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THE IMPACT OF CULTURAL ORIENTATION ON THE
RELATIONSHIP BETWEEN SOCIAL SUPPORT AND
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presented by

Sinead Natasha Young

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of the requirements for the

Master of
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**THE IMPACT OF CULTURAL ORIENTATION ON THE RELATIONSHIP
BETWEEN SOCIAL SUPPORT AND PSYCHOLOGICAL WELL-BEING: A PILOT
STUDY**

By

Sinead Natasha Younge

A THESIS

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ABSTRACT

THE IMPACT OF CULTURAL ORIENTATION ON THE RELATIONSHIP BETWEEN SOCIAL SUPPORT AND PSYCHOLOGICAL WELL-BEING: A PILOT STUDY

By

Sinead Natasha Younge

The purpose of the present study was to examine the impact of cultural orientation on the relationship between perceived social support and psychological well-being amongst African Americans (n=72) with HIV/AIDS. In order to examine this relationship, other pertinent factors including substance use, disease progression and religiosity/spirituality were examined and controlled for. This study utilized a cross-sectional design.

Participants completed a self-report survey. Understanding when social support predicts psychological well-being is pertinent in the development of future culturally competent interventions utilizing social support systems. Hierarchical Linear Regression (HLR) and Multiple Linear Regression (MLR) were utilized to analyze the results. The findings from this study do not support the hypotheses of collectivism as a moderator of the relationship between social support and psychological well-being or social support predicting psychological well-being above and beyond the substance use, disease progression, and religiosity, spirituality.

**Dedicated to everyone infected and affected by HIV/AIDS, and those who participated
but did not live to see the completion of this study.**

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Introduction

Statement of the Problem.

The Human Immunodeficiency Virus (HIV) that causes Acquired Immunodeficiency Syndrome (AIDS) has reached epidemic proportions, particularly among communities of color in the United States. Once thought of as a gay White male disease, HIV/AIDS is currently the number one cause of mortality among African Americans. HIV is a progressive degenerative disorder of the immune system resulting in a number of stages, all of which end with AIDS. Advances in treatment regimens are successful in treating and alleviating the physical symptoms associated with the disease including, helping to slow the progression rates and increasing the life expectancy for some individuals infected with HIV/AIDS. The effectiveness of treatment regimens and progression of HIV/AIDS is highly variable, suggesting to healthcare providers and researchers that biological and psychosocial variables may influence the manner in which the virus functions and thrives in the body. Recently, the application of a biopsychosocial model for treating and researching HIV/AIDS has begun to focus on the psychological as well as the biological symptoms associated with the disease. The psychological symptoms of HIV/AIDS are currently gaining an increasing amount of attention, which has led to the contribution of behavioral scientists participating in the investigation of effective interventions. To date, there is no cure for HIV/AIDS however, the psychological symptoms associated with the disease are treatable.

Research suggests that persons with HIV/AIDS are at heightened susceptibility for a decrease in psychological well-being. Psychological well-being is associated with the physical symptoms of a disease therefore, it is an important factor in treating

illnesses. An important predictor of psychological well-being is perceived social support, which is defined as the availability of resources provided by individuals. Research suggests that cultural values and norms guide the seeking and receiving of support in times of need. Cultural orientations (particular beliefs, values and customs) may foster the development of and reliance on social support systems such as, family and friends (Taylor, Chatters, Hardison, & Riley, 2000). Cultural orientations in terms of collectivist (interdependent) and individualist (self-reliant) orientations may be useful in addressing the cultural and ethnic variations in social support

To date, sparse research exists examining the psychological well-being of African Americans with HIV/AIDS. Available research suggests that a decrease in psychological well-being is related to disease progression in HIV/AIDS patients. As a predictor of psychological well-being, it is assumed that utilizing social support systems as effective resources for individuals with HIV/AIDS may be especially beneficial for the African American community who has a history of distrust and underutilization of formal institutions. Understanding the impact of cultural orientation on the relationship between social support and psychological well-being aids in the further development of interventions that promote psychological well-being, however, in order to gain an understanding of this relationship, research must account for other possible influential factors including, disease progression, level of religiosity/spirituality and substance use. The purpose of the present study was to gain an understanding of how cultural orientation may influence the relationship between social support and psychological well-being, while accounting for other possible influential factors amongst African Americans with HIV/AIDS.

National and Local Demographics.

The demographics of HIV/AIDS have changed dramatically throughout the US in recent years (Center for Disease Control and Prevention, 2001). Michigan's HIV/AIDS rates are parallel to national rates (Michigan Department of Community Health, 2001). African Americans are disproportionately overrepresented in the epidemic both nationally and locally. African Americans comprise 12% of the US population, yet 47% of AIDS cases are African American, making African Americans eight times more likely than Whites to have AIDS. African American women account for two-thirds (63%) of all women with AIDS. African Americans account for 42% of injection drug users (IDUs) with AIDS. Thirty-eight percent of new HIV infections due to heterosexual contact occur among African Americans. Among African American males, men who have sex with men (MSM) represent the largest proportion (37%) of all AIDS cases. African American children represent almost two-thirds (65%) of all pediatric AIDS cases (CDC, 2001).

