregnant women (39 Black, 32 White, 26 Native American, 4 Hispanic). Subjects completed the Norbeck Social Support Questionnaire, the Prenatal Health Questionnaire, and the Demographic/Pregnancy Questionnaire. Social support (partner provided) was found to be correlated with adequacy of prenatal care. In addition, social support from others (excluding partner relationships) correlated positively with prenatal health behaviors. The Schaffer and Lia-Hoagberg study highlighted the importance of referring women to programs that increase available social support in order to promote their pregnancy outcomes.

Similar to the Schaffer and Lia-Hoagberg (1997) study, Crane (1996) found social support to be significantly related to adherence to treatment regimens. The relationship between receipt of social support and adherence to treatment post abnormal pap smear was consistent regardless of perceived need for support. Crane investigated the relationship between social support and adherence behavior using 498 women (40% Black, 44% Latina, 14% White) who were less than 35 years old. The study used a researcher developed questionnaire that measured three types of support (information, emotion, tangible) as well as satisfaction with support. Adherence was measured through medical chart review. Findings in the study suggest that supportive interventions, including provision of medical information, emotional support, child care, and transportation, could help to reduce nonadherence (Crane, 1998).

Social support has been shown to hold important significance to a broad range of health promoting behaviors. Since effective health promotion practices require a person

to process and incorporate information into action (Pender, 1987), it is theoretically feasible that one's support network can influence sex related health promotion behaviors either through direct provision of information and/or indirectly through affirmation of behavioral choices of others. In this way, the ability to draw resources from one's support networks can maintain and promote health as well as facilitate recovery (Williams, 1997).

Self esteem

Self esteem is probably one of the most important component of self concept. It is the totality of an individual's thoughts and feelings with reference to self as an object, including how the individual sees self, would like to see self, and shows self to others (Rosenberg, 1979). Self esteem is differentiated from the related concept self-confidence in that self-confidence refers to the anticipation of successfully mastering challenges, whereas, self esteem implies self-acceptance and self-respect. A person with high self esteem is fundamentally satisfied with the type of person the individual is, yet, at the same time, acknowledges perceived faults while hoping to overcome them (Rosenberg, 1969). Since self esteem refers to a positive or negative orientation toward self, persons with high self esteem do not necessarily consider themselves superior to others but neither do the individuals consider themselves worse. In contrast, persons with low self esteem lack respect for themselves and consider themselves unworthy or deficient as a person (Mruk, 1995). In other words, self esteem is the degree to which people like or dislike themselves and is based upon an individual's global positive or negative attitude toward self (Rosenberg, 1979).

Self esteem includes an element of self evaluation which the individual makes and customarily maintains with regard to self and includes feelings of perceived adequacy and worth (Rosenberg, 1969). Since self esteem includes an ongoing evaluative component, it is considered changeable as the self reacts with the social environment, exploring the effects of various responses to self (Cole, 1998).

There are generally two major theoretical conceptualizations of self esteem in relation to behavior. One view of self esteem has been offered by Rosenberg (1979) and one by Coopersmith (1967). Rosenberg suggests that self esteem is a prime motivator that guides human behavior. Accordingly, an individual's self esteem may be damaged either because their abilities or achievements compare unfavorably with others in the environment or because the individual's habits or interests are different from those of others in the environment (Rosenberg, 1969).

Similar to Rosenberg's (1979) view, Coopersmith's (1967) view of the link between self esteem and behavior emphasizes an evaluative component:

"By self esteem, we refer to the evaluation which the individual makes and customarily maintains with regard to himself: it expresses an attitude of approval or disapproval and indicates the extent to which the individual believes himself to be capable, significant, successful, and worthy. In short, self esteem is a personal judgment of worthiness that is expressed in the attitude the individual holds toward himself. It is subjective experience which the individual conveys to others by verbal reports and other overt behavior (1967, p.5).

Coopersmith suggested that people with high self esteem are generally happier and better able to meet environmental demands than people with lower self esteem. Both Rosenberg and Coopersmith agree that self esteem is an important learned phenomenon that revolves around the interaction of the individual with the social environment and includes significant others as they vary across the individual's lifespan.

Mruk (1995) analyzed theoretical propositions involving the various views of self esteem and recommended that the concept be conceptualized around three basic components: (a) that self esteem be viewed as an emotion or feeling, (b) that self esteem is a vital dimension of being human, and (c) that a more behavioral or observable component of self esteem involves action from which outcomes can be seen and evaluated in terms of their effectiveness (Mruk, 1995).

Since the publication of early views of self esteem (Rosenberg, 1979; Coopersmith, 1967), researchers have conducted several investigations of the concept in relation to behavioral outcomes. Earlier studies revealed the positive role of self esteem to diverse general health practices (Conn, Taylor, & Hayes, 1992; Muhlenkamp & Sayles, 1986; Nelson, 1991) and participation in post-partum visits (Giblin, Poland, Barbara, & Sachs, 1987). More recent studies include findings about the role of self esteem to alcohol use (Shope, Copeland, Maharg, Dielman, Butchart, 1993), positive health practices (Yarcheski et al., 1997), recreation (Logsdon, Usui, Cronin, & Miracle, 1998), medical regime adherence (MacLean & Lo, 1998), and weight management (Walker, 1997).

A few studies have also investigated the relationship of self esteem to sex related behaviors (Cole, 1998; Gardner, Frank, Amankwaa, 1998; Abel & Miller, 1997). However, no studies were found in the published literature that examined the relationship of self esteem to specific sex related health promotion behaviors of women infected with HIV.

Shope et al. (1993) conducted a study to examine the ability of adolescents to refuse alcohol use and found that adolescents who have better refusal skills also had greater self esteem and less alcohol use and misuse. The study used a relatively large sample (1/3 random) of 1012 10th graders participating in an evaluation of an alcohol misuse prevention curriculum. The total study sample consisted of 490 females--77% White, 13% Black, and 7% Other. The study used self administered questionnaires which covered topics including alcohol use and misuse, susceptibility to peer pressure, self esteem, resistance strategies, and knowledge/understanding of alcohol. Findings in the study provide support for interventions that include refusal skills in substance abuse prevention programs (Shope et al., 1993).

Another study using an adolescent population (N=202) found both moderately strong and statistically significant correlations between self esteem and positive health

practices (Yarcheski et al., 1997). Positive health practices consisted of six health related practices--exercise, relaxation, substance use, safety, and prevention. Based upon the purpose of the study to develop and test causal models of positive health practices in adolescents, Yarcheski et al. suggested that such models should include variables with a psychosocial focus versus those with a health related focus. The study sample (mean age, 19) included 111 females and 91 males and was 75% White and responded to a number of data collection instruments including the Rosenberg Self Esteem Scale and the Personal Lifestyle Questionnaire (Yarcheski et al., 1997).

In a different study, Logsdon et al. (1998) conducted a correlational longitudinal study to predict emotion and functional outcomes (recreation, housework, social life) in a convenience sample of 86 women (mean age 60) who had coronary artery bypass surgery. Higher self esteem, operationalized with the Rosenberg Self-esteem Scale, was found to be associated with recreation, a component of the Impact Profile that measured the impact of illness on everyday activities (Logsdon et al., 1998).

MacLean and Lo (1998) found that success in complying to wellness behaviors was, in part, a function of not having negative self esteem (which does not mean that a person must have high self esteem). The study used a sample of 95 non-insulin dependent diabetics (53 females, 42 males) to explore failure to adhere to medical regimens. The majority of the respondents were between 46 and 65 years of age. Instruments used to operationalize the study's variables included researcher developed items to measure self-efficacy for exercise, the testing of blood sugar and diet, the General Health Questionnaire, and the Rosenberg Self Esteem Inventory. MacLean and Lo indicated that how individuals feel about themselves gives them the capacity to act and to become proactive in overcoming the inconvenience, problems, and barriers that inhibit the practice of behaviors that influence health (MacLean & Lo, 1998).

Another study that reported a positive association between self esteem and health promotion behavior was conducted by Walker (1997). A health survey, completed by 149

women (77% White, 17% Hispanic, 6% African-American, Asian & Others), included items about emotional reactions and two key forms of social support (instrumental and emotional). The study aimed to explore whether women's psychosocial context was related to weight status one year after childbirth. Women who reported lower self-esteem because of weight also had higher weight gains than women with increased or unaffected self esteem. The study points to the importance of incorporating women's psychosocial context into post partum weight management programs (Walker, 1997).

Unlike investigations of the importance of self esteem to general health behaviors (Shope et al., 1993; Yarcheski et al., 1997; Logsdon et al., 1998; MacLean & Lo, 1998; Walker, 1997), Cole (1997) noted that few studies have examined the relationship between self esteem and sex related health behaviors. Cole conducted a review of the published research literature to examine the relationship between self esteem and the practice of safer sexual behaviors in adolescents and reported that the theoretical literature generally conveys the idea that self esteem is positively associated with safer sexual behaviors. Although findings of the research studies included in the review were contradictory, Cole concluded that contrary to popular belief, higher levels of self esteem were found in adolescents who practice risky sexual behaviors and have more sexual partners. The mixed findings of the Cole study highlight the need for further explication of the role of self esteem to sex related health promotion behaviors as well as the need for similar investigation in non adolescent populations that may produce different findings.

In a different study, Gardner et al. (1998) investigated the sexual behaviors of adult females. The investigation sought to describe sexual behaviors of 81 women who had positive and negative tests for STDs. The STD negative group consisted of 49 African Americans and the STD positive group was comprised of 30 African Americans and 2 Caucasians. After completing the Safe Sex Behavior Questionnaire and the Rosenberg Self Esteem Scale, STD negative women with higher self esteem scored

higher on the Safer Sex Behavior Questionnaire, indicating the practice of safer sex (Gardner et al., 1998).

Abel et al. (1996) reported significant variation in reported self esteem among women who used condoms based upon a sample of 125 women (85% African American, mean age of 32). Condom use was measured using a sexual history questionnaire that assessed sexual activity within the past year, the number of sexual partners within the past 6 months, the type of contraception used, the type of STD protection used, and whether the women had a history of STDs. Women who did not use condoms reported lower self esteem (as measured by the Self Esteem Inventory) than women who reported that they used condoms (Abel et al., 1996).

In a similar study, Abel and Miller (1997) found that self esteem influenced choosing to use condoms. Women in the study reported lower self esteem scores if they did not use condoms compared to those who used condoms. Abel and Miller conducted the study in order to gain a perspective about the demographic and psychosocial characteristics and sexual risk behaviors of rural women. Of the 144 women who participated in the study, 76 were African American and 60 were White and the mean age of the sample was 29 years. Variables in the study were operationalized using a Health Self-Determination Index to measure intrinsic motivation for sexual health behavior and a Self Esteem Inventory. Sexual risk behaviors were defined as more than one sex partner and non condom use by partner(s) (Abel & Miller, 1997).

The studies included in this literature review about self esteem (Shope et al., 1993; Yarcheski et al., 1997; Logsdon et al., 1998; MacLean & Lo, 1998; Walker, 1997; Cole, 1998; Gardner et al., 1998; Abel & Miller, 1997) lend support to the importance of the construct to health behaviors. The findings are especially meaningful since participating in health behaviors can assist not only in the reduction of the risk of disease but also in the maintenance and promotion of health (Pender, 1987).

Hope

A common theme in conceptualizations of hope is its dynamic nature, including an association with goal attainment and a positive future orientation (Herth, 1995; Kylma & Vehvilainen-Julkunen, 1997; Miller & Powers, 1988). Hope is a multidimensional dynamic life force characterized by a confident yet uncertain expectation of achieving good, which to the hoping person is realistically possible and personally significant (Herth, 1995).

Herth (1993) explored the meaning of hope in a longitudinal study of 25 family caregivers (19 females, 6 males, mean age 55) of terminally ill family members and found hope to be a dynamic inner power that enables transcendence of the present situation and fosters a positive new awareness of being. Herth conducted the study using interviews, the Herth Hope Index, and a Background Data Form. Herth's finding that hope continually unfolds and changes in response to life situations highlight the dynamic and active presence of the concept.

The dynamic element of hope has also been hypothesized by Stotland (1969) and Dufault & Martocchio (1985). Stotland perceived hopefulness as a pre-requisite to action and posed that the greater the perceived expectation of goal attainment, the more likely the individual is to achieve the goal. Likewise, Dufault and Martocchio (1985) hypothesized that an action orientation is a consequence of hope. Dufault and Martocchio interviewed 35 elderly cancer patients (65 years of age or older) and 47 chronically ill persons (14 years of age or older) to arrive at a description of hope. From these interviews, hope was described as having both generalized and particularized spheres and six dimensions: affective, cognitive, behavioral, affiliative, temporal, and contextual. Generalized hope was defined as an overall feeling of future good. These feelings include a longing for an outcome and may also include doubt about attaining the outcome. Particularized hope is based on a specific goal to which movement and energy occur. The affective dimension focuses upon sensations and emotions that are part of the hoping

process. Cognitive dimension includes imaging a future, assessment of reality, and assessment of hope-limiting and hope-producing factors. The behavioral dimension is an active phase in which individuals engage in activities to produce the hope outcome. The affiliative dimension includes a sense of relatedness to others as hope is not solitary, but is positively related to interaction with others. The temporal dimension includes a hope for a future and a change from the present and is based on positive or negative past hope outcomes. Finally, the contextual dimension places the hope experience within the context of an individual's life situation. Life experiences may enhance or dampen the development of hope (Dufault & Martocchio, 1985).

Using content analysis, Morse and Doberneck (1995) also facilitated an understanding of hope and posed that degree of threat to personal safety is the primary factor that contributes to the intensity of hope and serves as a motivating force. Morse & Doberneck defined hope as "a response to a threat that results in the setting of a desired goal; the awareness of the cost of not achieving the goal; the planing to make the goal a reality, the assessment, selection, and use of all internal and external resources and supports that will assist in achieving the goal; and the reevaluation and revision of the plan while enduring, working, and striving to reach the desired goal." (pg. 284). Morse & Doberneck summarized seven components of hope to include the concept's association with: (1) a realistic assessment of a threat; (2) envisioning of alternative means of obtaining a goal which must be attractive or desired; (3) the existence of hope always with a threat of failure, (4) a realistic assessment of personal resources; (5) a realistic assessment of external conditions and resources; (6) continued evaluation of signs to reinforce selected goals and the revision of the goals; and (7) the determination to endure.

In a similar analysis, Nowotny (1989) defined hope as a multidimensional dynamic characteristic of individuals which included six critical attributes: (1) hope is future oriented, (2) hope includes active involvement by the individual, (3) hope comes

from within a person and is related to trust, (4) that which is hoped for is possible, (5) hope relates to or involves other people or a higher being and (6) the outcome of hope is important to the individual. Using this framework, the individual encounters a stressful event, appraises its significance, and determines the amount of perceived control over the environment. Based upon the appraisal, the individual responds to the situation with a level of hope. If the level of hope is hopeful, the outcome will be the formation of a new goal or strategy (Nowotny, 1989). To investigate hope, Nowotny used a purposive sample of 156 well individuals (123 females, 32 males, 94% Caucasian) and 150 individuals (118 females, 32 males, 91% Caucasian) with chronic illness. In addition to the themes generated in the study, the range of scores indicated that there were varying levels of hope in the general adult sample in both well individuals as well as individuals with cancer (Nowotny, 1989).

Likewise, Stephenson (1991) synthesized information from theology, philosophy, psychology, and nursing, in developing the definition that hope is a process of anticipation that involves the interaction of thinking, acting, feeling, and relating, and is directed toward a future fulfillment that is personally meaningful. Although what is personally meaningful to one individual may be different for another, the presence of hope is believed to always be present (Herth, 1995; Dufault & Martocchio, 1985). If persons are hopeful, they will act in a manner toward self and others that maintains the desire for some good and that looks to or anticipates the future (Stephenson, 1991).