Once diagnosed with HIV/AIDS, African Americans are more likely to have a poorer prognosis and shorter lifespan than Whites (CDC, 2001). Since genetic differences have not demonstrated to account for the difference in disease progression rates between races, some evidence suggests that the differences may be due to psychosocial factors including psychological well-being (Alciati, 2001; Ciesla, 2001; Clay, 2000; Demas et al., 1998; Ganster & Victor, 1988; Murrain, 1996).

Psychological Well-Being

The concept of psychological well-being has been conceptualized in a variety of ways. A contemporary view of psychological well-being is the degree to which positive affect dominates negative affect, or a general sense of happiness

(Bradburn, 1969). Sarason and Sarason (1985) modify Bradburn's definition of psychological well-being as the absence of psychological disorders such as depression, anxiety, and psychological distress. Consistent with the psychological well-being literature, this pilot study examined psychological well-being in terms of lack of depressive symptoms. One's sense of psychological well-being is an ongoing, dynamic process that is continually changing in different contexts and is influenced by one's culture. Anthropological literature suggests that basic emotions may be the same in different cultures but the events and contexts that elicit them and provide labels for emotions such as anger, shame, despair and psychological distress may differ (Cuellar & Paniagua, 2000).

Psychological Well-Being and Cultural Influences.

Culture is defined as "acquired knowledge which people use to interpret experience and generate social behavior (Gutierrez, 1997, p. 169; Spradley, 1979)." Culture includes a group's pattern of behaviors, customs, way of life, ideas, values, beliefs, definition of reality, attitudes and habits. Culture may also include familial roles, interdependence, communication patterns, affective styles and values regarding personal control, individualism, collectivism, spirituality, and religiosity. Culture represents the total way of life of a group of people (Triandis, 1994). One's cultural orientation helps to shape an individual's functional psychology (cognitive, emotional and behavioral inclinations) (Jagers, 2000).

Research demonstrates a positive relationship between cultural orientation and psychological well-being (Jagers, 2000). Cultural orientation provides a script that people may ascribe to in order to function effectively within their cultural context,

therefore promoting psychological well-being. Snowden (2001) examines social embeddedness, a characteristic of collectivism (defined as the interaction with family, friends and participation in groups and community organizations) and the psychological well-being of African Americans and Whites in a large national sample (n=18,000). African American men in this study report being more socially embedded overall in comparison to White men, and their social involvement is a predictor of their psychological well-being (Snowden, 2001). Kernahan, Bettencourt and Dorr (2000) examine cultural orientation in terms of *idiocentrism* (self reliance) and *allocentrism* (interdependence), individual level aspects of individualism and collectivism, respectively, and its ability to predict subjective well-being among African Americans (n= 84) and Whites (n= 122). Results indicate that idiocentrism predicts subjective well-being for Whites in comparison to African Americans, while allocentrism predicts subjective well-being for African Americans in comparison to Whites. Findings demonstrate that allocentrism and idiocentrism play different roles in predicting subjective well-being for persons of differing cultural orientations.

Harris and Molock (2000) examine cultural orientation and suicidal ideation and depression among African American college students (n=188). Cultural orientation is examined in terms of *communalism*, a construct akin to collectivism. Communalism is the notion of the extended self, or the fundamental interdependence of people and the importance of social bonds (Boykin & Ellison, 1997). Results demonstrate that higher levels of communalism, family cohesion and family support are positively correlated with lower levels of depression and suicidal ideation among African American college students. As research demonstrates, psychological well-being may be beneficial for the

general population and is increasingly examined in terms of health outcomes in studies of individuals with and without chronic diseases such as, cancer, diabetes, hypertension, asthma, recovery from major surgery, pregnancy and most recently, HIV/AIDS (Cohen & Syme, 1985; Ickovics et al., 2001; Sagrestano, Feldman, Rini, Woo, Dunkel-Schetter, 1999).

Psychological Well-Being and Health Outcomes.

Numerous studies examine the positive relationship between psychological well-being and positive health outcomes (Adams, 1999; Bisconti, 1999; Gordillo et al., 1999; Judd et al., 2000; Kernahan, 2000; Pierce, 1997; Samuels, 2000; Uzoma et al., 1989). Psychological well-being is a positive predictor of a decrease in morbidity and mortality, a decrease in recovery time, an increase in mobility and functioning and in some cases, an increase in life expectancy (Blazer, 1982; Burack et al., 1993; Cohen & Weres, 1985; House, Lincoln 2000; Lu, 1997; Umberson & Landis, 1988). Lyketsos et al. (1993) examine depressive symptoms as predictors of medical outcomes in HIV infection using a large sample size (n=1789). Results demonstrate that participants with depressive symptoms as defined by the Center for Epidemiological Studies, Depression Scale (CES-D) have lower CD4 counts and report more AIDS-related symptoms. Lyketsos et al. are among the earliest researchers to examine the influence of depression on disease progression in HIV/AIDS.

Psychological Symptoms and HIV/AIDS. One in three persons with HIV/AIDS suffer from depression (National Institute of Mental Health 2001). Common psychological disorders displayed in persons with HIV/AIDS are, Brief Reactive Psychosis, Major Depression, Recurrent Bipolar Disorder, Manic Phase, Organic Mood

Disorder, Manic Phase, Adjustment Disorder, with Mixed Disturbance of Emotions, conduct, and suicidal tendencies (Bala, Pergami, Catalan, & Riccio, 1992; Landau-Stanton & Clements, 1988, p. 200; McKegney & O'Dowd, 1992; Rajs & Fuelstad, 1992). It is uncertain whether a diagnosis of HIV/AIDS alone places individuals at increased risk for psychological problems, although depression in HIV infected clinic populations ranges from 22%-32%, which is two to three times higher than the prevalence of depression in the general population (Ferrando, 1998; Rabkin et al., 1997; Brown et al., 1992; Williams et al., 1991; Ciesla & Roberts, 2001).

Research findings suggest that clinic and gender variations for depression within the HIV/AIDS population may exist (Burack et al., 1993; Cochran & Mays, 1994; Lyketsos et al., 1993; Ickovics et al., 2001; Siegel, Karus, Raveis & Hagen, 1998). Given the higher incidence of HIV-infection among women of color, Siegel et al. (1998) examine the influence of ethnicity on the psychological well-being of women with HIV/AIDS (n=146). Results indicate that HIV-infected African American women have better psychological adjustment and psychological well-being in comparison to White women and Puerto Rican women. Possible explanations for the better psychological adjustment and well-being of African American women to HIV/AIDS may be the cultural orientation that may contribute to an increase in sense of integration into a social network which may provide African American women with a greater access to informal support (Siegel, 1998; Taylor, Chatters, Hardison, & Riley, 2001). These findings support the necessity of interventions that include the use of informal support systems with African American women, however, these findings may not be generalizable to African American gay males.

Cochran and Mays (1994) examine levels of depression in a sample (n= 829) of African American gay or bisexual males, nearly 50% of African American participants report elevated levels of depression symptoms, in comparison to 10-20% reported by White participants from comparison studies. These findings suggest that African Americans with HIV may be at greater risk for depression and suicide in comparison with their White counterparts. A possible explanation for an increase in distress among African American gay males is the cultural mores that influence their decision to disclose their HIV status to their family members due to feelings of shame, guilt and stigma (Siegel et al., 1998). These feelings may influence individuals' feelings about their rights to access family or other supports.

Consistent with Cochran and Mays findings, Liserman et al. (1993) examine the coping patterns of gay males who were HIV-positive and asymptomatic (n=53). This study examines the relationship between race and the seeking of social support among African American and White gay males. Findings indicate that African Americans in comparison to Whites report higher depression rates and lower satisfaction and availability of social support. In addition, African American gay males commonly use the coping mechanism of religion. Under these circumstances, social support or lack thereof may be detrimental to the psychological well-being of HIV-positive African American gay males. By seeking support, to cope with their HIV/AIDS diagnosis, African American males, may have to disclose their disease status or sexual orientation, in a community that generally has a negative view towards homosexuality and HIV/AIDS (Guitierrez, 2000). Liserman's findings may be attributable to the differing cultural orientations of African Americans and Whites in this sample. These findings further

demonstrate the need to identify specific predictors of life stressors and lack of social support among African Americans.

Individuals with HIV/AIDS may choose to cope with their psychological issues by relying on social support systems. Social support is an environmental and personal factor that enhances well-being and adjustment to stressful life events and conditions through its ameliorative and protective effects. Social support may promote feelings of belongingness and kinship (Snowden, 2001; Vaux, 1988). Numerous studies demonstrate that people with support have better physical and mental health than those without support (Blazer 1982; Cohen and Woreis 1985; House et al., 1988; Lincoln, 2000).

Social Support

Social support is broadly defined as “resources and interactions provided by others that may be useful for helping a person to cope with a problem” (Woreis and Fegan, 2001, p. 209). Social support is conceptualized in two ways, structural support and functional support. Structural support is the number of persons an individual knows, while functional support is the amount of effective resources available to an individual, irrespective of the absolute number of friends and acquaintances (Woreis and Fegan, p.209. 2001). Research demonstrates that functional support has a stronger main effect relationship with morbidity in comparison to structural support (Blazer, 1982; Falk et al., 1992; Hanson et al., 1989; Hanson et al., 1992). Blazer (1982) examines the relationship between functional support and mortality in the elderly in terms of perceived social support. Results from this study demonstrate that functional support is a stronger predictor of mortality in comparison to structural support. It is Blazer’s assumption that

the stronger influence of functional support may be due to the quality of available resources (Wereis, 1985), rather than the quantity of supports available (Wereis & Fegan). Researchers also suggest that it is more important to examine perceived social support, as opposed to received social support, because individuals' appraisals of support may not be satisfactory in the presence of received support (Buunk & Hoorens, 1992; Power 1988).

Natural Support Systems.

Social support can come from a variety of sources (Vaux, 1988) including natural support systems defined as networks of individuals and groups who band together to help each other in dealing with a variety of problems (Baker, 1977). The word "natural" is used to differentiate such systems from professional care-giving systems. Natural support systems can include, family and friends, as well as local informal caregivers including the church and mutual help groups (Mitchell & Trickett, 1980). Recognizing the need to mobilize informal resources to assist people in times of need, HIV/AIDS healthcare and service providers have begun to incorporate the popular "buddy" programs which match HIV/AIDS patients with individuals for social support (Satewide Coordinated Statement of Need, 2001).

Social Support and Cultural Influences.