Theoretical conceptualizations of hope (Herth, 1995; Stotland, 1969; Dufault & Martocchio, 1985; Morse and Doberneck, 1995; Nowotny, 1989; Stephenson, 1991), point to a dynamic process, amenable to intervention, that involves the expectancy of achievement of either a specific or generalized goal. Theoretical views of hope also point to a hypothesized positive relationship between hope and health behavior. The presence of hope empowers an individual to have a perceived sense of control and may enhance therapeutic results (Kylma et al., 1996; Kylma, Vehvilainen-Julkunen, 1997).

Accordingly, a few studies have investigated the association of hope to specific health promoting behavior (Valente, Saunders, & Uman, 1993; Gaskins & Forte, 1995; Fowler, 1997).

Valente et al. (1993) conducted one of the limited number of studies that investigated the relationship of hope to health promotion behaviors in a HIV positive population. Valente et al. found that hopelessness was associated with fewer healthy changes among a convenience sample (10% Black, 70% White) of 223 patients (20 females, 203 males) attending an AIDS Prevention Clinic. The Beck's Hopelessness Scale, Beck's Depression Inventory, the Horowitz Impact of Event Scale, and the Self-Care Activity Report were used in the study. Valente et al. sought to examine the relationships of perceived impact of HIV status, distress, and subsequent changes in self-care activities among HIV infected individuals or those who were at risk for infection. Valente et al. concluded that hope may be the motivating energy that turns HIV positive individuals toward healthy behaviors.

In another study, Gaskins & Forte (1995) conducted a qualitative study and found hope to be associated with having one's health, remaining physically active, and being able to get around. The study's sample consisted of 12 persons who were over the age of 65. Based upon the importance of activity to the sample of chronically ill persons, Gaskins and Forte suggested that care providers need to encourage health promoting behaviors especially among those who are chronically ill.

Fowler (1997) also investigated hope in a sample of chronically ill persons. Fowler used a descriptive correlational design to determine relationships between hope and a health-promoting lifestyle in adults with varying degrees of Parkinson's disease. The sample, consisting of 42 (12 females) persons, was found to be hopeful as measured by the Herth Hope Index and to engage in multidimensional lifestyle practices: spiritual growth, health responsibility, physical activity, nutrition, interpersonal relations, and

stress management, as measured by the Health-Promoting Lifestyle Profile II (Fowler, 1997).

Research on hope underlines the nature of the concept as a dynamic process that can be influenced by the individual or by other people (Kylma & Vehvilainen-Julkunen, 1997). The significance of hope to the performance of health promotion behavior is gaining recognition (Fowler, 1997; Gaskins & Forte, 1995; Valente, 1993). However, there continues to be a need for research that further explicates the relationship of hope to sex related behavior. This need is especially important for nurses who aim to develop interventions that positively affect the sex related health promotion behaviors of women.

Sex Related Health Promotion Behavior

Health promotion behavior is the result of a two fold effort: (a) the provision of information and skills to adopt and maintain healthy life styles and (b) the development of an environment supportive of health promotion behaviors (Redland & Stuijbergen, 1993). Personal choices have a powerful influence on one's health outlook. Similarly, emphasis of health promotion behavior is related to individual lifestyle or personal choices that are made in a social context. Sex related health promotion behaviors, including condom use, monogamy, health care seeking, and sex without drug/alcohol use, as factors surrounding these behaviors can influence well-being. These variables are especially important for HIV positive women who, unlike HIV negative women, may experience an already impaired immune system that can further predispose them to opportunistic infections and excess morbidity to STDs (Korn, 1998). In addition, these variables may also be important to understanding sex related health promotion behaviors of women who are HIV uninfected since some behaviors of this group are similar to those found among infected women (Bedimo et al., 1998), putting them at risk for HIV infection and other STDs.

Women Who Are Infected with HIV. HIV infected women continue to be sexually active (MacLaren & Imberg, 1998). Due to impairment of their immune system,

HIV infected women are also prone to sex related disorders including genital ulcer disease, herpes simplex, chancroid, bacterial vaginosis, and pelvic inflammatory disease (Williams et al., 1998; Khalsa & Currier, 1997, Korn, 1998). Although condoms used correctly in every episode of sexual intercourse have been found to prevent transmission of HIV (Porche, 1998), some HIV infected women do not consistently use them (Bedimo et al., 1998; Massad et al., 1995). Additionally, some HIV positive women fail to practice monogamy, as well as engage in sexual activity while under the influence of drugs or alcohol--behaviors that can impede their health outcomes (Clark et al., 1997; Soet, Dilorio, & Dudley, 1998; Bedimo et al., 1998).

In a study that sought to better understand potential barriers to condom use and sexual behavior of 83 HIV infected women, Clark et al. (1997) found that only 57% of the women revealed that they had always used a condom in the last year. Slightly more than 33% reported that they sometimes used condoms and 9% reported that they never used condoms in the last year. Respondents were more likely to report using condoms always with main partners versus with other partners. Most respondents also indicated that the decision was mutual when deciding not to use a condom. However, 20% of the women indicated that the decision not to use a condom was a partner decision. In addition, 24% and 29% of the women responded that they always and sometimes, respectively, had sex while under the influence of drugs or alcohol, respectively. Other factors found to be associated with condom use included partner HIV negative serostatus, history of low incidence of STD, and non-use of drugs or alcohol. Clark et al. used a self administered survey to collect data from the study's primarily African American (91%) convenience sample (mean age 28 years).

Similar to findings in the Clark et al. (1997) study, Bedimo et al. (1998) conducted a study using focus groups and a convenience sample of 15 HIV infected women (16 to 45 years of age) and found that most of the participants used condoms inconsistently or not at all. Although most of the participants were comfortable

discussing condoms, there was little, if any negotiation of condom use with their sexual partners. The study also found that another reason HIV infected women do not use condoms was their feeling of being at less risk for subsequent disease transmission. Bedimo et al. conducted the study in order to explore the barriers to condom use among women infected with HIV.

In an earlier study, Massad et al. (1995) used a self-report questionnaire to examine sexual and reproductive practices of 25 heterosexual women with HIV and found that 29% of the sexually active women did not use condoms and one sexually active woman admitted that her partner was unaware of her HIV serostatus. Only eleven women (44%) were abstinent. Although 64% of the sample reported that HIV infection had worsened the quality of their sexual lives, only three women indicated that HIV infection symptoms had impaired their sexual enjoyment (Massad et al., 1995). In addition, 14 of the women were sexually active in monogamous relationships and 7 had an HIV uninfected partner (Massad et al., 1995).

Findings from the Massad et al. (1995) study added to Clark's (1997) and Bedimo's (1998) findings by providing information about the importance of condom use to the prevention of other STDs in women infected with HIV. Twelve women (50%) in the Massad et al. study reported a history of various STDs. Two of the women were being treated for a STD other than HIV at the time of the study--both had genital herpes. It is not known whether these women contracted genital herpes prior to or after they were diagnosed with HIV infection. The average time from diagnosis of their HIV positive serostatus was 45 months. However, it is possible that the women contracted genital herpes after being infected with HIV, especially since some of the women continued sexual activity without the use of condoms (Massad et al., 1995).

Similarly, Hankins et al. (1997) found that within only one month of learning of their HIV positive status, almost half (44%) of a sample of 161 women had resumed sexual activity. Hankins conducted the study in order to learn about the impact of a

positive HIV test on sexual behavior and found that although sexually active, consistent condom use among the women was low (19% for intravenous drug users, 30% for non intravenous drug using women of Haitian and African origin, and 62% for non intravenous drug using Caucasians). Consistent condom use was also low by partner type with 58% of the women using condoms with new regular partners and only 29% of the women using condoms with casual partners (Hankins et al., 1997).

Simoni et al. (1995) also supported findings about the continued active sexual behavior of women with HIV. Simoni et al. investigated 72 HIV infected women and found that nineteen (24%) reported sexual activity in the two months prior to the study. Additionally, sixty-eight percent (68%) of the sexually active women had engaged in at least one form of unsafe sexual activity. Simoni et al. added to current knowledge through the report that few of the women investigated accessed health support services. Simoni et al. reiterated the need for support interventions including health services that help women who fail to practice sexual behaviors that could promote their health.

Like condom use, monogamy, and sex without drug/alcohol use, access of health services is also important to the well-being of HIV infected women (Heckman, Kelly, & Somlai, 1998; Russell & Smith, 1998). In one of the few studies that examined existing health services for women infected with HIV, Russell and Smith (1998) concluded that medical and social services for HIV positive women are fragmented. Given that HIV infected women are often fatigued, they are unlikely to seek comprehensive care and support. Russell and Smith reported that even if access to health services may not adversely effect women in the early stages of HIV disease, access may become more important as the disease process progresses. Hence, efforts to enhance women's access to health services are warranted (Russell & Smith, 1998).

Kissinger et al. (1996) recommended regular screening by HIV infected women to enhance traditional methods of promoting safer sex practices. Kissinger et al. conducted a study to evaluate the impact of promotions to practice safer sex: education, skills

building, and condom distribution. Using retrospective review, 741 sexually active HIV infected women (82% African American, at least 22 years of age) were investigated. Findings of the study indicated that in addition to regular screening, partner treatment and the use of other female-controlled methods to promote the practice of safer sex behaviors were recommended (Kissinger et al., 1996).

Finally, Heckman et al. (1998) conducted a study to identify predictors of continued high risk sex in a convenience sample of 277 HIV infected persons (54 women, 222 men, 71% White, 19% African American). Similar to earlier findings (Nicholas & Schilder, 1997; Massad et al., 1995; Kissinger et al., 1996; Hankins et al., 1997), predictors of continued high risk sex included being in an affectionate relationship, barriers to health care services, and having a greater number of male sexual partners. Heckman et al. conducted the study using a researcher developed survey that assessed access to health related quality of life and sexual behavior. Heckman et al. concluded that interventions are needed for persons living with HIV disease who have difficulty avoiding high risk sexual behavior.

The research described within this review describes sex related health promotion behaviors of women who are infected with HIV and factors associated with those behaviors. Generally, some HIV infected women do make efforts to promote their health through engaging in behaviors that include condom use, monogamy, sex without drug/alcohol use, and access to preventive health services. However, a significant proportion of HIV infected women do not consistently practice these behaviors, thereby jeopardizing their health. These data indicate a need for increased understanding of sex related health promotion behaviors of HIV positive women and the factors surrounding those behaviors. Such information can prove useful to informing interventions that promote the health of HIV infected women as well as women who are not infected with HIV, yet continue to participate in similar sexual behaviors that place them at risk for STDs.

Women Who Are Not Infected With HIV. As with HIV infected women, condom use has been the major strategy recommended to prevent sexual transmission of STDs in HIV uninfected women (Kurth, 1998; Porche, 1998). Similar to HIV infected women, use of condoms by HIV uninfected women has been reported to be inconsistent. A number of factors have been reported as important condom use correlates: perceived partner attitudes (Soet, Dilorio, & Dudley, 1998), condom use intentions (Longshore, Stein, Kowalewski, & Anglin, 1998), and fertility status (Semaan, Lauby, & Walls, 1997).

Soet et al. (1998) investigated the importance of intrapersonal factors on condom use in a convenience sample (mean age, 29) of 762 women (46% White). Using a sample in which eighty-two percent of the women were sexually active, Soet et al. found that partner attitudes, as measured by a researcher developed 3-item scale, was the most salient predictor of condom use (measured using a 1-item response). The study found that African American women reported significantly greater condom use than White women. African American women were also reported to be influenced by their perceived partner attitudes and anticipated partner reactions as were White women. Soet et al. concluded that a woman's confidence in broaching the topic of condoms or in negotiating for condom use may have a more direct impact on whether condoms will be used in any given sexual encounter.

In a different study, condom use was associated with condom use intentions in a convenience sample of 155 females and 134 male heterosexual injection drug users (Longshore et al., 1998). Twenty-five percent of both the total men and women samples were African American and 28% of the total male sample and 34% of the women sample were Mexican American. Likert type items were used to measure both Intention to Use Condoms and Unprotected Sex. For both women and men, stronger intentions to use condoms predicted subsequent reductions in unprotected sex. Results of the study suggest that explicit formation of condom use intentions is an important antecedent to sexual behavior change (Longshore et al., 1998).

Unlike studies that investigated condom use in relation to disease prevention (Soet et al., 1998; Longshore et al., 1998), a few studies (Semaan et al., 1997; Marion & Cox, 1996) examined the relationship between condom use and fertility. Semaan et al. examined condom use with main partners in surgically sterilized and non-sterilized women. Data were obtained from 379 African American women residing in low-income urban communities. Non-sterilized women were one-fifth as likely as non-sterilized women to use condoms. For both groups of women, higher perceived benefits of condom use for disease prevention were associated with condom use. In addition, whether condoms were ever used for pregnancy prevention were associated with condom use among non-sterilized women. Results of the study indicate the role of fertility status in condom use. Semaan et al. concluded that the role of condoms in disease prevention (as oppose to pregnancy prevention) should be included in health intervention and health promotion programs.

In a similar study, Marion and Cox (1996) found that condoms were used more frequently in fertile (n=91) than infertile (n=161) women even though condom use was low for the total sample. Forty-one percent of the women reported that they had never used condoms since divorce or separation. Thirty-eight percent (38%) of the women reported some to half-time condom use and 21% reported regular condom use. Marion and Cox concluded that the women's fear of both pregnancy and disease prompted more condom use than did the fear of STDs, alone. This study added to knowledge about factors related to condom use in the little studied population of infertile women (Marion & Cox, 1996). A convenience sample of 254 mostly middle class women (85% White) was used in the study. Condom use was measured using a question that asked about general condom use since divorce or separation and a three-item index was used to measure Perceived Competency to Ensure Condom Use. Marion and Cox revealed that summation of the three-item index (perceived competency to insist that a partner use condoms, perceived ease of insisting that the partner use condoms, perceived self-control

to use condoms) had good internal consistency. A seven-item Feelings Toward Condom Use Scale was also used in the study (Marion & Cox, 1996).

Finally, a different study (Timmons & Sowell, 1999) used a qualitative design to uncover factors important to the sex related health promotion behaviors of heterosexually active HIV uninfected women. Timmons and Sowell used focus groups to investigate a group of 19 African American women (ages 18 to 44) and found that the women generally promoted their health through participating in perceived "safe" heterosexual relationships--those characterized by faith that the relationship was indeed sexually monogamous. Participation in these safe relationships was believed to negate the need to engage in other sex related health promoting behaviors. The women also revealed the importance of a positive evaluation of self or self esteem to choosing to engage in sex related health promoting behaviors. As with other findings included in this review (Soet et al., 1998; Longshore et al., 1998; Semaan et al., 1997; Marion & Cox, 1996), Timmons & Sowell (1999) supported the need to further explicate factors that aid in the understanding of sex related health promotion behaviors.

Summary

Some HIV infected women choose to engage in a number of sex related health promoting behaviors, including consistent condom use, monogamy, health care seeking, and sex without drug/alcohol use. Yet, a significant portion of these women fail to do so.

No one factor can account for all health behavior. However, self-efficacy, social support, self esteem and hope have been associated with a variety of health promotion behavioral outcomes and as such, provide a theoretical basis from which to conduct this study. The purpose of the study is to describe the relationship among self-efficacy, social support, self esteem, and hope, with sex related health promotion behaviors of HIV infected women. This study also aims to describe how these behaviors compare to those of HIV uninfected women.

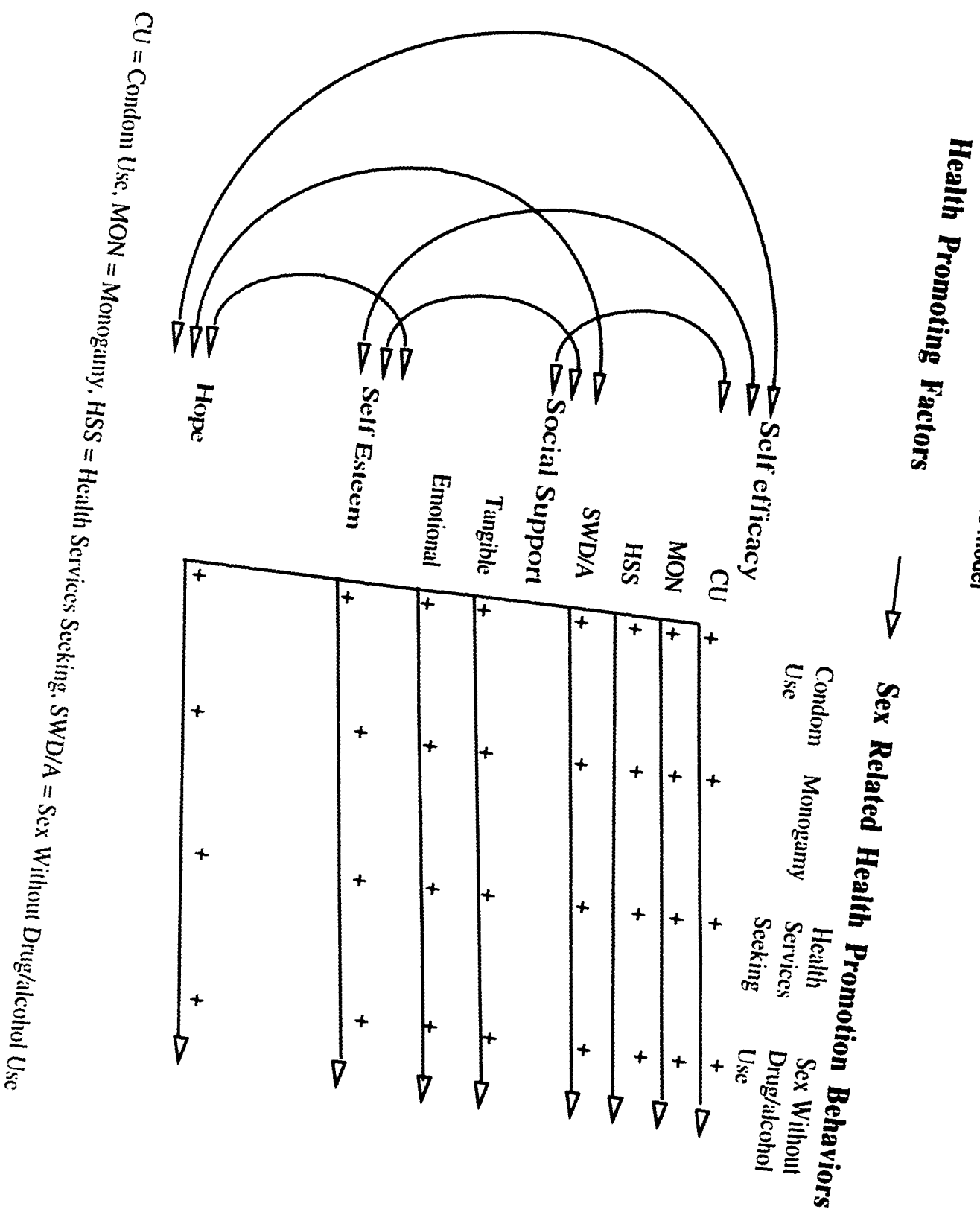
The literature reviewed in this study suggests that increasing self-efficacy, social support, self esteem, and hope provides a basis for promoting health behavior. There exists empirical evidence that these factors may also influence sex related behavior. If self-efficacy, social support, self esteem, and hope are found to be correlates of women's performance of sex related health promotion behaviors, the enhancement of each of these factors could be of major concern to women's health promotion programs. An understanding of the factors that influence sex related behaviors in HIV infected women could serve as the basis for the development of nursing interventions. Additionally, understanding may shed light on the sex related health promotion behaviors of HIV negative women, some of who practice behaviors similar to those of HIV positive women, putting them at risk for contracting STDs.

Conceptual Framework

The conceptual framework used to guide this study was developed from variables extracted from the research literature and theoretical frameworks that represent positive associations with health behavior. Self-efficacy, social support, self-esteem, and hope were identified as key health promotion factors that correlate with health promoting behavior. Since these factors are associated with health promoting behaviors in other populations, they were selected for investigation in this study (see Figure 1).

Self-efficacy and social support were found to be among the top four strongest predictors of a health promoting lifestyle (Gillis, 1993). Gillis reviewed 23 studies published between 1983 and 1991 that focused on identifying health promotion determinants. Results of the meta-analysis indicated that followed by social support, self-efficacy was the strongest predictor of a health promoting lifestyle. Self-efficacy can affect every phase of personal change including whether people ever consider their health habits, the likelihood that a person will engage in a particular behavior, how they try to change if they choose to do so, how much change occurs, and how well they maintain the changes achieved (Barker et al., 1998).

Figure 1. Sex related health promotion behaviors model



As a health promoting factor, self-efficacy has been reported to be related to a wide range of health behaviors including healthy lifestyle activities (Conn, 1997; Wilson et al., 1997), exercise (Vidmar & Rubinson, 1994; Keller et al., 1999), and healthy diet (Lev & Owen, 1998; AbuSabha & Achterberg, 1997). In addition, studies have linked self-efficacy to sex related behavior (Buunk et al., 1998; Longshore et al., 1998; Schieman, 1998; Montoya, 1997; Semaan et al., 1997). Evidence of an association between self-efficacy and health promoting behaviors suggests that HIV infected women may be similarly affected. In other words, developing an individual's self-efficacy for health promotion can be the first step in effecting sex related behavioral change (Berarducci & Lengacher, 1998).

Similar to self-efficacy, social support has been posed as a factor associated with successful behavior change (Langford et al., 1997). Social support offers assistance through supportive relationships that allow an individual to better perceive a more objective view of self and the environment and provides material aid and information about the availability of resources and usefulness of coping strategies (Broadhead et al., 1983; Bloom, 1990). Social support allows individuals to draw upon resources from their support networks that maintain as well as promote health (Williams, 1997). Since effective health promotion practices require a person to process and incorporate information into action (Pender, 1987), it is theoretically feasible that one's social support network can influence health behavior.

The framework of this study poses that self esteem is a factor important to the sex related health promotion behaviors of HIV infected women. As an evaluation of self worth, an observable component of self esteem involves action from which individual outcomes can be seen and evaluated in terms of effectiveness (Mruk, 1995). Hence, self esteem is a motivator that guides human behavior and can be conveyed to others through behavior (Rosenberg, 1969). Researchers have reported the importance of self esteem to behavioral outcomes in chronically ill and well populations (MacLean and Lo, 1998;

Abel et al., 1996). Since it has been suggested that high self-esteem might increase the general tendency for a person to engage in health enhancing behaviors (Logsdon et al., 1998; Yarcheski et al., 1997), it is also likely that self esteem is important to sex related health promotion behaviors.

Hope is another factor associated with health promotion behavior and is included within the conceptual framework of this study. Theoretical conceptualizations of hope (Herth, 1995; Stotland, 1969; Dufault & Martocchio, 1985; Morse and Doberneck, 1995; Nowotny, 1989; Stephenson, 1991) point to a hypothesized positive relationship between hope and health behavior. The presence of hope empowers an individual to have a perceived sense of control and may enhance therapeutic results (Kylma et al., 1996; Kylma, Vehvilainen-Julkunen, 1997). If persons are hopeful, they will act in a manner toward self and others by maintaining the desire for some good and by looking to the future (Herth, 1995). Relative to this conceptualization, hope has been found to be positively associated with behavioral health outcomes including physical activity, interpersonal relations and stress management (Fowler, 1997), as well as changes toward healthful behaviors in chronically ill populations (Valente et al., 1993; Gaskins & Forte, 1995). Furthermore, research on hope underlines the nature of hope as a dynamic process that can be influenced by the individual or by other people (Kylma & Vehvilainen-Julkunen, 1997).

The outcome variable investigated in this study is sex related health promotion behaviors of women that are based upon recommended care regimens reported in the HIV/AIDS literature. Condom use, monogamy, access to health care, and sex without the use of drugs and alcohol (Heckman et al., 1998; Clark et al., 1997) are behaviors that promote the health of women who seek to maintain or accentuate positive health outcomes (Clark, 1997).

The inclusion of each concept in this study (see Figure 1) can provide knowledge about their relevance to models of health promotion. Hendricks (1998) conducted a study

that tested a health promotion model (Perceptual Health Promotion Determinants Model) and found significant relationships among self esteem, hope, self-efficacy, and health promotion behaviors. Hendricks tested the model using a convenience sample of 7th and 8th graders who perceived themselves as essentially healthy. Findings of Hendricks's study emphasized the importance of health promotion concepts as key elements to impacting future health status. Similarly, this study uses the Sex Related Health Promotion Model (see Figure 1) to enhance understanding of sex related health promotion behavior of HIV infected women.

Conceptual Definitions

The following terms are conceptually defined for use in the study:

1. **Self-efficacy--the conviction that one can successfully execute the specific behavior necessary to produce a desired outcome. The concept recognizes specific personal abilities (Bandura, 1997).**
2. **Social Support--interpersonal transactions that include the expression of positive affect of one person toward another; the affirmation or endorsement of another person's behaviors, perceptions, or expressed views; and or the giving of symbolic or tangible aid to another (Kahn & Antonucci, 1980).**
3. **Self esteem--an individual's global positive or negative attitude toward self (Rosenberg, 1969).**
4. **Hope--a multidimensional dynamic life force characterized by a confident yet uncertain expectation of achieving good, which to the hoping person is realistically possible and personally significant (Herth, 1995).**
5. **Sex Related Health Promotion Behaviors--sex related activities that result from the provision of information and skills to adopt and maintain healthy life styles and from the development of a supportive environment (Redland & Stuijbergen, 1993).**

CHAPTER III

Methodology

This chapter describes the research design and methods used in this investigation. The study sample and setting, instruments, protection of human subjects, measurements, procedures for collecting and managing data, and plans for data analysis are included.

Research Design

The study used a descriptive design to examine the relationship among self-efficacy, social support, self esteem, and hope with sex related health promotion behaviors of HIV infected women. How these behaviors compare to those of HIV uninfected women was also examined. The study was guided by a conceptual framework developed from the research literature. Within the descriptive design, threats to internal validity caused by maturation and mortality were partially controlled for by collecting data at one time during the investigation.

Variables investigated were collected on HIV infected women as a component of the HIV+ Women: Decisions Decreasing Perinatal Transmission study (Sowell, Murdaugh, & Moneyham, 1998). The Sowell et al. study is an 18-month longitudinal field study that tests the effect of peer education delivered by two different modes (video tape and face to face delivery with peer group discussion) on HIV infected women's intent to become pregnant and/or maintain a pregnancy, as well as accept antiretroviral therapy for themselves and their fetus/baby.

The Sowell et al. (1998) sample included HIV infected women, ages 18 to 44, who live in the Southeastern United States. Participants in the study were recruited from community based HIV/AIDS organizations and treatment sites serving rural and urban clients. The Sowell et al. study was approved by the Institutional Review Board (IRB) of

the University of South Carolina. This study used data collected in the Sowell et al., study to investigate the variables under investigation (self-efficacy, social support, self esteem, hope, and sex related health promotion behaviors) for HIV positive women.

Sample

A convenience sample was recruited consisting of 81 HIV uninfected women. Women entered into the study was 18 to 44 years of age. Other study inclusion criteria included: (a) no evidence of dementia, (b) English speaking, (c) South Carolina resident, and (d) self-report of HIV seronegative status. The women shared some demographic characteristics with HIV infected women recruited into the Sowell et al. (1998) study from which data on 89 women were collected for this study. It was estimated that the difference between the size of the HIV negative sample and the HIV positive sample would not vary by no more than 10%. In order to examine the study questions, data were obtained from at least a total of 140 women (power = .80, alpha = .05).

Setting

Women within the Sowell et al. (1998) study who were HIV infected were recruited from a variety of sources: (a) community-based HIV/AIDS organizations, (b) public health department clinics, (c) African American ministerial groups, (d) the South Carolina African American Women's AIDS Network, and (e) prenatal and pediatric clinics at large medical facilities. These recruitment sites were chosen to maximize the number of potential participants and to recruit women whose diversity represented regional population characteristics (Sowell et al., 1998).

The sample of HIV uninfected women were also recruited from diverse community sites including a Healthy Start Support Group, two beauty salons, a cosmetology training school, and a hospital continuing education session for nursing assistants. Each site included women with demographic characteristics reflective of the regional community.

Protection of Human Subjects

The HIV+ Women: Decisions Decreasing Perinatal Transmission study (Sowell et al., 1998) was approved by the Institutional Review Board (IRB) of the University of South Carolina. The IRB also approved this study prior to data collection.

Prospective participants were provided with a description of the study, the voluntary nature of their participation, and procedures to assure anonymity and confidentiality. Informed consent was obtained from each respondent. Signing the informed consent form indicated agreement to participate (see Appendix I). Informed consent included: (a) description of any foreseeable risks, (b) non coercive disclaimer related to any community services received, (c) option of withdrawal from the study, and (d) name and telephone number of the researcher who can be contacted about the study in the future.

Only the researcher had access to data collected in this study. Questionnaires only included identification numbers and no names were attached. Signed consent forms were kept separate from questionnaires and all data collection records were maintained in a locked location. After completion of the study, all data collection tools were destroyed.

No known risks to the participants existed. Potential benefits to the subjects for participating in the study include their contribution to knowledge development. Findings of the study can provide nurses and health care providers with data from which effective health promotion interventions can be developed.

Instruments

A Demographic Questionnaire and four instruments were used to collect data in this study: (a) Tangible Social Support Scale, (b) Emotional Social Support Scale, (c) Rosenberg Self Esteem Scale, and (d) Herth Hope Index. Four questions were used to measure self-efficacy beliefs about condom use, monogamy, health services seeking, and sex without drug/alcohol use. In addition, five questions were used to measure

participation in sex related health promotion behaviors: condom use (measured using two questions), monogamy, health services seeking, and sex without drug/alcohol use.

The Demographic Questionnaire included 16 items that captured descriptive data about the sample (see Appendix A). Examples of demographic data obtained included family income, age, educational level, etc. The four study instruments are described in Figure 2 and self-efficacy items and sex related health promotion behavior questions are described in Figure 3. Each instrument is included as Appendices A through G.

Instruments and questions are described below:

Health Promotion Self-efficacy

Bandura (1997) posed that the most powerful measures of self-efficacy focus on specific or particular behaviors. This view has been supported in recent research where female respondents, themselves, described direct questioning as an effective method for collecting data about personal behaviors related to sexual behavior (Sowell et al., 1998). A nine item scale was developed for this study to measure self-efficacy beliefs regarding the ability to perform four specific behaviors: condom use, monogamy, health services seeking for STD testing, and sex without drug/alcohol use. Four doctorally prepared scholars, experienced in HIV/AIDS, health promotion, and women focused research, participated in developing the self-efficacy items. The nine items included three that focused on condom use self-efficacy and two that focused on health services seeking self-efficacy, monogamy self-efficacy, and sex self-efficacy without drug/alcohol use. However, possibly due to the small number of items within each self-efficacy subscale, unacceptable Cronbach's coefficient alphas (.37, .42, .35, .26) were attained for each subscale: condom use, health services seeking, monogamy, and sex self-efficacy without drug/alcohol use, respectively. Therefore, the decision was made to operationalize the self-efficacy variables using one item measures (See Appendix B) extracted from the nine item scale.