Patterns of social support vary across cultural groups (Ball, Warheit, Vandiver, & Holzer, 1979, Raymond et al., 1980; Vaux, 1985). Cultural influences on the definition and perception of social support may lead to ethnic disparities in the perception, reporting and effects of similar forms or amounts of support (Jacobson, 1986; Vaux 1985).

Sagrestano et al. (1999) examine the impact of ethnicity and social support during

pregnancy in African American, Latina and non-Hispanic White women (n=202).

Results indicate an association between ethnicity and support from friends and family, such that African American and Latina women report higher quality relationships with their family and friends in comparison to White women. African American women also report receiving significantly more support from family members in comparison to Latina and White women. Individuals who perceive social support as being available may have less difficulty responding to stressful episodes than individuals who perceive the unavailability of social support (Briones et al., 1990; Gottlieb, 1981; Rodriguez, 1998).

The impact of unavailable social support may be more detrimental to an individual with a collectivist (interdependent) orientation, than an individual with an individualist (independent) orientation due to differing expectations (Battencourt & Corr, 1997; Cuellar, Arnold & Gonzalez, 1995; Dunkel-Schetter, Sagrestano, Feldman & Killingsworth, 1996). Sihna and Verma (1998) examine social support as a moderator of the relationship between allocentrism and psychological well-being among East Indian graduate students (n= 110). Results indicate that allocentricism is positively correlated with psychological well-being. Additionally, individuals with a collectivist orientation benefit more from perceived high levels of social support from their family. Sinha and Verma suggest that persons with allocentric orientations who fail to receive social support feel worse than persons with idiocentric orientations because idiocentrics may be less sensitive to the affects of social support on psychological well-being. In these studies it is assumed that social support promotes psychological well-being by increasing a person's motivation to deal with problems, and promote changes in one's cognitive view

of the perceived stressor (Vaux, 1988). The ameliorative affects of social support on stressors and psychological well-being is also examined in terms of health outcomes.

Social Support, Health, and HIV/AIDS.

Perceived social support is associated with better physical and mental health outcomes, while low levels of perceived support are predictive of depression (Brown & Gary, 1987; Cohen & Syme, 1985; Henderson, 1977; Lin, Dean & Ensel, 1986; Sarason, Sarason & Pierce, 1990; Throits, 1995; Tolsdorf, 1976) and linked to psychiatric morbidity, suicide, clinical depression, acute and trait anxiety and self report mental health including psychological well-being. (Broadhead et al., 1983; Cohen & Weres, 1985; Gottlieb, 1983. Lyketsos et al., 1993). Social support may be an important factor in attenuating the stress experienced by HIV-positive individuals by contributing to the resources available for coping (Cohen & Weres, 1985; Koopman et al., 2000).

Investigators suggest that the effects of emotional support on the adjustment to illness are mediated through reduced emotional distress and improved coping (Burgoyne & Sanders, 2000; Ell et al., 1992; DiMatteo & Hays, 1981; Schwarzer & Leppin, 1989; Taylor & Aspinwall, 1990; Worntman & Conway, 1985). Burgoyne and Saunders examine perceived social support in newly registered HIV/AIDS clinic outpatients (n=114). This study compares the level of perceived social support in HIV/AIDS outpatients and a sample of other ambulatory medical populations. Results demonstrate that perceived social support for newly registered clinic patients is similar to other ambulatory medical populations. Findings indicate that disclosure in terms of family awareness of diagnosis is an indicator of perceived support. Participants are more likely to report partners and friends as sources of support in comparison to family members. It is assumed that social

support is determined by an individual's disease disclosure such that, family members' awareness of HIV status can potentially pose as a source of both support and strain and therefore possibly accounting for more reliance on friends and partners (Burgoyne & Saunders, 2000; Hays et al., 1990; Schwarzer et al., 1995; Turner et al, 1993).

Consistent with previous findings, Hays et al. (1992) study of predominately White gay males demonstrates that greater satisfaction with social support, comfort, information and assistance from friends and family are associated with less psychological distress (Hays et al., 1992). Previous studies on HIV/AIDS and psychiatric symptoms traditionally focus primarily on White gay males. Understanding the mechanism by which psychological well-being is promoted has major implications for the treatment of HIV/AIDS. In-depth examination of culture is pertinent to understand the ethnic variations that exist in the aforementioned studies.

Individualist and Collectivist Theory

Cultural orientations are important when studying the health attributes of individuals because they influence what individuals label and react to as pathological and how they respond to symptoms and deviations from what society considers to be normal (Cuellar & Paniagua, 2000). The study of cultural orientation in terms of individualist and collectivist theory (I/C) (Triandis, 1994) has been popularized in cross-cultural research, particularly with some Asian countries and the United States (Freeberg & Stein, 1996; Gaines et al., 1997; Race et al., 1996). The basic premises of I/C are individualist societies emphasize "I" consciousness, autonomy, emotional independence, individual initiative, right to privacy, pleasure seeking, financial security, need for specific friendship and universalism. In contrast, collectivist societies stress "we" consciousness,

collective identity, emotional dependence, group solidarity, sharing duties and obligations, need for stable and predetermined friendship, group decision making and particularism. (Hofstede, 1980; Hui & Triandis, 1986; Sinha & Verma, 1987).

Conceptualization of I/C.