Figure 2. Study Instruments/Scales

<u>Instrument</u>	<u>Construct</u>	<u>Scale</u>	<u># Items</u>	<u>Scoring</u>	<u>Reliability</u>	<u>Validity</u>
Tangible Social Support Scale	Tangible Support	Ordinal Likert	9	Sum ratings. Range, 9-27 > score = > support.	.88*	content (Sowell et al., 1998)
Emotional Social Support Scale	Emotional Support	Ordinal Likert	11	Sum ratings--Range, 11-33 > score = > support.	.87*	content (Sowell et al., 1998)
Rosenberg Self Esteem Scale	Self esteem	Ordinal Likert	10	Sum ratings--range, 10-40 Reverse score 2, 5, 6, 8, 9 > score = < esteem.	.87*	content (Rosenberg, 1965)
Herth Hope Index	Hope	Ordinal Likert	12	Sum rating--range, 12-48 Reverse score 3, 6 > score = > hope.	.97*	content, construct (Herth, 1992)

* Chronbach coefficient alpha is analyzed for the population investigated in this study.

Figure 3. Measures for Study Items/Questions

<u>Self-efficacy</u>	Scale	# Items	Scoring
Condom Use Self-efficacy	Ordinal/Likert	1	Range, 1 - 4: > score => efficacy
Monogamy Self-efficacy	Ordinal/Likert	1	Range, 1 - 4: > score => efficacy
Health Services Seeking Self-efficacy	Ordinal/Likert	1	Range, 1 - 4: > score => efficacy
Sex Self-efficacy Without Drug/alcohol Use	Ordinal/Likert	1	Range, 1 - 4: > score => efficacy
<u>Sex Related Health Promotion Behaviors</u>			
Condom Use	Ordinal/Likert	1	Range 1 - 5: > score => behavior
Monogamy	Ordinal/Likert	1	Range 1 - 5: > score => behavior
Health Services Seeking to be Tested for STD	Ordinal/Likert	1	Range 1 - 5: > score => behavior
Sex Without Drug/alcohol Use	Ordinal/Likert	1	Range 1 - 5: > score => behavior
Last Condom Use	Nominal	1	Yes/No: Yes => behavior

For each item, respondents were instructed to respond based upon how they "feel today." Condom use self-efficacy was measured using the statement, "I am able to negotiate condom use with my partner whenever I have sex. Monogamy self-efficacy was measured with the statement, "I am able to consistently limit my sexual activity to only one partner." The statement, "I am able to overcome all obstacles in order to obtain preventive health services for myself" was used to measure health services seeking self-efficacy. And, sex self-efficacy without drug/alcohol use was measured using the item, "I am able to say no to sex even though I have been drinking alcohol or using drugs."

Item responses are graded using a four point Likert scale. Possible responses include: (a) always = 4, almost always = 3, sometimes = 2, and never = 1. Higher scores represent stronger efficacy beliefs. Self administration is estimated to be three minutes.

Tangible Social Support Scale

Tangible support was measured using the Tangible Social Support Scale (Sowell et al., 1998) (see Appendix C). The nine items use a Likert type response format and taps level of tangible support by measuring perceived helpfulness of specific support network members: parents, relatives/kin, husband or partner, friends, children, co-workers, church members, ministers, and support groups. Responses range from not at all helpful =1, a little helpful = 2, very helpful = 3, to not applicable = 4. A higher score indicates higher perceived tangible support. Self administration is estimated to be four minutes. The scale has been previously used in adult female populations (Sowell et al., 1998).

Emotional Social Support Scale

Emotional support was measured using the Emotional Social Support Scale (see Appendix D). The 11 item scale captures perceived supportiveness of 11 network members relative to the provision of love, comfort, and affection. Responses to the emotional support scale range from not supportive = 1, somewhat supportive =2, very supportive = 3, to not applicable = 4. A higher score indicates higher perceived emotional

support. Self administration is estimated to be 4 minutes. The scale has been used previously in adult women populations (Sowell et al., 1998)

Rosenberg Self Esteem Scale

Self esteem was measured using the Rosenberg Self Esteem Scale (see Appendix E). The scale is designed to measure self esteem from a global or overall perspective. The scale consists of 10 statements, worded in the first person and using a Likert type response format. Respondents choose one of four levels of agreement with each statement: strongly agree = 1, agree = 2, disagree = 3, and strongly disagree = 4.

Answers to questions are summed with possible scores ranging from 10 to 40. Half of the questions are stated positively and half are stated negatively. The Rosenberg Self Esteem scale is worded such that a low score indicates high self esteem. The scale has been used in other adult female populations (Logsdon et al., 1998; MacLean & Lo, 1998; Gardner et al., 1998) and self administration is 3-5 minutes (Rosenberg, 1965).

Herth Hope Index

The Herth Hope Index (HHI) is a 12 item, self-report measure, designed to capture the multidimensionality of hope (see Appendix F). The HHI includes three subscales that are based on three factors: temporality and future, positive readiness and expectancy, and interconnectedness. The temporality and future subscale includes items (2, 1, 11, 6) related to: (a) presence of goals, (b) positive outlook on life, (c) each day has potential, and (d) scared about the future. The positive readiness and expectancy subscale includes four items (4, 10, 12, 7): (a) see a light in a tunnel, (b) a sense of direction, (c) life has value and worth, and (d) recall happy/joyful times. The interconnectedness subscale also consists of four items (3, 5, 8, 9): (a) feel all alone, (b) faith that comforts, (c) deep inner strength, and (d) give and receive caring/love.

The HHI has been used in other adult female populations (Fowler, 1997; Herth, 1993). The response set uses a four point Likert type format that includes ranges of strongly disagree = 1 to strongly agree = 4. The range of scores is 12 to 48 with higher

scores signifying higher levels of hope. Self administration is estimated to be five minutes. Permission was obtained to use the Hope Herth Index in the current study (Appendix H).

Sex Related Health Promotion Behaviors

Four questions were developed for use in this study to measure the extent to which respondents engaged in sex related health promotion behaviors during the past 12 months (see Appendix G). Behaviors include: (a) condom use, (b) monogamy, (c) health services seeking, and (d) sex without drug/alcohol use. Each of the behaviors have been documented in previous research (Timmons & Sowell, 1999; Clark et al., 1997; Heckman et al., 1998). In addition, four doctorally prepared scholars (including 3 nurses) in HIV/AIDS research, contributed to the development of each question.

Condom use was measured using the question, "how often do you use a condom when having sex?" Respondents replied to a five point Likert type scale where possible responses include: (a) never = 1, occasionally = 2, sometimes = 3, almost always = 4, and always = 5. A lower score indicates no or infrequent condom use.

Monogamy was measured using the item, "During the past 12 months, how often did you have sex with someone other than your one main partner?" Health services seeking behavior was measured by the question, "During the past 12 months, how often did you seek medical care to be tested for a sexually transmitted disease?" Sex without drug/alcohol use was measured using the item, "During the past 12 months, how often did you engage in sexual activity while under the influence of alcohol or drugs?"

The monogamy, health services seeking, and sex without drug/alcohol use questions use a five-point Likert type response format. The response set for each item includes: never = 5, 1 to 2 times = 4, 3 to 4 times = 3, 5 to 6 times = 2, and 7 or more times = 1. The health services seeking item is reverse scored. Higher scores indicate greater participation in the behavior measured. Self administration is estimated to be three minutes. A final question uses a dichotomous response set (yes or no) to measure

condom use at last intercourse: "At last sexual intercourse, did you use a condom?" A yes response indicates greater condom use behavior.

Procedures

Data from HIV infected women recruited into the HIV+ Women: Decisions Decreasing Perinatal Transmission study (Sowell et al., 1998) was included in this study. Sowell et al. used a variety of grass-roots recruitment strategies among women served by community based HIV/AIDS organizations. Specific recruitment strategies included: (a) agency personnel to invite women to participate; (b) posting flyers regarding the study, and (c) where appropriate, advertising in newsletters and other communications mailed to clients of the various agencies (Sowell et al., 1998).

HIV uninfected women were recruited into the study to serve as a comparison group. The researcher visited various community settings (beauty salons, health and career fairs, community meetings, social gatherings, shopping centers) at which women frequent to invite prospective volunteers to participate in the study. The researcher individually contacted prospective participants, made introductions, explained the purpose of the study, and obtained informed consent. Prior to visiting recruitment sites, the researcher obtained permission from administrators of respective sites, as applicable. Recruitment was based upon study inclusion criteria: (a) no evidence of dementia, (b) self report of HIV seronegative status, (c) English speaking, and (d) South Carolina resident. Data was collected over a period of 1 to 4 months until an adequate sample size was entered into the study.

Following informed consent (see Appendix I), participants were given a copy of the consent form and instructed to complete all study measurements (see Figure 2 and Figure 3). Subjects were assured that their names would not appear on any of the study questionnaires. To assure anonymity, a code number, rather than a name was assigned to all data collection tools. Only the researcher had access to completed questionnaires. Self administration of instruments was estimated to take less than 25 minutes. After the

instruments were completed, participants were offered a "safer sex" gift pack (condoms, lubricants, etc.) in appreciation for their participation. All data collection records were maintained in a secured location and after completion of the study, all data collection tools were destroyed.

Assumptions and Limitations

It was assumed that respondents would respond truthfully on the study questionnaires. Methods to facilitate truthfulness by the respondents include: (a) informed consent and (b) reiterating the confidential nature of responses.

Generalizability of results to other populations is limited due to convenience sampling. Nevertheless, the study does reflect diversity in its use of a comparison group and can therefore be considered representative of the more general population of 18 to 44 year old women in South Carolina.

Plan for Data Analysis

Descriptive analysis, including means, standard deviations, or frequency distributions was planned for all variables and demographic data using the SAS (Statistical Analysis System) to address the following study questions:

1. Are the variables in the Sexual Health Promotion Behavior Model (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are infected with HIV?
2. Are the variables in the Sexual Health Promotion Behavior Model (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are not infected with HIV?
3. Are there significant differences in self-efficacy, social support, self esteem, and hope in women who are infected with HIV and those who are not infected with HIV?
4. Are there significant differences in sex related health promotion behaviors of women who are infected with HIV and women who are not infected with HIV?

5. Do self-efficacy, social support, self esteem, and hope predict sex related health promotion behaviors in women who are infected with HIV and those who are not infected with HIV?

Plans included analyzing questions 1 and 2 using the Pearson correlation coefficient. Based upon an alpha of .05 and power of .80, a total sample size of at least 85 was required for this analysis (Cohen, 1988). The analysis of covariance procedure was planned to analyze questions 3 and 4 regarding differences between the study's two groups. A total sample size of at least 128 was required (alpha = .05, power = .80) (Cohen, 1988). Plans to analyze question 5 included the use of multiple regression analysis requiring a total sample size of 140 (alpha=.10, power=.80) (Cohen, 1988).

Planned analysis also included conducting psychometric properties of all study instruments using Cronbach's coefficient alpha as a measure of internal consistency. The desired acceptable criterion was set at .80 (Carmines & Zeller, 1979).

CHAPTER IV

Results

This chapter presents results of the five research questions investigated in this study: (1) are the variables in the Sexual Health Promotion Behaviors Model (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are infected with HIV? (2) are the variables in the Sexual Health Promotion Behaviors Model (self-efficacy, hope, social support, self-esteem) significantly associated with the sex related health promotion behaviors in women who are not infected with HIV? (3) are there significant differences in self-efficacy, social support, self esteem, and hope in women who are infected with HIV and those who are not infected with HIV? (4) are there significant differences in sex related health promotion behaviors of women who are infected with HIV and women who are not infected with HIV? and (5) do self-efficacy, social support, self esteem, and hope predict sex related health promotion behaviors in women who are infected with HIV and those who are not infected with HIV? The results of the study describe the relationship among self-efficacy, social support, self esteem, and hope with sex related health promoting behaviors of HIV infected women and how these variables compare in HIV uninfected women.

Sample Characteristics

Data were collected from a total of 170 HIV positive and HIV negative women (see Table 1). Data were collected from n = 89 HIV positive women recruited in the Sowell et al. (1998) study. The HIV positive women were recruited from diverse HIV/AIDS organizations and treatment sites serving rural and urban clients in South Carolina, North Carolina, and Georgia.

Table 1

Sample Groups Demographic Characteristics and Associations (Chi-square) Between Groups (N = 170) (p < .008)

	HIV Positive n = 89 n (%)		HIV Negative n = 81 n (%)		X ² p value
<u>Race</u>					
African-American	69	(77%)	71	(89%)	
Caucasian/Other	9	(11%)	9	(11%)	> .008
<u>Age (yrs.)</u>					
18 - 28	21	(24%)	47	(59%)	
29 - 39	51	(57%)	30	(37%)	
> 39	17	(19%)	3	(4%)	< .008*
<u>School Completed (yrs.)</u>					
< 12	29	(32%)	11	(13%)	
12 >	60	(67%)	70	(86%)	< .008*
<u>Marital Status</u>					
Married/With Partner	20	(22%)	25	(31%)	
Single	30	(33%)	33	(41%)	
Divorced/Other	24	(18%)	18	(20%)	> .008
<u>Income</u>					
\$0 - \$ 9,999	50	(68%)	20	(26%)	
\$10,000 - \$29,999	18	(24%)	35	(45%)	
\$30,000 >	6	(8%)	23	(29%)	< .008*
<u>Currently Sexually Active</u>					
YES	63	(71%)	58	(72%)	
NO	26	(29%)	22	(27%)	> .008
Note. Frequencies not equal to n represent missing data. *p < .008.					

The study also included $n = 81$ HIV negative women recruited from six rural and urban communities in South Carolina: a Healthy Start support group, community health center, cosmetology training school, hospital continuing education session for nursing assistants, and two beauty salons.

Chi-square analysis indicated that the HIV positive and HIV negative groups were not significantly different on demographic variables including race, marital status, and currently sexually active (see Table 1). The groups were, however, significantly different ($p = < .008$) (p corrected using Bonferroni) on age, education, and income. HIV positive women were older, had less education, and reported a significantly lower income than HIV negative women. Since age, education, and income are demographic variables associated with a number of sex related health promotion behaviors in women (Clark et al., 1997), they are adjusted for in subsequent analyses in this chapter.

HIV Positive Group Demographic Characteristics

The HIV positive group was mostly African American (77%) with a mean age of 33 years (SD , 6.42). Over one-half (50.6%) of the women lived in a single family home and the average length of time lived in their respective geographic location was 16 years. One-third of the women (33%) were single with children (mean number, 1.9; SD , 1.51) and almost half (42%) lived with a HIV infected partner. Over one-half (61%) of the women had known friends and/or family who had died of HIV/AIDS. In addition, almost three-fourths (71%) of the respondents were sexually active with over 51% engaging in sexual activity at least once every 2-weeks.

A little over one-third of the respondents (37%) held a paying job and almost all (99%) of those employed worked at least 40 hours per week. Few of the HIV positive women lived in a household where a family member received social services benefits. Only 3% lived in a household that received unemployment benefits, 17% received Women Infant & Children (WIC) services, 18% received Aid to Families with Dependent Children (AFDC), 2% received Veteran Administration (VA) benefits, and 3% received

"other" benefits. Almost half of the HIV infected women (47%) lived in a household where a member received Social Security Insurance/Disability (SSI/SSD) and food stamps and none of the women lived in a household where a family member received retirement benefits.

Other HIV Positive Group Characteristics. Table 2 presents means, standard deviations, and actual and possible ranges of scores for health promotion factors reported by the HIV positive group. Table 3 depicts means, standard deviations, and actual and possible ranges of scores for sex related health promotion behaviors reported by the HIV positive women. On a scale of 1 to 4, the women reported a mean condom use self-efficacy score of 3.55 (**SD**, .85) by responding to the statement, "I am able to negotiate condom use with my partner whenever I have sex." Similarly, responding to the statement, "I am able to overcome all obstacles in order to obtain preventive health services for myself", the women reported a mean health services seeking self-efficacy score of 3.11 (**SD**, .86). Respondents also reported a mean monogamy self-efficacy score of 3.64 (**SD**, .75) and sex self-efficacy without drug/alcohol use score of 3.51 (**SD**, .97). Monogamy self-efficacy was measured using the item, "I am able to consistently limit my sexual activity to only one partner" and sex self-efficacy without drug/alcohol use was measured by the item, "I am able to say no to sex even though I have been drinking alcohol or using drugs."

The women's reported scores for tangible support, measured by the Tangible Social Support Scale, and emotional support, measured by the Emotional Social Support Scale, revealed varying levels of support with higher scores representing the perception of greater support. Out of a possible range of 9 to 36, respondents reported a mean tangible support score of 25.68 (**SD**, 4.87) and out of a possible range of 11 to 33, respondents reported a mean emotional support score of 18.58 (**SD**, 5.67).

Table 2

Means, Standard Deviations, and Actual and Possible Ranges of Scores on Health Promotion Factors of HIV Positive Group (N = 89)

	<u>Mean</u>	<u>SD</u>	<u>Possible Range of Scores</u>
<u>Health Promotion Factors</u>			
Condom Use Self-efficacy	3.55	.85	1 - 4
Health Services Seeking Self-efficacy	3.11	.86	1 - 4
Monogamy Self-efficacy	3.64	.75	1 - 4
Sex Self-efficacy Without Drug/alcohol Use	3.51	.97	1 - 4
Tangible Support	25.68	4.87	9 - 36
Emotional Support	18.58	5.67	11 - 33
Self esteem	19.58	4.40	10 - 40*
Hope	37.91	5.69	12 - 48

Note. * > score = < self esteem

Respondents reported a mean hope score of 37.91 (SD, 5.69) (possible range, 12 to 48) and a mean self esteem score of 19.58 (SD, 4.40) out of a possible range of 10 to 40. Self esteem was measured using the Rosenberg Self Esteem Scale with higher scores representing less self esteem.

Sex related health promotion behaviors scores reported by the HIV positive women included condom use, monogamy, health services seeking, and sex without drug/alcohol use (see Table 3).

Table 3

Means, Standard Deviations, and Actual and Possible Ranges of Scores on Sex Related Health Promotion Behaviors of HIV Positive Group (N = 89)

	<u>Mean</u>	<u>SD</u>	<u>Possible Ranges of Scores</u>
<u>Sex Related Health Promotion Behaviors</u>			
Condom Use	4.33	1.11	1 - 5
Monogamy	4.53	.92	1 - 5
Health Services Seeking	1.86	1.12	1 - 5
Sex Without Drug /alcohol Use	4.33	1.19	1 - 5

Note. > scores => health promotion behavior

With higher mean scores (range 1 to 5) representing greater participation in behavior, the women's reported mean condom use score of 4.33 (SD, 1.11) indicated that they almost always used condoms. Condom use was measured using the question, "How often do you use a condom when having sex?" However, 14% of the respondents reported that they had not used a condom during their last sexual activity. The women's reported mean monogamy score (measured using the question, "During the past 12 months, how often did you have sex with someone other than your one main partner?) was 4.53 (SD, .92). The women also reported a mean health services seeking score of 1.86 (SD, 1.12) and 4.33 (SD, 1.19) for sex without drug/alcohol use. Health services seeking was measured with the question, "During the past 12 months, how often did you seek medical care to be tested for STDs?" and sex without drug/alcohol use was measured using the question, "During the past 12 months, how often did you engage in sexual activity while under the influence of alcohol or drugs?"

HIV Negative Group Demographic Characteristics

Most (89%) of the HIV negative women were African American. Almost half (44%) lived within 10 miles of town and over one-third (39%) lived in town. The average length of time the uninfected women had lived in their respective location was 14 years.

Almost three-fourths (72%) of the women reported being currently sexually active and close to one-third (30%) reported engaging in sexual activity at least one to several times a month. Forty-one percent of the women were single, either living alone or with children and almost one-third (31%) were married or living with a partner. Only 1% of the women reported that they lived with a HIV infected partner. Not only did most of the women not live with a HIV infected partner, but only 16% reported having known people close to them (friends, family) who had died of HIV/AIDS.

Women in the HIV negative group were generally educated with over three-fourths (86%) reporting having completed at least 12 years of school. Forty-five percent of the women reported annual incomes between \$10,000 and \$29,999 and almost three-fourths reported working an average of 37 hours per week. Few women reported that a household member received social services benefits: 8% reported receipt of unemployment benefits, 6% reported receipt of AFDC, 17% reported receipt of SSI/SSD, 14% reported receipt of food stamps, and only 3% reported receipt of retirement benefits. However, almost half (43%) of the women reported that someone in their household received WIC.

Other HIV Negative Group Characteristics. Table 4 depicts means, standard deviations, and actual and possible ranges of scores for health promotion factors reported by the HIV negative group. Table 5 presents means, standard deviations, and actual and possible ranges of scores for sex related health promoting behaviors reported by the HIV negative women.

Table 4

Means, Standard Deviations, and Actual and Possible Ranges of Scores on Health Promotion Factors of HIV Negative Group (N = 81)

	<u>Mean</u>	<u>SD</u>	<u>Possible Ranges of Scores</u>
<u>Health Promotion Factors</u>			
Condom Use Self-efficacy	3.28	1.00	1 - 4
Health Services Seeking Self-efficacy	3.50	.73	1 - 4
Monogamy Self-efficacy	3.77	.63	1 - 4
Sex Self-efficacy Without Drug/alcohol Use	3.56	.96	1 - 4
Tangible Support	24.96	5.20	9 - 36
Emotional Support	18.34	6.24	11 - 33
Self-esteem	15.84	4.63	10 - 40*
Hope	40.30	6.49	12 - 48

Note. * > score = < self esteem.

With higher scores representing greater efficacy beliefs (range, 1 - 4), the women reported a mean self-efficacy score for condom use of 3.28 (SD, 1.00), health services seeking self-efficacy mean score of 3.50 (SD, .73), monogamy self-efficacy mean score of 3.77 (SD, .63), and a sex self-efficacy without drug/alcohol use mean score of 3.56 (SD, .96).

Table 5

Means, Standard Deviations, and Actual and Possible Ranges of Scores on Health Promotion Behaviors of HIV Negative Group (N = 81)

	<u>Mean</u>	<u>SD</u>	<u>Possible Ranges of Scores</u>
<u>Sex Related Health Promotion Behaviors</u>			
Condom Use	2.69	1.53	1 - 5
Monogamy	4.77	.58	1 - 5
Health Services Seeking	1.57	.89	1 - 5
Sex Without Drug/alcohol Use	4.87	.55	1 - 5

Note. > scores => health promotion behavior.

In addition, respondents' mean tangible support score (24.96; SD, 5.20) represented a moderate to high level of tangible support. Compared to the tangible support score, the women's reported mean emotional support score (18.34; SD, 6.24) represented a lower level (possible score range, 11-33) of perceived emotional support.

With higher scores indicating lower levels of self esteem (possible range, 10 - 40), HIV negative respondents reported a mean self esteem score of 15.84 (SD, 4.63). In addition, respondents reported a mean hope score of 40.30 (SD, 6.49) with possible scores ranging from 12 to 48 and higher scores indicating greater perceived hope.

The women's participation in sex related health promotion behavior is depicted in Table 5. Based upon the reported mean condom use score of 2.69 (SD, 1.53), HIV negative respondents only occasionally to sometimes used condoms when engaging in sexual activity. However, the mean score reported for monogamous behavior (4.77; SD, .58) and sex without drug/alcohol use (mean, 4.87; SD, .55) indicated that the women participated in monogamy as well as sex without the use of drugs or alcohol. In addition,

the women's mean score of 1.57 (SD, .89) on the health services seeking item indicated that they seldom sought health services to be tested for STDs.

Summary

Results of the sample characteristics analysis revealed that HIV positive and HIV negative groups were significantly different (X^2 , $p < .008$) on the variables age, education, and income. The average woman comprising the HIV positive group ($n = 89$) was 33 years old, sexually active, unmarried African American, with an income less than or equal to \$10,000. The respondent lived within 10 miles of a town and had completed at least 12 years of school.

In addition, the respondent's reported scores indicated strong efficacy beliefs for condom use, health services seeking, monogamy, and sex without drug/alcohol use. Results indicated that the respondent perceived generally high perceptions of tangible support and hopefulness, a moderate level of self-esteem, and low to moderate perceived emotional support. Results also revealed that the respondent practiced almost consistent condom use with sexual activity, frequent monogamy and sex without the use of drugs or alcohol and infrequent health services seeking to be tested for STDs.

Concurrently, the average HIV negative respondent ($n = 81$) was a 29 year old, sexually active, unmarried African American woman, residing within 10 miles of a town and having an annual income of less than \$20,000. The respondent reported self-efficacy measures that represented strong efficacy beliefs about condom use, the ability to seek health services and engage in sex without drug/alcohol use, as well as the ability to practice monogamy. The typical HIV negative respondent also perceived a high level of hope and self esteem, a moderately high level of tangible support, and a moderate level of emotional support. The HIV negative respondent only occasionally to sometimes practiced condom use and seldom sought health services to be tested for STDs. However, the typical HIV negative woman engaged in frequent monogamous behavior as well as sex without drug/alcohol use.

Cronbach's Coefficient Alpha Measures of Study Instruments

Cronbach's alpha reliability coefficient was calculated for all of the study instruments (see Table 6). The desired criterion level of .80 was set (Carmines & Zeller, 1979). Three of the study's four instruments (Herth Hope Index, Rosenberg Self Esteem Scale, Emotional Social Support Scale) reached the desired criterion.

Table 6

Cronbach's Coefficient Alpha Levels of Study Instruments

<u>Variable</u>	<u>Instrument</u>	<u>Cronbach's Alpha (Standardized)</u>
Hope	Herth Hope Index	.92 ^a
Self Esteem	Rosenberg Self Esteem Scale	.84 ^a
Emotional Support	Emotional Social Support Scale	.85 ^a
Tangible Support	Tangible Social Support Scale	.76 ^b

Note. ^a = desired level. ^b = acceptable level.

In addition, one instrument (Tangible Social Support Scale) reached an alpha of .76, also representing an acceptable bound (Nunnally, 1978).

Association of Health Promotion Factors and Sex Related

Health Promotion Behaviors in HIV Positive Women

To answer question 1, are the variables in the Sexual Health Promotion Behaviors Model (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are infected with HIV?, the Pearson's correlation coefficient was performed. Significant ($p < .05$) correlations are presented in Table 7.

Table 7

Significant Correlations (Pearson's r) Between Health Promotion Factors and Sex Related Health Promotion Behaviors of HIV Positive Women (N = 89) ($p < .05$)

	Sex Related Health Promotion Behaviors			
	Condom Use	Health Services Seeking	Monogamy	Sex Without Drug/ alcohol Use
Health Promoting Factors				
Condom Use				
Self-efficacy	.58	-.29	NS	NS
Health Services Seeking				
Self-efficacy	.23	NS	NS	.24
Monogamy				
Self-efficacy	.35	-.32	.33	.28
Sex Self-efficacy Without Drug/alcohol Use				
Self-efficacy	.30	-.30	.45	.44
Tangible Support	NS	NS	NS	NS
Emotional Support	NS	NS	NS	NS
Self-esteem	NS	NS	NS	NS
Hope	NS	NS	NS	NS

Note. NS = Not Significant.
* $p < .05$.

Positive coefficients obtained for condom use self-efficacy and condom use ($r = .58$), health services seeking self-efficacy and condom use ($r = .23$), monogamy self-efficacy and condom use ($r = .35$), and sex self-efficacy without drug/alcohol use and condom use ($r = .30$) reflect positive relationships. For HIV positive women, increased self-efficacy for condom use, health services seeking, monogamy, and sex without drug/alcohol use was associated with increased condom use. The negative correlation coefficient ($r = -.29$) obtained for condom use self-efficacy and health services seeking indicate that as condom use self-efficacy increased, health services seeking decreased. Similarly, negative correlation coefficients obtained for monogamy self-efficacy and health services seeking ($r = -.32$) and sex self-efficacy without drug/alcohol use and health services seeking ($r = -.30$), indicate that as monogamy self-efficacy and sex self-efficacy without drug/alcohol use increased, health services seeking decreased.

Other significant correlations were found for HIV positive women: (a) health services seeking self-efficacy and sex without drug/alcohol use ($r = .24$), (b) monogamy self-efficacy and monogamy ($r = .33$), (c) monogamy self-efficacy and sex without drug/alcohol use ($r = .28$), (d) sex self-efficacy without drug/alcohol use and monogamy ($r = .45$), and (e) sex self-efficacy without drug/alcohol use and sex without drug/alcohol use ($r = .44$). Therefore, for HIV infected women: (a) as health services seeking self-efficacy increased, sex without the use of alcohol or drugs also increased; (b) as monogamy self-efficacy increased, so did monogamous behavior; (c) as monogamy self-efficacy increased, sex without drug/alcohol use also increased; (d) as the ability to engage in sex without drug/alcohol use increased, monogamy increased; and (e) as the ability to engage in sex without drug/alcohol use increased, sex without the use of alcohol or drugs also increased. Overall, results for HIV positive women, indicated that as efficacy beliefs for condom use, health services seeking, monogamy, and sex without drug/alcohol use increased, participation in condom use also increased. In addition, condom use self-efficacy, monogamy self-efficacy, and sex self-efficacy without

drug/alcohol use were associated with a decrease in health services seeking to be tested for STDs. Also, for HIV positive women, health services seeking self-efficacy was associated with increased sex without drug/alcohol use and monogamy self-efficacy and sex self-efficacy without drug/alcohol use were associated with greater participation in both monogamy and sex without drugs or alcohol use. For HIV positive respondents, the remaining health promoting factors (tangible support, emotional support, self-esteem, hope) were not significantly correlated ($p < .05$) with the study's behavioral outcome variables (see Table 7).

Association of Health Promotion Factors and Sex Related Health Promotion Behaviors in HIV Negative Women

The Pearson's correlation coefficient was used to answer question 2, are the variables in the Sexual Health Promotion Behaviors Model (self-efficacy, hope, social support, self esteem) significantly associated with sex related health promotion behaviors in women who are not infected with HIV? Table 8 depicts significant correlations ($p < .05$).

For HIV negative women, a positive correlation ($r = .34$) was reported for hope and monogamy. As perceived level of hope increased, monogamous behavior also increased. In addition, monogamy self-efficacy was positively associated with monogamy ($r = .51$) revealing that as monogamy self-efficacy increased, monogamous behavior also increased. The remaining health promoting factors (self-efficacy, tangible and emotional support, self esteem) were not significantly correlated ($p < .05$) with the study's outcome variables.

Differences in Self-efficacy, Tangible Support, Emotional Support, Self Esteem, and Hope in HIV Positive and HIV Negative Women

The analysis of covariance procedure was employed to address research question 3, are there significant differences in self-efficacy (condom use, monogamy, health services seeking, sex without drug/alcohol use), social support, self esteem, and hope in

Table 8

Significant Correlations (Pearson's r) Between Health Promotion Factors and Sex Related Health Promotion Behaviors of HIV Negative Women (N = 81) (p < .05)

	<u>Sex Related Health Promotion Behaviors</u>			
	Condom Use	Health Services Seeking	Monogamy	Sex Without Drug/alcohol Use
<u>Health Promoting Factors</u>				
Hope	NS	NS	.34	NS
Monogamy Self-efficacy	NS	NS	.51	NS

Note. NS = Not Significant.

*p < .05.

women who are infected with HIV and those who are not infected with HIV? (see Table 9). Results revealed no significant differences (p < .05) on six (of eight) health promoting factors: health services seeking self-efficacy, monogamy self-efficacy, sex self-efficacy without drug/alcohol use, tangible support, emotional support, and level of hope. However, statistically significant differences between HIV positive and HIV negative respondents were found for condom use self-efficacy and self esteem (see Table 9). Lower adjusted mean condom use self-efficacy scores were found for HIV negative women than for HIV positive women. Also, the adjusted mean self esteem score for HIV negative women was significantly different from that of HIV positive women. A Lower mean self esteem score indicated that less self esteem was perceived by HIV positive women than by HIV negative women (see Table 2 and Table 4).