Individualism and collectivism are not polar opposites. They are viewed as orthogonal or continuous dimensions. Individuals within different cultures may have both individual and collective tendencies, yet the culture in which they live contributes to the probability and frequency that idiocentric or allocentric tendencies were be sampled or used (Triandis, 1994). At the “psychological” or “micro” level, Triandis, et al. (1985) propose the personality dimensions of idiocentrism and allocentrism to parallel I/C at the “cultural” or “macro” level. "Allocentrism and idiocentrism refer to individual differences within a culture that correspond respectively, to cultural differences in collectivism and individualism" (Triandis, 1995). Literature suggests that individuals who subscribe to an allocentric orientation belong to only a few in-groups (usually one), have lifelong commitment to that group, and are expected to subordinate their personal goals and views to the goals and norms of the collective while withholding their personal opinions and preferences when they are incongruent with the group (Triandis, 1994). In contrast, people who are idiocentric value independence, are self-sufficient and are able to easily move from one in-group to another to suit their individual needs. The culture (the beliefs, values and practices) of a group of people, through socialization, help to shape the attitudes, beliefs, emotions and behavior of individuals who are born into them (Kagitcibasi, 1994, p. 145). Culture may influence, but not completely determine individuals' behavior.

“Cultures were vary in their degree of individualism/collectivism, and individuals within these specific cultures were vary on the same dimension (Lay et al., 1998, p. 435).”

Cultural Orientations.

Most Eastern countries (e.g., Japan, China, India and Africa) are labeled as collectivist, while most Western countries (e.g., United States, Great Britain and Canada) are labeled as individualist. Research assumes that persons of color in the United States are generally viewed as having collectivist orientation (Coon & Kemmelmeer, 2001; Freeberg & Stein, 1996). Several studies on populations of color demonstrate that people of color in the United States are higher in collectivism and lower in individualism in comparison to European Americans (Freeman & Stein, 1996; Gaines et al., 1997; Rhee et al., 1996). This may be attributable to the exclusion that persons of color may face from mainstream society, which may render minority identity highly salient and foster a sense of connectedness with other group members (Coon & Kemmelmeier). In contrast, a sparse amount of research exists, which demonstrates that African Americans in comparison to Whites, tend to be more individualistic when placed in situations where they face stereotypic expectations. To avoid being reduced to a representative of their entire racial or ethnic group, African Americans may adopt individualistic tendencies to deter the perception of representing their racial group (Coon & Kemmelemeier, 2001; Jones, 1997; Word, Zanna, & Cooper, 1974; Steele & Aronson, 1995). Acculturation, the process by which two cultures come into continuous contact with one another, and as a result of this contact one or both cultures change (Redfield, Linton & Herkovitz 1936) into European American society may also play a role in the increased levels of individuality identified in African Americans in these studies such that, African Americans who are highly

acculturated may adopt individualist tendencies to function effectively in their adopted individualistic culture (Steele & Aronson, 1995). Limitations to these studies include examining people of color as a homogenous group and disregarding the potential differences that exist within groups and at the individual level.

Theoretical Assumptions.

Measuring cultural constructs at the individual level limits the validity of findings and may lead to overgeneralizing. Individual level analysis refers to attributes of the individual while cultural level constructs refer to attributes of the entire culture (Triandis, 1988). It is useful to develop and utilize multidimensional models to describe and explain I/C at the individual and cultural level (Hofstede, 1980). At the cultural level, two dimensions related to I/C that are important aspects of collectivism are family integrity and interdependence with sociability (Triandis, 1986). Cultural and individual level concepts are interrelated with one another. Cultural and individual levels interact through intermediate social structures, organizations, norms and beliefs (Bierbrauer, Meyer & Wolfradt, 1994; Giddens, 1984; Hofstede, 1980; Kim, 1994; Schwartz, 1994).

Numerous studies examine the distinctions between the two cultural orientations, individualism and collectivism, and their behavioral manifestations. A study by Triandis, Leung, Villareal, and Clark (1985) indicates that allocentrism in the United States is positively correlated with social support (in terms of quantity and satisfaction with it) and low levels of alienation and anomie; while idiocentrism is positively correlated with emphasis on achievement and perceived loneliness. Cultures and ethnic groups generally ascribe to specific cultural orientations, however at the individual level, individuals may have varying cultural tendencies with underlying commonalities, depending on the context.

African Americans.

In order to examine cultural influences on health, knowledge of a group's background is necessary. African Americans have traditionally been viewed as a racial group rather than an ethnic group, however while African Americans are composed of a heterogeneous group of individuals, there are a number of underlying commonalities that African Americans share (Landrine & Klonoff, 1994).

Fifty-three percent of African Americans reside in the Southern portion of the US; 37% reside in the Northeast and Midwest combined; and 10% live in the West. In 1997, nearly one fourth of all African Americans earned more than \$50,000 a year however, as a whole, in comparison to other racial and ethnic groups living in the US, African Americans continue to be relatively poor with at least 22% living in poverty (US Census, 1999).