Table 9

Least Squares Means Results for Significant Health Promoting Factors After Adjusting for Age, Income, and Education by HIV Group (Using Ancova) (N = 170) (p < .05)

	<u>HIV+ Group</u>	<u>HIV- Group</u>	
	\bar{X} adj (SE)	\bar{X} adj (SE)	(p)
<u>Health Promoting Factors</u>			
Condom Use Self-efficacy	3.70 (.12)	3.19 (.12)	.00*
Self Esteem	18.67 (.57)	16.49 (.55)	.01*

*p < .05.

Differences in Sex Related Health Promotion Behaviors of
HIV Positive and HIV Negative Women

To answer question 4, are there significant differences in sex related health promotion behaviors of women who are infected with HIV and those who are not infected with HIV?, the analysis of covariance procedure was used (see Table 10). The demographic variables age, income, and education were adjusted for through the analysis of covariance procedure. Adjusting for these key variables was deemed important since a number of sex related health promotion behaviors in women have been reported to vary relative to sociodemographic status and age (Mallory & Fife, 1999; Katz, 1997). Results revealed no statistically significant (p < .05) between group (HIV positive, HIV negative) differences on three behaviors; monogamy, health services seeking, and sex without drug/alcohol use. However, a significant between group difference existed on

condom use (see Table 10). Mean condom use scores indicated that compared to HIV positive women, HIV negative women reported less frequent condom use (see Table 3 and Table 5).

Table 10

Least Squares Means Results for Significant Sex Related Health Promotion Behavior After Adjusting for Age, Income, and Education by HIV Group (Using Ancova)

(N = 170) (p < .05)

	<u>HIV+ Group</u>	<u>HIV- Group</u>	
	<u>X̄ adj (SE)</u>	<u>X̄ adj (SE)</u>	<u>(p)</u>
<u>Sex Related Health</u>			
<u>Promotion Behavior</u>			
Condom Use	4.20 (.17)	2.77 (.17)	.00*

*p < .05.

Self-efficacy, Social Support, Self Esteem, and Hope as Predictors of Sex Related Health Promotion Behaviors in HIV Positive and HIV Negative Women

Multivariate multiple regression analysis was performed to address question 5, do self-efficacy, social support, self esteem, and hope predict sex related health promotion behaviors in women who are infected with HIV and those who are not HIV infected. Multiple regression analysis allowed for the development of the most suitable prediction model explaining variance around the study's outcome variables (condom use, monogamy, health services seeking, sex without drug/alcohol use).

For HIV positive and HIV negative women, independent variables from the Sexual Health Promotion Behaviors Model were collectively regressed on dependent variables in the model. Regressors included: (a) condom use self-efficacy, (b) monogamy

self-efficacy, (c) health services seeking self-efficacy, (d) sex self-efficacy without drug/alcohol use, (e) hope, (f) self esteem, (g) tangible support, (h) and emotional support. Age, education, and income were included in the model to control for these important variables which have been associated with a number of sex related health promotion behaviors in women (Mallory & Fife, 1999; Katz, 1997). Variables remained in the model provided they obtained significance at $p < .10$.

Table 11 depicts significant multivariate multiple regression analysis results for response variables condom use, monogamy, health services seeking, and sex without drug/alcohol use after adjusting for age, education, and income in HIV positive women. Table 12 presents significant multivariate multiple regression analysis results for response variables, monogamy, health services seeking, and sex without drug/alcohol use after adjusting for age, education, and income in HIV negative women.

Table 11

Multivariate Multiple Regression Analysis for Significant Predictors of Sex Related Health Promotion Behaviors After Adjusting for Age, Income, and Education for HIV Positive Women (p < .10).

<u>Response Variable</u>	<u>Parameter Estimate</u>	<u>Standard Error</u>	<u>R²</u>	<u>Standardized Estimate</u>
Condom Use				
<u>Predictor:</u>				
Condom Use Self-efficacy	.71	.16	.19	.51
Monogamy				
<u>Predictor:</u>				
Monogamy Self-efficacy	.27	.15	.03	.21
Sex Self-efficacy Without Drug/alcohol Use	.51	.12	.18	.51
Health Services Seeking				
<u>Predictor:</u>				
Monogamy Self-efficacy	-.41	.19	.06	-.28
Sex Without Drug/alcohol Use				
<u>Predictor:</u>				
Health Services Seeking Self-efficacy	.28	.16	.03	.22
Sex Self-efficacy Without Drug/alcohol Use	.34	.16	.05	.27

*p < .10.

Table 12

Multivariate Multiple Regression Analysis for Significant Predictors of Sex Related Health Promotion Behaviors After Adjusting for Age, Income, and Education for HIV Negative Women (p < .10).

<u>Response Variable</u>	<u>Parameter Estimate</u>	<u>Standard Error</u>	<u>R²</u>	<u>Standardized Estimate</u>
Monogamy				
<u>Predictor:</u>				
<u>Monogamy Self-efficacy</u>	<u>.75</u>	<u>.14</u>	<u>.26</u>	<u>.82</u>
Health Services Seeking				
<u>Predictor:</u>				
<u>Emotional Support</u>	<u>.03</u>	<u>.02</u>	<u>.05</u>	<u>.25</u>
Sex Without Drug/alcohol Use				
<u>Predictor:</u>				
<u>Sex Self-efficacy Without Drug/alcohol Use</u>	<u>.20</u>	<u>.09</u>	<u>.09</u>	<u>.34</u>

*p < .10.

HIV Positive Group Multivariate Multiple Regression Analysis

Of the HIV positive respondents, 70 completed data needed for multiple regression analysis (see Table 11). Results identified condom use self-efficacy as a significant predictor ($p < .10$) of condom use [$B = .71$ ($R^2 = .19$)]. Monogamy self-efficacy and the ability to engage in sex without drug/alcohol use predicted monogamy [$B = .27$ ($R^2 = .03$); $B = .51$ ($R^2 = .18$), respectively]. In addition, monogamy self-efficacy predicted decreased health services seeking [$B = -.41$ ($R^2 = .06$)]. There were two significant ($p < .10$) predictors of sex without drug/alcohol use in HIV positive women: health services seeking self-efficacy [$B = .28$ ($R^2 = .03$)] and confidence in the ability to engage in sex without drug/alcohol use [$B = .34$ ($R^2 = .05$)].

HIV Negative Group Multivariate Multiple Regression Analysis

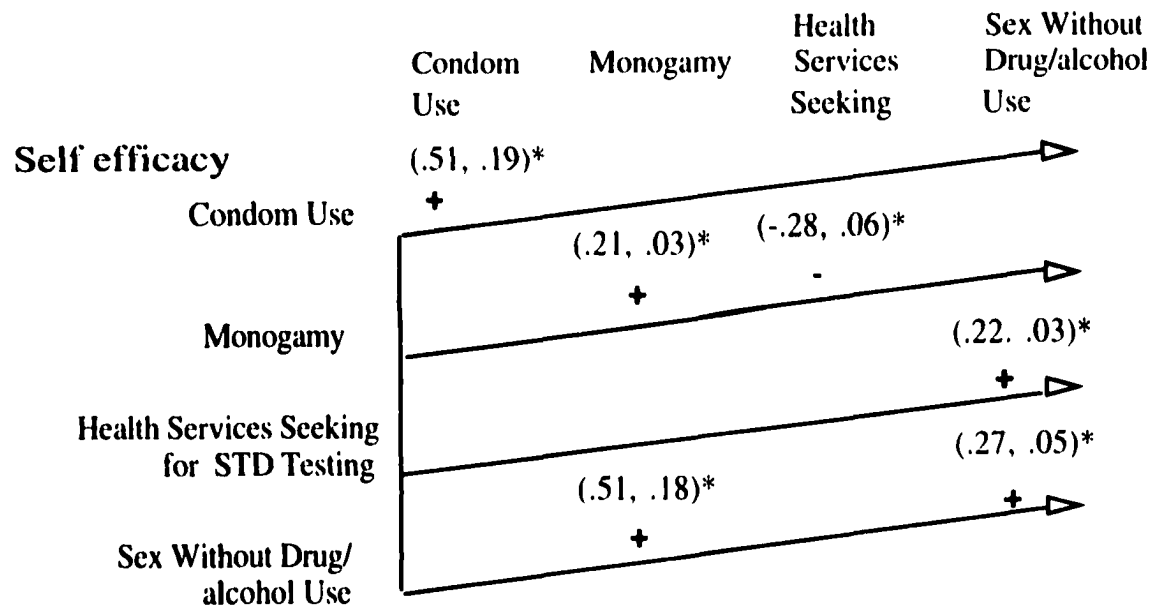
There were 64 HIV negative women who completed data needed for multivariate multiple regression analysis for the dependent variables monogamy and health services seeking and 65 women who completed data needed for multiple regression analysis for the dependent variable sex without drug/alcohol use (see Table 12). Results indicated that for HIV negative women, monogamy self-efficacy predicted monogamy [$B = .75$ ($R^2 = .26$)] and emotional support predicted health services seeking [$B = .03$ ($R^2 = .05$)]. In addition, for HIV negative women, sex without drug/alcohol use was predicted by confidence in the ability to engage in sex without drug/alcohol use [$B = .20$ ($R^2 = .09$)].

Summary. Multivariate multiple regression analysis results revealed that pursuant to the Sex Related Health Promotion Behaviors Model, there was a greater number of significant ($p < .10$) relationships for HIV positive women (6) than for HIV negative women (3). There were also between group (HIV positive, HIV negative) similarities and differences on the regression analysis results. For HIV positive women (see Figure 4) and HIV negative women (see Figure 5), significant predictors of monogamy and sex without drug/alcohol use were monogamy self-efficacy and sex self-efficacy without drug/alcohol use, respectively. Between group (HIV positive, HIV negative) differences existed for predictors of health services seeking, sex without drug/alcohol use, and condom use behavior.

While monogamy self-efficacy predicted decreased health services seeking in HIV positive women, for HIV negative women, emotional support predicted increased health services seeking. Sex without drug/alcohol use in HIV positive women was predicted not only by sex self-efficacy without drug/alcohol use (as in HIV negative women), but also by health services seeking self-efficacy. While condom use self-efficacy predicted condom use in HIV positive women, no significant predictors were found for condom use in HIV negative women.

Figure 4. Sex related health promotion behaviors model for HIV positive women

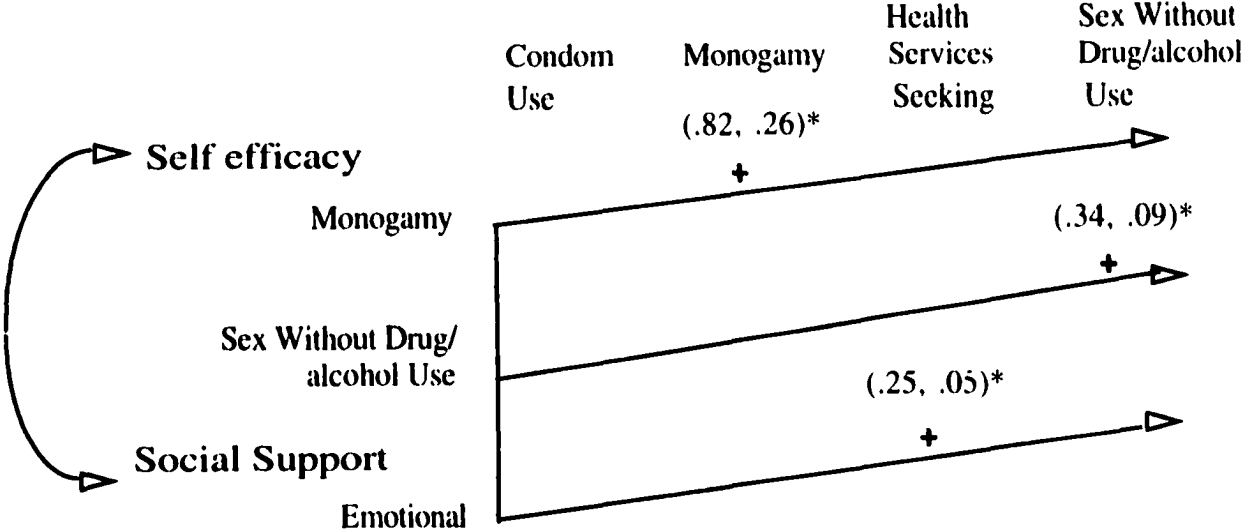
Health Promoting Factors → **Sex Related Health Promotion Behaviors**



* (standardized parameter estimate, R²)

Figure 5. Sex related health promotion behaviors model for HIV negative women

Health Promoting Factors → **Sex Related Health Promotion Behaviors**



* (standardized parameter estimate, R²)

CHAPTER V

Discussion, Implications, and Conclusion

This study investigated variables in the Sexual Health Promotion Behaviors Model (SHPBM) (self-efficacy, hope, social support, self esteem, condom use, monogamy, health services seeking for STDs, sex without drug/alcohol use) for HIV positive women and how they compared in HIV negative women. Specific research questions addressed in the study were: (1) are the variables in the SHPBM (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are infected with HIV? (2) are the variables in the SHPBM (self-efficacy, hope, social support, self esteem) significantly associated with the sex related health promotion behaviors in women who are not infected with HIV? (3) are there significant differences in self-efficacy, social support, self esteem, and hope in women who are infected with HIV and those who are not infected with HIV? (4) are there significant differences in sex related health promotion behaviors of women who are infected with HIV and women who are not infected with HIV? and (5) do self-efficacy, social support, self esteem, and hope predict sex related health promotion behaviors in women who are infected with HIV and those who are not infected with HIV?

Some HIV positive women continue to engage in sex related activity that can further compromise their health. Failure by the women to practice sex related health promoting behavior is similar to HIV negative women who engage in sex related behavior that place them at risk for contracting STDs. Since hope, self-efficacy, self esteem, and social support have contributed to diverse health promoting behavioral outcomes, these factors were included in the SHPBM to examine the study's research questions.

Study results revealed relationships among variables in the SHPBM that can be useful in promoting sex related health outcomes of HIV positive and HIV negative women. For HIV positive and HIV negative women, monogamy self-efficacy and sex self-efficacy without drug/alcohol use predicted monogamy and sex without drug/alcohol use, respectively. Sex without drug/alcohol use also predicted monogamy. For HIV positive women, health services seeking self-efficacy predicted sex without drug/alcohol use and monogamy self-efficacy predicted decreased health services seeking for STD testing. For HIV negative women, emotional support predicted an increase in health services seeking. While condom use self-efficacy predicted condom use in HIV positive women, no variable in the SHPBM predicted condom use in HIV negative women. This chapter includes study limitations, interpretation of findings regarding relationships among variables in the SHPBM, and implications of study results.

Study Limitations

Results should be interpreted with caution due to the use of non random sampling and non experimental design. Potential for selection bias exists. The sample consisted only of women who had volunteered to participate. The study's population may therefore differ from HIV positive and HIV negative women who chose not to volunteer. Sample groups were relatively homogeneous (HIV infected and HIV uninfected African American women in the South). Therefore, it would not be valid to generalize the findings to the general population of HIV infected and uninfected women.

There are always difficulties with any condom use measure because frequency and consistency measurements are subjective and rely upon recall. The optimal time for reliable recall of sexual behavior is not known (Sheeran & Abraham, 1994). To decrease the effects of possible recall bias, sex behavior measurement items requested that respondents confine their recall to behavior that occurred within the past 12 months.

Another limitation is that one item measures were developed to operationalize behavior specific self-efficacy factors and sex related health promotion behaviors

examined. Although multi item measures with established reliability and validity are desirable (Carmines & Zeller, 1979), no suitable scales were available to measure the behavior specific self-efficacy variables and specific behaviors investigated. Four doctorally prepared experts in HIV/AIDS and women's research contributed to development of the one item measures. Regardless of limitations, this study is important in beginning to understand factors associated with sex related health promotion behaviors in HIV positive women and how those factors compare in HIV negative women.

Group Characteristics and Associations of Health Promoting Factors and Sex Related Health Promotion Behaviors

While the HIV infected sample reflects the population of HIV positive women in South/North Carolina and Georgia in terms of race, age, and income, it did not mirror the demographics of the HIV negative group which was younger, more educated, and had a higher income. However, these results with respect to respondents' demographic characteristics are similar to findings of other investigators (Swartz, Markowitz, & Sewell, 1998; Shartz-Hopko et al., 1996; Friedland, Renwick, & McColl, 1996) who showed that many HIV infected women are often poor, underemployed, and under-educated. Recognizing that there are socioeconomic influences on some sex related health promotion behaviors in women, results of relationships between HIV positive and HIV negative women were adjusted on age, education, and income.

HIV positive women. HIV positive respondents perceived adequate levels of tangible and emotional support; findings that underscore those of other studies (Nunes et al., 1995; Nicholas & Webster, 1993; Gray, 1997; Shartz-Hopko et al., 1996) revealing adequate levels of perceived social support among this population. Not only do some HIV positive individuals perceive adequate social support, but HIV status has been reported to be unrelated to level of support (Nunes et al., 1995). Perceived support by HIV positive women in this study mirrors results by Nicholas and Webster who found that even though HIV positive respondents were satisfied with perceived support in

general, they still expressed a need for more emotional support. Emotional support for HIV positive women in this study was adequate, yet, it was perceived as less available than tangible support.

One explanation for the perception of lower (than tangible support) perceived emotional support by HIV positive women is that since the women received services from HIV/AIDS service organizations, tangible support may have been more readily available through the provision of "institutionalized" services such as transportation, assistance with housing, child care, etc. However, emotional support or expressions of love, affirmation, or acceptance is not easily institutionalized and may not have been as accessible as tangible support. Women with HIV continue to be stigmatized, a status that can further compromise development and maintenance of emotionally supportive relationships. Even though social support was not associated with sex related health promotion behaviors of HIV positive women, the perception of support by HIV positive women is consistent with previously reported research (Barroso, 1997; Metcalfe et al., 1998) that highlight the importance of social support in this population.

Despite having a highly stigmatized disease, HIV infected women had surprisingly high levels of hope and self esteem. This finding, relative to hope, is consistent with hypothesis by Dufault and Martocchio (1995) that hope varies and changes over time and is always present through experiences of health as well as experiences of illness. Consistent with results in this study and Dufault and Martocchio's hypothesis, hopefulness of HIV infected men and women has been documented in other published reports (Cutcliff, 1996; Carson Soeken, Shanty, and Terry, 1990; Valente et al., 1993).

The fact that HIV infected women reported adequate self esteem is consistent with a study (Gardner, Frank, & Amankwaa, 1998) that revealed even higher levels (compared to HIV positive women in the present study) of self esteem for a group of mostly African American women who tested positive for various STDs. However,

consistent with a study by Abood & Conway (1999), self-esteem was not associated with specific sex related health promotion behavior. These results reveal important information about social support, self esteem, and hope in HIV infected women, yet neither factor was associated with condom use, monogamy, health services seeking to be tested for STDs or sex without drug/alcohol use. It is possible that while social support, self-esteem, and hope are positive indicators of lifestyle, they may not be associated with specific sex related behavior in HIV positive women due to the effect of other variables exerting greater influence.

Of greater interest, is the nature of a number of associations found between self-efficacy health promoting factors and sex related health promotion behaviors. Not only did HIV positive women engage in frequent condom use, monogamy, and sex without drug/alcohol use. They also held strong efficacy beliefs about their ability to engage in monogamy, sex without drug/alcohol use and condom use. Consistent with Bandura's (1994) view that self-efficacy beliefs can interpret or predict specific behavior, as condom use self-efficacy increased in HIV positive women, so did condom use. This finding is consistent with other studies (Brown, 1998; Semaan et al., 1997) investigating similar groups of HIV positive women. In addition, as the women's monogamy self-efficacy increased, their monogamous behavior increased and as their ability to engage in sex without drug/alcohol use increased so did their participation in sex without the use of drugs or alcohol.

Although the women reported strong efficacy beliefs to seek health services seeking for STD testing, they seldom engaged in STD testing. Not only did condom use, monogamy, and sex without drug/alcohol use increase in relation to specific self-efficacy beliefs, but self-efficacy associations were also found across related domains of behavior (Bandura, 1977; Maibach & Murphy, 1995). The women's self-efficacy beliefs for monogamy, sex without drug/alcohol use, and health services seeking were associated with increased condom use. Self-efficacy for health services seeking, monogamy, and sex

without drug/alcohol use was associated with increases in: (a) sex without drug/alcohol use, (b) sex without drug/alcohol use, and (c) monogamy, respectively. These findings are consistent with Bandura's (1977) view of between-domain generality that espouses the importance of relationships of self-efficacy across related domains of behavior. It has been posed that individuals tend to express a wide range of efficacy beliefs across a variety of domains of functioning (Maibach & Murphy, 1995). Maibach and Murphy offered an example of Bandura's (1977) view of between-domain generality: "People who are confident that they can adopt a healthier diet may or may not be confident in their capability to exercise regularly." Nevertheless, confidence in the ability to perform both behaviors (diet, exercise) may be associated with a common behavioral outcome such as weight loss.

These results revealed relationships between behavior specific self-efficacy beliefs and specific behaviors (e.g., monogamy self-efficacy and monogamy) as well as relationships of self-efficacy beliefs across domains of associated sex related health promotion behaviors. It is reasonable to expect that efficacy beliefs for one type of activity will generalize to other activities that are governed by similar skills (Maibach & Murphy, 1995). Self-efficacy relationships vary by situations and by populations (Bandura, 1986). The population of HIV infected women, having a potentially fatal disease that can be sexually transmitted to others, are faced with unique situations and needs (Bunting, Bevier, & Baker, 1999). Likewise, sex related health promoting behavior is complex with diverse factors associated with it. For example, it is generally accepted that condom use is associated with a number of other behavioral influences, including technical skills for condom use or the practice of monogamy. Similarly, decisions to engage in monogamy are associated with other behavioral factors including relationship negotiation or employment. Some women who are underemployed may depend upon multiple sex partners for financial support thereby negating monogamous behavior. Based upon these kinds of interrelated relationships among diverse factors and sex

related health promotion behaviors, it is not unusual that results of this study revealed self-efficacy relationships across related domains of behavior.

These findings focus attention on the availability of services designed to meet the needs of HIV positive women. It has been reported (Russell & Smith, 1998), that some HIV/AIDS services important to helping women meet their psychosocial, health, and standard of living needs (bio-psycho-social) are fragmented. It is possible that fragmentation of services for HIV positive women is related to failure to recognize the complexity and interrelatedness of women's needs including those associated with sex related behaviors and failure to tailor HIV/AIDS services accordingly. There may be a need for HIV/AIDS services to comprehensively address varied facets of women's sex related health promotion behavior including attention to relationship issues and domestic violence, future STD testing, and financial dependence, etc. These findings highlight the interrelatedness of sex related health promotion behaviors of HIV positive women which may help to eliminate fragmentation of services while addressing health promotion needs of HIV positive women.

While condom use by HIV positive women increased in relation to diverse self-efficacy factors (condom use, health services seeking, monogamy, and sex without drug/alcohol use), the women's beliefs about their ability to use condoms, practice monogamy, and engage in sex without drug/alcohol use were also associated with decreased health services seeking to be tested for STDs. It is possible that the women's confidence in their ability to engage in condom use, monogamy, sex without drug/alcohol use, and health services seeking, offered a sense of well-being that negated the need for STD testing. Bandura (1977) argued that the individual who desires change possesses adequate incentive to change, feels sufficiently threatened by some potential or actual environmental event, fully believes outcomes can be influenced by behavior, and does not face major barriers to action. It is possible that since the HIV positive women were

already infected with HIV, they may not have felt threatened, perceived an incentive to change, or recognized the need to participate in additional or continued STD testing.

More study is needed to understand the underpinnings of these findings. Are HIV positive women aware of their increased vulnerability to contracting STDs and HIV reinfection? Are HIV infected women cognizant of the benefits associated with engaging in sex related health promotion behavior? What are the barriers to continued STD testing by HIV positive women who engage in unprotected sex? Understanding answers to these questions may shed light on another findings in this study (e.g., HIV positive women holding strong efficacy beliefs about the ability to engage in condom use, monogamy, and sex without drug/alcohol use engaged in decreased health services seeking for STD testing).

HIV negative women. HIV negative women perceived a high level of tangible social support, self-esteem, and hopefulness and a moderate level of emotional support. This finding is consistent with a published report (Woods, Lentz, & Mitchell, 1993) investigating health promoting practices in a large (N = 470) group of well, racially diverse, women who perceived high levels of self esteem and social support. Similarly, other studies have reported high levels of self-esteem (Abood & Conway, 1992; Muhlenkamp & Sayles, 1986) and social support (Muhlenkamp & Sayles, 1989) in populations without chronic illness.

Not only were HIV negative women hopeful, had high self esteem, and felt generally supported, they also held strong efficacy beliefs regarding condom use, monogamy, and sex without drug/alcohol use. Consistent with Bandura's (1986) hypothesis, HIV negative women who held strong efficacy beliefs about the ability to practice monogamy, practiced increased monogamy. Hopeful women were also more likely to practice monogamy. As indicated earlier in this discussion, complex interrelated factors influence participation in sex related behavior. For some women who seek intimate relationships, hopefulness may be a motivating factor for engaging in

monogamy. Aside from these findings, few other studies have reported the role of hope to specific sex related health promotion behavior even though the positive role of hope to a health promoting lifestyle is well recognized (Fowler, 1997).

It is noteworthy that HIV negative women held strong efficacy beliefs about their ability to use condoms. However, they seldom engaged in condom use. Infrequent condom use by the women mirrors findings in other studies (Sikkema et al., 1996; Soet et al., 1998; Longshore et al., 1998; Buunk et al., 1998; Semaan et al., 1997). However, unlike other studies that focused primarily on condom use behavior, this study revealed another sex related behavior that compromises health promotion outcomes in women: although perceiving the ability to seek health services for STD testing, HIV negative women rarely sought testing for STDs.

There are a number of potential reasons why HIV negative women rarely sought STD testing. Researchers (Carey, Gordon, Morrison-Beedy, & McLean, 1997; Holtzman, Rubinson, Bland, & McQueen, 1998; Abercrombie & Booth, 1997) have offered fatalism linked with ambivalence, stigma and discrimination, and low perceived risk as probable barriers to STD/HIV testing by women. Since neither of these possible correlates were measured in this study, the exact reason why the women seldom sought STD testing is unknown. However, the fact that the women seldom sought testing is consistent with other findings that reported low to extremely low prevalence for voluntary HIV testing for women as well as men (Holtzman et al., 1998; Weber, Frey, Horsley, & Gwinn, 1997; Weber et al., 1997).

Between Group Differences and Predictors of Sex Related Health Promotion Behaviors

Analyses were conducted to determine the influence of factors believed to predict sex related health promotion behaviors in HIV positive and HIV negative women and between group (HIV positive, HIV negative) differences on these factors. Since findings reflect analyses adjusted by age, income, and education, it is unlikely that these demographic variables contributed to between group differences. Findings revealed that

condom use self-efficacy differed significantly between HIV positive and HIV negative women with HIV positive women holding stronger self-efficacy beliefs. In addition, similar to findings in other studies (Soet et al., 1998; Longshore, 1998), self-efficacy predicted condom use in HIV infected women, yet in this study, it did not predict condom use in HIV uninfected women.

A possible reason accounting for greater condom use self-efficacy in HIV positive women is that, different from HIV negative women who seldom used condoms, the HIV positive women practiced almost consistent condom use. Just as condom use skills training interventions have been shown to influence condom use in women (Kelly et al., 1994), it is possible that the women's frequent experience (skills practice) with condom use contributed to condom use self-efficacy which, in turn, influenced increased condom use. Consistent with Bandura's (1986) view that the origin of efficacy beliefs includes experiences of performance accomplishments, it is likely that experience with condom use is why self-efficacy predicted condom use in HIV positive women, yet failed to predict condom use in HIV negative women. Similarly, monogamy self-efficacy of HIV positive and HIV negative women predicted monogamous behavior while both groups were also similar in their practice of frequent monogamous behavior.

Susceptibility for STD transmission might also account for almost always condom use in HIV positive women versus infrequent condom use in HIV uninfected women. It is unknown the extent to which HIV positive women were aware of their vulnerability to contracting STDs through unprotected sexual activity. However, it is likely that the women, being aware of their ability to transmit HIV/STDs to others, engaged in almost always condom use to protect from infecting others.

Unlike HIV positive women, HIV negative women may not have perceived a level of risk (to contract STDs) prompting their consistent use of condoms (Timmons & Sowell, in press). Varying degrees of perceived risk for contracting STDs have been attributed to HIV negative women (Sikkema et al., 1996). Studies (Dolcini, Catania,

Choi, Fullilove, & Coates, 1996; Morrison-Beedy, 1997) have reported that many HIV negative women perceive a low risk for contracting HIV. Timmons and Sowell (in press), investigating a sample of HIV negative, heterosexual, African-American women, found that some of the women did not perceive themselves as susceptible to HIV due to participation in "safe relationships." Safe relationships were characterized by trust and faith that the union was mutually monogamous thereby negating the need for further protection from STDs. It is interesting that although women in the Timmons and Sowell study depended on safe relationships to protect themselves from HIV, they also indicated that "a man will be a man" incapable of engaging in safe relationships. That the HIV negative women in this study practiced condom use only occasionally to sometimes is a major issue of concern since consistent condom use continues to be the only physical barrier recommended to protect against HIV transmission (CDC, 1998).

Another reason that may account for more frequent (compared to HIV negative women) condom use in HIV positive women is that infected women were recruited from various HIV/AIDS service organizations where health promotion education and training (including the importance of condom use) is likely to have occurred within the context of counseling and testing services. Counseling and testing is the most common service provided within HIV/AIDS service organizations (Russell and Smith, 1998). After investigating HIV/AIDS services experiences in a sample of 71 ethnically diverse HIV positive women, Simoni et al. (1995) found that over half of the respondents recalled receiving information about using condoms correctly.

A striking difference existed between HIV positive and HIV negative women on predictors of health services seeking. For HIV positive women, confidence in the ability to practice monogamy predicted decreased health services seeking to be tested for STDs. This finding may be associated with decreased perceived risk for contracting STD or as reported by Timmons and Sowell (in press), the false perception of protection from contracting HIV through participation in "safe" relationships. HIV positive women may

have perceived that participating in monogamous relationships negated the need to be tested for other STDs.

For HIV negative women, emotional support (conceptualized as the perception of support through love, comfort, and affection from others) predicted an increase in health services seeking. It is reasonable to surmise that through the influence of social norms, emotional support may influence participation in sex related health promotion behavior. Due to the complex nature of sex related behavior, reasons why emotional support predicted health services seeking in HIV negative women and did not in HIV positive women are not obvious. However, differences in the nature of social networks of HIV positive and HIV negative women may play a role in interpreting this finding. HIV positive and HIV negative women have been reported to have different social networks (El-Bassel, Cooper, Chen, Schilling, 1998). HIV positive women have been found to more likely be associated with a higher number of HIV positive persons than HIV negative women. It is possible that since HIV positive individuals are already infected, they may not perceive the need for STD testing. In turn, the women's social influence on other HIV positive persons may mirror this view. On the other hand, the social network of HIV negative women may be more likely to perceive a higher risk for contracting STDs and, in turn, the need for STD testing. In this way, social support may influence health services seeking by HIV negative women, due to values of the women's social network members.

Finally, self-esteem did not predict specific sex related health promotion behaviors in HIV positive or HIV negative women. Although HIV positive women had moderately high self esteem, it was significantly less than that perceived by HIV negative women. This finding is consistent with another report that found young adult females (mostly African American) who tested negative for STDs perceived significantly higher levels of self-esteem than women who tested positive for STDs (Gardner, et al., 1998). Although self-esteem may be important to the general practice of wellness behavior

(Abood & Conway, 1992), based upon results in this study, it may not be an adequate predictor of specific sex related behavior.