Nearly 25% of all African Americans are uninsured in comparison to the national average of 16%. Among employed African Americans, just over half (50%) receive employer-based health insurance. African Americans are underrepresented in out-patient healthcare and over represented in in-patient treatment. This dichotomy may be due to lack of insurance coverage or the historically based distrust African Americans have of the healthcare system (National Institute of Mental Health, 2000; Landrine & Klonoff, 1996). African Americans distrust of formal institutions transcends generations and does not appear to be bound by social class or level of education. African Americans' distrust of health information provided by Whites is further perpetuated by the historical incident of the Tuskegee experiment (Landrine & Klonoff, 2001). In the Tuskegee experiment, African American men were promised treatment for syphilis but

treatment was purposefully withheld so that researchers, could observe the long term effects of untreated syphilis (Kalichman, Kelly, Hunter, Murphy, & Tylor, 1993; Landrine & Klonoff, 2001; Mays & Cochran, 1994). This event is frequently referred to in the literature on African American healthcare.

Access to, and utilization of healthcare by African Americans with mental illness is poorer than for African Americans with physical illness. Only 33% of African Americans with a mental illness or a mental health problem are likely to get care from a formal institution. African Americans are more likely to use alternative therapies for healthcare, than Whites (Bagley et al., 1995). Considered to be the two most central institutions of the African American community, the family and the church provide alternatives to seeking support from formal institutions such as social service agencies or healthcare agencies.

Family. The African American family is a central institution in the African American community. Family includes the nuclear and extended family including fictive/fictitious kin (non-blood family) (Billingsley, 1968; McAdoo, 1978). In the United States, too much reliance on the family is criticized as being pathological and is thought to hinder autonomy, however a study of informal social support networks and subjective well-being among African Americans by Taylor et al. (2001) demonstrates that family closeness and the receipt of assistance from extended families are significantly associated with life satisfaction. In addition, participants who rate their families as being subjectively closer, report higher levels of life satisfaction. African Americans are expected to share their burdens and problems with their family and tend to have more contact and rely on family members for a variety of help more frequently in comparison

to their White counterparts (Hays & Mandel, 1973; Padilla, Carlos, & Keefe, 1976; Triandis, 1988). The use of the extended family is thought to be a direct response to the stress of living in poverty for many communities of color such that a cohesive family may act as an economic resource and strength (Snowden, 2000). Research indicates that the use of family decreases somewhat with the increase in socioeconomic status (SES), but ethnic differences still exist (McAdoo, 1978). In the African American community, the utilization of family as a resource is a cultural value. The relationship between an increase in acculturation, and a decrease in utilization of family as a resource is positively correlated with an increase in SES (Hays & Mandel, 1973). Utilization and interdependence on the family is viewed as characteristics of a communal orientation in the African American community (Jagers et al., 1997).

Communalism. African Americans are generally viewed as collectivists, however, the majority of studies on African Americans and collectivism have assumed cultural heterogeneity and are used to make cross-cultural comparisons (Jagers, 2000). The notion of communalism, which connotes the fundamental interdependence of people, is one of the most salient constructs in the study of African American culture, though little empirical evidence including measures for assessing communalism exist (Jagers, 1998). Communalism in African Americans represents an overriding importance attached to social bonds and social relationships. One is expected to act in accordance with the notion that duty to one's social group is more important than individual rights and privileges. Communalism is related and empirically correlated to collectivism in terms of the interdependence and group goals (Akbar, 1979; Boykin, 1983; Dixon, 1976; Foster, 1983; Herkovitz, 1958; Jones, 1991; King, 1976; Nobles, 1991; Sudakarsa, 1988).

Communalism in contrast to collectivism is interested in taking an emic approach to explore variations within the African American community (Jagers, 2000). Ascribing to a communal orientation may promote the overall well-being of African Americans (Ward, 1995; Jagers, 2000). Another predictor of well-being for African Americans is religion or spirituality (Bellingsley, 1992) involvement and spiritual beliefs. Participants who engage more frequently in prayer practices report higher levels of spirituality, are more likely to be ethnic minorities and report receiving more support from family members.

Religiosity and spirituality are salient constructs in the African American community and are often utilized as a coping mechanism and to promote psychological well-being however, another coping mechanism that remains a major problem in the African American community and a concern amongst persons with HIV/AIDS is substance use. Substance use not only medicates the adverse side effects of HIV/AIDS, it is used to medicate the psychological stress of dealing with a debilitating disease and may have been a pre-existing practice that lead to HIV transmission (Ferrando, 1998).

Substance Use.

HIV transmission by intravenous drug use most heavily impacts racial and ethnic minority populations in the United States. African Americans account for over half of all AIDS cases among injection drug users (CDC, 2001). Treating the Psychosocial issues involved with HIV/AIDS requires an understanding of the multiple connections between HIV/AIDS and substance use. An HIV/AIDS diagnosis may include psychiatric symptoms that are attributable to multiple factors, including concurrent substance use (Lyketos et al., 1994; Ferrando, 1998). Substance use disorders may complicate the

psychiatric diagnosis and care of patients with HIV infection, compromising both physical and psychological well-being (Ferrando, 1998). Individuals diagnosed with HIV/AIDS, substance use and psychiatric disorders are labeled as a "triple diagnosis," (Ferrando, 1998). A common problem of HIV/AIDS and concurrent injection drug use is that of issues such as drug addiction becoming a higher priority than therapy for disease treatment.

Johannet and Muskink (1990) examine the rate of psychiatric consultations and psychological disturbances in a sample of in-patients who have AIDS and in-patients without AIDS. Results indicate that AIDS in-patients have a higher rate of psychiatric consultations than do any other group of hospitalized patients. In another study consistent with the Johannet and Muskink's findings, Hestad, et al. (1994) report greater psychological disturbances in HIV positive participants in comparison to HIV negative participants; these disturbances are even more pronounced at follow-up, nine months later and may be attributed to problems with drug use.