While differences existed between HIV positive and HIV negative women on predictors of sex related health promotion behaviors, both groups share the importance of specific self-efficacy beliefs on behavior. For HIV positive and HIV negative women, monogamy self-efficacy and sex self-efficacy without drug/alcohol use predicted monogamy and sex without drug/alcohol use, respectively. For HIV positive women, health services seeking self-efficacy also predicted sex without drug/alcohol use. Monogamy self-efficacy predicted decreased health services seeking for STD testing in HIV positive women. For HIV negative women, emotional support predicted an increase in health services seeking. While condom use self-efficacy predicted condom use in HIV positive women, none of the health promoting factors investigated predicted condom use in HIV negative women.

Implications

The results of this study have education, practice, and research implications for sex related health promotion interventions for women. Nurses play an important role in health promotion since they assess, teach, and counsel so that clients can make informed, responsible, decisions about their personal health. Nurses can disseminate information about factors associated with promoting sex related health behavior (emotional support, condom use self-efficacy, monogamy self-efficacy, health services seeking to be tested for STD self-efficacy, and sex self-efficacy without drug/alcohol use) in women as well as formulate interventions that help women develop health promoting skills. Nurses can also incorporate findings of this and similar research into practice and initiate related research.

Nurses are responsible for health education that targets a variety of broad and narrowly defined populations. Disseminating information about the results of this study (factors associated with promoting sex related health promotion behaviors of HIV

positive and HIV negative women) in classroom (nursing education) and continuing education settings and professional meetings and associations can increase awareness of sex related behavior health promotion needs of women. Similarly, attention should be given to the importance of client education on the roles of emotional support and behavior specific self-efficacy to sex-related health promotion behaviors. Although education, alone, is not likely to predict behavior change, education remains an important component of behavior change. Therefore, client education, as well as affirmation of clients' existing knowledge about sex related health promotion behavior may influence their health promotion outcomes. Increased awareness and client education may, in turn, positively influence nursing care outcomes through the development of effective interventions.

Measurement of self-efficacy can be useful in identifying persons in greater need of sex related behavior health promotion intervention. Study results suggest that while some sex related health promotion behavior interventions for women vary by HIV serostatus, other interventions may be common to both HIV positive and HIV negative women. Attention to group differences should be considered in the development of effective sex related health promotion interventions. For example, interventions to increase STD testing by HIV negative women might warrant measures to ensure that the women have access to adequate emotional support resources. Whereas, STD testing interventions for HIV positive women may require different behavioral influences.

Sex related health promotion interventions for HIV positive and HIV negative women might seek to strengthen self-efficacy beliefs for specific sex related behavior. Study results indicate that health promotion programs should attempt to enhance self-efficacy through skill development and opportunities for application of those skills through repeated training sessions, return demonstrations, or role playing exercises. Such an approach would ideally target all women and especially HIV positive women.

Since HIV positive and HIV negative women are both in need of sex related health promotion interventions, efforts that enable women to adopt health promoting behaviors should be planned to reach women in settings where they are likely to receive routine health care. All HIV infected women may not receive care in HIV/AIDS service organizations. Devising self-efficacy health promotion interventions within the constraints of diverse health care settings should be prioritized. The benefits of such training might merit the availability of interventions within settings where all sexually active women receive care.

Other, nontraditional, avenues for implementing sex related health promotion interventions might be warranted. For example, support groups have traditionally operated around a common chronic illness (e.g., cancer, heart disease). Due to the importance of sex related health promotion intervention for women, there may be a need to develop health promotion "support groups" within which diverse sex related health promotion issues could be addressed. Since a number of sex related health promotion behaviors are the same for HIV positive and HIV negative women, strategies implemented within the group could be HIV status nondescript, based instead on various factors associated with helping women meet the diverse needs (bio-psycho-social) that influence sex related health promotion behavior. Participation in the group might be facilitated through incentives, referrals, or volunteerism.

There is little information pertaining to sex related health promotion behaviors of women, especially HIV infected women (Clark et al., 1997). While adding to the literature on HIV/AIDS care for women, this study revealed the need for future research examining participation in sex related health promotion behaviors. Researchers should consider how self-efficacy develops in women and whether strategies such as modeling and role playing significantly increase women's efficacy beliefs. What are the interventions that strengthen emotional support resources and/or self-efficacy beliefs in HIV positive and HIV negative women in need of greater sex related health promotion

behavior? Experimental studies that examine the influence of emotional support on adherence to sex related health promotion behaviors in HIV infected women are also indicated.

The degree to which behavior specific self-efficacy beliefs are related across behavioral domains should be examined. For example, how does self-efficacy for monogamy or financial dependency on others relate to behaviors that promote sexual health and protect from STDs? Timmons and Sowell (in press) explored factors associated with sex related HIV infection prevention practices, using a sample of 19 women who were demographically similar to the sample in this study. Some of the women in the Timmons and Sowell study reported that beliefs regarding their ability to manage their lives in an environment characterized by racial discrimination and socioeconomic hardships was, indeed, associated with their ability to engage in sex related health promotion outcomes.

Finally, the results of this study indicate a need for interventions that influence consistent condom use in women, especially HIV negative women. Since the study revealed differences on condom use (and condom use related factors) between HIV positive and HIV negative women, this finding may inform future research that seeks to further understand and predict condom use behavior in women.

Results of this study revealed factors responsible for participation in sex related health promoting behaviors (condom use, monogamy, sex without drug/alcohol use, health services seeking for STDs) that are of critical importance to the health of HIV positive and HIV negative women. Therefore, the implication of these results is that the findings can enhance health promotion outcomes of women.

Conclusions

This study provided information about sex related health promotion behaviors of HIV positive and HIV negative women that should be addressed in efforts to promote women's health. Behavior specific self-efficacy was associated with specific sex related

health promotion behaviors as well as with related domains of behavior and, as such, provides a theoretical basis from which to develop nursing interventions. By showing the importance of specific self-efficacy beliefs and emotional support to participation in sex related health promotion behaviors of HIV positive and HIV negative women, this study has highlighted important health promotion needs of women.

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Appendix A

Demographic Questionnaire

- ID#** _____ **Date:** _____
1. What is your age? _____
 2. What is your race?
1. African American 2. Caucasian 3. Hispanic/Spanish Origin 4. Other
 3. How close do you live to a town or city? *(Circle one)*
1. In town 2. Within 10 miles of town 3. More than 10 miles from town
 4. How long have you lived in this area? Years _____ Months _____
 5. What type of building do you live in? *(Circle one)*
1. Single family home 2. Duplex 3. Apartment
4. Shelter 5. Mobile home 6. Hotel/Boarding home
7. Hospice 8. Other _____
 6. What is your marital status? *(Circle one)*
1. Single-living alone 2. Single, with children 3. Married
4. Common Law 5. Living with partner 6. Separated
7. Divorced 8. Widowed 9. Other _____
 7. If married or living with a partner, is this person HIV+? ___ Yes ___ No
___ Not Applicable
 8. Has anyone close to you died from HIV or AIDS? ___ Yes ___ No
If yes: Who? _____
(Give relationship such as brother or friend not the person's name)
 9. How many years of school have you completed? _____
 10. What is your religion? *(Circle one)*
1. Baptist 2. Other Protestant 3. Catholic
4. Jewish 5. Muslim 6. Methodist/AME
7. No specific religious preference 8. Other _____
 11. Do you have a paying job? *(Circle one)* 1. No 2. Yes
 12. **If yes:** In the past month (on average) how many hours per week did you work? _____

13. Do you or another member of your household get any of the following? (Circle a response for each one.)

- | | | |
|-----------------------|-------|--------|
| Unemployment benefits | 1. No | 2. Yes |
| WIC | 1. No | 2. Yes |
| AFDC | 1. No | 2. Yes |
| SSI/SSD | 1. No | 2. Yes |
| Food stamps | 1. No | 2. Yes |
| V.A. | 1. No | 2. Yes |
| Retirement | 1. No | 2. Yes |

Other (Please specify) _____

14. What is your total household income per year? Option A \$ _____
If you are uncomfortable with giving an exact amount, please circle one of the options below.

Option:

- | | | |
|------------------------|------------------------|------------------------|
| 1. 0 - \$4,999 | 2. \$5,000 - \$9,999 | 3. \$10,000 - \$19,999 |
| 4. \$20,000 - \$29,999 | 5. \$30,000 - \$49,999 | 6. \$50,000 + |

15. How many children do you have? _____

16. Are you currently sexually active? __ Yes __ No

If yes: How frequently (on average) do you engage in sexual activities?

- a. Several times a week
- b. Once a week
- c. Once every two weeks
- d. Several times a month
- e. Less than once a month

Appendix B

Health Promotion Self-efficacy Items

The following statements describe how you might feel about your ability to perform certain activities. On a scale of 1 to 4, rate to what extent you are able to perform each activity (4=Always 3=Almost Always 2=Sometimes 1=Never). CIRCLE your answer. Remember to rate each activity based on how you feel *TODAY*.

	Always	Almost	Sometimes	Never
	4	3	2	1
1. I am able to overcome all obstacles in order to obtain preventive health services for myself.	4	3	2	1
2. I am able to negotiate condom use with my partner whenever I have sex.	4	3	2	1
3. I am able to say no to sex even though I have been drinking alcohol or using drugs.	4	3	2	1
4. I am able to consistently limit my sexual activity to only one partner.	4	3	2	1

Appendix C

Tangible Social Support Scale

1. The following is a list of people and groups who may help or assist during difficult times. Help may include such things as money, transportation, baby sitting or child care, preparing meals, or helping with house work.

How helpful have each of the following been to you in providing this type of support during the past 6 months? Circle the best answer.

Person	Not at all Helpful	A little Helpful	Very Helpful	N/A
1. My parents	1	2	3	4
2. My other relatives/kin	1	2	3	4
3. My husband or partner	1	2	3	4
4. My friends	1	2	3	4
5. My children	1	2	3	4
6. Co-workers	1	2	3	4
7. Church members	1	2	3	4
8. Ministers	1	2	3	4
9. Support Groups	1	2	3	4

Appendix D

Emotional Social Support Scale

We get different amounts of love, comfort, and affection from family members and friends. How supportive have each of the following persons been, within the past 6 months?

Person	Not Supportive	Somewhat Supportive	Very Supportive	N/A
1. Mother	1	2	3	4
2. Husband/Partner	1	2	3	4
3. Sister(s)	1	2	3	4
4. Father	1	2	3	4
5. Doctor	1	2	3	4
6. Preacher	1	2	3	4
7. Sex partner	1	2	3	4
8. Friend(s)	1	2	3	4
9. Social Worker	1	2	3	4
10. Nurse	1	2	3	4
11. Children	1	2	3	4

Appendix E

Rosenberg Self Esteem Scale

The following statements describe how you might feel about yourself. On a scale of 1 to 4 (1=Strongly Agree, 2=Agree, 3=Disagree, 4-Strongly Disagree). CIRCLE the answer that best describes you.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. On the whole, I am satisfied with myself.	1	2	3	4
2. At times I think I am no good at all. *	1	2	3	4
3. I feel that I have a number of good qualities.	1	2	3	4
4. I am able to do things as well as most other people	1	2	3	4
5. I feel I do not have much to be proud of. *	1	2	3	4
6. I certainly feel useless at times. *	1	2	3	4
7. I feel that I'm a person of worth, at least on an equal plane with others.	1	2	3	4
8. I wish I could have more respect for myself.	1	2	3	4
9. All in all, I am inclined to feel that I am a failure. *	1	2	3	4
10. I take a positive attitude toward myself	1	2	3	4

*** Reverse Score**

Appendix F
Herth Hope Index

Listed below are a number of statements. Read each statement and circle the answer that describes how much you agree with that statement, right now.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I have a positive outlook toward life.	1	2	3	4
2. I have short, intermediate, and/or long range goals.	1	2	3	4
3. I feel all alone. *	1	2	3	4
4. I can see a light at the end of the tunnel.	1	2	3	4
5. I have a faith that gives me comfort.	1	2	3	4
6. I feel scared about my future. *	1	2	3	4
7. I can recall happy/joyful times.	1	2	3	4
8. I have deep inner strength.	1	2	3	4
9. I am able to give and receive caring/love.	1	2	3	4
10. I have a sense of direction.	1	2	3	4
11. I believe that each day has potential.	1	2	3	4
12. I feel my life has value and worth.	1	2	3	4

* Reverse score

Appendix G

Sex Related Health Promotion Behaviors

The first four questions below ask about activities that you may have engaged in. On a scale of 1 to 5, CIRCLE the answer that describes your participation in the activity, *during the past 12 months.*

1. How often do you use a condom 5 4 3 2 1
when having sex? always almost sometimes occasionally never
always
2. During the past 12 months, how 5 4 3 2 1
often did you have sex with never 1 to 2 times 3 to 4 times 5 to 6 times 7 or
someone other than your more times
one main partner?
3. During the past 12 months, how 5 4 3 2 1
often did you seek medical care never 1 to 2 times 3 to 4 times 5 to 6 times 7 or
to be tested for a sexually more times
transmitted disease? *
4. During the past 12 months, how 5 4 3 2 1
often did you engage in sexual never 1 to 2 times 3 to 4 times 5 to 6 times 7 or
activity while under the influence more times
of alcohol or drugs?

Please answer YES or NO to the following question. *Circle Your Answer.*

5. At last sexual intercourse, did you use a condom? 1. YES 2. NO


* Reverse score

Appendix H

Permission to Use Herth Hope Index Scale



December 11, 1995

Shirley Timmons


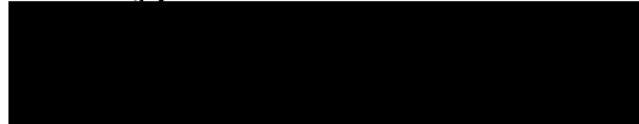
Dear Ms. Timmons:

I appreciate your interest in hope and my Herth Hope Index. I have enclosed a copy of both the Herth Hope Scale and the Herth Hope Index along with scoring instructions. Both scales are currently being used in research studies by a number of investigators primarily with adults, however, I have only recently begun to compile further psychometrics.

You have my permission to use either the Herth Hope Index or the Herth Hope Scale in your dissertation research project. If you decide to use either of my scales in a research study, I would like to request that you send me an abstract of your completed research and any psychometrics pertaining to my scale. There are no charges connected with the scale.

I appreciate your interest in exploring hope and look forward to hearing more about your work. If I can be of any further assistance, please do not hesitate to contact me.

Sincerely,



Kaye Ann Herth, Ph.D., R.N., F.A.A.N.
Professor and Chair

Enclosures

Appendix I
Informed Consent Form

University of South Carolina, College of Nursing

I am being asked to participate in a study called, "The Relationship of Self-efficacy, social support, self esteem, and hope with sex related health promotion behaviors in HIV infected and uninfected women." The purpose of the study is to describe the importance of feeling capable, supported, hopeful, and good about yourself to performing sex related activities that help to promote health. I understand that this information can help nurses to better support women in promoting their health. I understand that it will take about 25 minutes to complete the survey that also includes questions about my age, education, etc.

I understand that only the researcher will know my identity and that the information I provide will be confidential. Only a number and not my name will be included on the survey. All completed surveys will be stored in a locked file. Any reports describing the study will be written so that I cannot be identified.

I understand that there are no physical risks to me while participating in the study. If I experience any emotional distress while completing the survey, I can withdraw from participating at any time. If needed, the researcher will refer me to medical services of my choice for any distress that I might experience while completing this survey. I understand that my decision not to participate or withdraw will not affect any services that I may currently receive or may receive in the future.

I understand that if I have questions later, I can contact the researcher, Shirley Timmons, RN, University of South Carolina, College of Nursing; [REDACTED].

My signature below indicates my understanding of this study and my consent to participate. I also understand that a copy of this Consent Form will be given to me.

Signature

Date