Substance use has a confounding affect on psychological disorders including depression, and may co-exist perpetuating one another (Ferrando, 1998). In a study by Lipitz et al (1994), results indicate higher rates of concurrent depressive disorders are higher among male (22%) than female (18%) injection drug users in non HIV-positive individuals. In comparison to injection substance users with a diagnosis of HIV, men are more depressed than their HIV-negative counterparts. Women who use intravenous drug and have HIV are not significantly different than their HIV-negative counterparts.

Substance use is associated with disease progression in HIV/AIDS patients (Bing et al., 2001; Ferrando, 1998; Ickovics et al., 2001). In some cases, drug use may

perpetuate disease progression, in other cases, drugs may be used to treat the adverse side effects of treatment regimens or painful symptoms of the disease itself (Bing et al., 2001; Burack, 1993). Understanding the importance of assessing the link between drug use and disease progression, were aid in the implementation of interventions that promote psychological well-being taking into account the unique issues associated with disease progression.

Disease Progression.

Progression of the disease varies considerably on a case-by-case basis due to both psychological and physiological factors (Burak et al., 1993; Lyketsos et al., 1993). The progression of HIV/AIDS is sometimes difficult to examine in stages, some researchers suggest examining HIV/AIDS on a continuum where specific symptoms do not necessarily follow a specified disease pattern (Baum & Tenoshak, 1990). There are two objective markers to measure disease progression of HIV/AIDS. The first marker is immune system functioning, resulting in the number of CD4 cells or T-cell counts, also known as helper cells. The second marker is viral load, or how much of the virus is in the blood. High levels of the virus result in degradation of immunosurveillance, allowing opportunistic infects to develop. Opportunistic infections are ordinarily the cause of death for persons with AIDS (CDC, 2001). An individual is diagnosed with AIDS once their CD4 count falls below 200 per cubic milliliter or has two or more opportunistic infections. Once diagnosed with AIDS, a person whose CD4 count increases above 200 or no longer has one or more opportunistic infections, is still considered to have an AIDS diagnosis (CDC, 2001).

In Theorell's (1985) study of HIV positive males representing a variety of disease stages, persons with higher levels of support and psychological well-being, demonstrate slower disease progression. Theorell's study supports findings of more rapid disease progression for persons with negative emotional states such as anxiety or depression. Research suggests that decreased psychological well-being is related to impaired immune system functioning (Miller & Cohen, 2001). Therefore, psychological well-being is not only imperative with respect to quality of life and psychological well-being, but it may also play an important role in enhancing physical health.

HIV positive participants in more advanced stages of the illness report an increase in depressive symptoms and greater stress, than HIV-negative participants (Lyketsos et al., 1993), however, there is a gender effect on this relationship. In a study of HIV positive men (n=135) and HIV positive women (n=55), participant's sense of well-being is lower for women despite the presence of less advanced disease progression (Lidman et al., 2000). More interestingly, distress among gay and bisexual males appears to be elevated relative to the population in general regardless of HIV serostatus; interestingly, similar findings are found in the IDU population (Lipsitz et al. 1994). Consistent with Lidman's findings, Ickovics et al. (2001) examines depression and disease progression in a longitudinal study of HIV-positive women (n=871). After controlling for potential confounding variables associated with mortality, results indicate that women with depressive symptoms were 2 times more likely to die than women with limited or no depressive symptoms. According to these studies, women and bisexual males with HIV/AIDS appear to be at greater risk for depression. The generalizability of these findings on other populations is limited, making further research necessary.

Summary

In summary, research is becoming increasingly aware of the impact culture has on shaping the psychological processes and health outcomes of diverse populations. In order to understand the predictors of individuals' responses to symptoms such as help seeking behavior and malaise, it is necessary to understand the culturally based schemas that give rise to such explanatory models and illness labels (Cuellar & Paniagua, 2000). Research suggests that persons with HIV may be at increased susceptibility to psychological problems such as depression. Lack of depression or psychological well-being is a positive predictor of positive health outcomes. An effective method for promoting psychological well-being is perceived social support. The utilization of social support systems is particularly appealing for use in the African American community, as an alternative to formal institutions, which are at times distrusted and underutilized by African Americans. Understanding the role of cultural orientation on the relationship between social support and psychological well-being is inherent in providing culturally competent interventions. Research on other populations is not generalizable to other ethnic groups however; such research has provided the basis for which the present study was performed. The purpose of this study was not to explain why the relationship between social support and psychological well-being occurs; rather understanding further the impact cultural orientation has on the relationship between social support and psychological well-being. This study examined possible influences of confounding factors of HIV/AIDS among African Americans including, substance use, disease progression and spirituality/religiosity. The current study attempted to answer the following hypotheses.

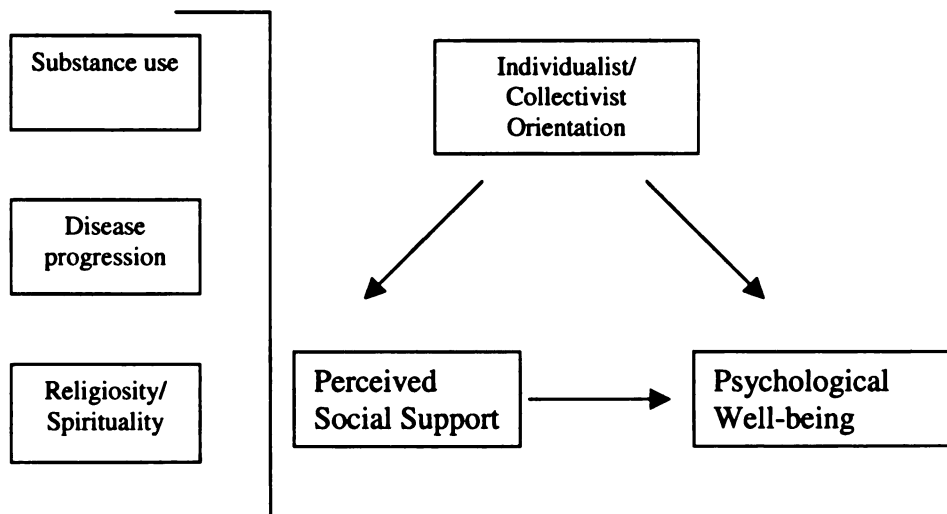
Hypothesis 1.

It was hypothesized that collectivism would moderate the relationship between perceived social support and psychological well-being among African Americans who are HIV positive.

Hypothesis 2

It was hypothesized that perceived social support would positively predict psychological well-being, after controlling for substance use, disease progression and level of religiosity/ spirituality.

Figure 1. Social Support Model



Method

Participants

This study included a sample of African American men and women with a diagnosis of HIV or AIDS ($n = 72$). This study conducted primary data collection in conjunction with the larger study of the Treatment Adherence and Acculturation Project (TAAP), which examined cultural influences on disease management among persons living with HIV/AIDS. Community Based Organizations (CBOs) and other providers of HIV/AIDS services including, counseling, and support groups aided in recruitment for this project. African Americans who were positive for HIV/AIDS self-selected themselves into the study. Sixty-three percent of the sample was male ($n=45$), and 38% was female ($n=27$). The average age of participants was 42 ($SD \pm 7$), the average education level was 9-12 years. Sixty-eight percent of participants were single (49), 19% were married (7), 7% were divorced ($n=5$), 8% were widowed ($n=6$) and 7% were cohabitating ($n=5$).

Selection Criteria. Criteria for participation in the study included self-identification as an African American, at least 18 years of age, and a diagnosis of HIV/AIDS for at least 6 months prior to the date of completing a survey. In face-to-face interviews, participants who displayed signs of being cognitively incapable of completing a survey were excluded from the study. This only occurred in one instance where the participant appeared to be under the influence of a substance and was asked to complete the survey at a later date, which she never did.

Treatment Adherence and Acculturation Project. The procedures set forth by the Treatment Adherence and Acculturation Project guided this pilot study. All interviewers

received extensive training on survey administration in this population, including a special section on universal precautions to protect the health of the interviewer and participant. Interviewers followed the guidelines set forth by the TAAP training manual and TAAP module, as well as entered into a written agreement which included a clause regarding violations of respondents' confidentiality. Survey administration via interview was highly standardized to decrease interviewer bias.

Recruitment. Due to the sensitive nature of this population, issues of confidentiality and disclosure were taken into account in recruitment strategies and procedures. All recruitment strategies followed the procedures set forth by project TAAP. In order to obtain a diverse range of participants from the target population, CBOs that served HIV/AIDS populations were identified and recruited to aid in the recruitment of their clients. Once a CBO agreed to participate, flyers were distributed and the researcher visited the site to inform potential participants of the study. All participants self-selected themselves into the study by showing up on the designated survey dates. Another strategy for recruitment was the advertisement for participation by individuals who had previously participated or had knowledge of the study.

Confidentiality. Confidentiality agreements were signed by all project TAAP staff to protect the identity of all participants. Access to data uniquely associated with a particular participant was limited only to the project TAAP staff. All identifying information was kept in a locked cabinet until the study was complete, and then all names were removed from the data sheets.

Special Considerations. HIV/AIDS is a highly stigmatized disease therefore, some individuals living with HIV/AIDS do not disclose their disease status to friends or

family, others refuse to get treatment for their disease due to denial or fear of their disease status becoming public (Klonoff & Landrine, 1998). Healthcare and other service providers are required by law to keep the identity of HIV/AIDS clients confidential. Distrust of healthcare providers by African Americans may generalize to other providers of services including researchers, therefore research that requires the asking of personal questions about health, culture and disease status may be viewed as a threat to participants, therefore it was essential that the researchers affiliated with this study took into account and respected the sensitive issues and considerations of this population.

Procedures

The following procedures were implemented depending on the preference of the participant and type of recruitment strategy employed. Face-to-face interviews or self-administration employed the following procedures, which took place in several locations including, community based organizations service provider offices, and support group sites. Participants gave verbal consent to participate in the study to an HIV/AIDS service provider or directly to a TAAP staff member. Prior to the actual interview, all participants received a copy of the written consent form which was explained in detail by a TAAP team member. After written consent was obtained, participants were given the option of completing the survey interview style or self-administration. Participants who chose to self-administer the survey were given directions to answer all questions to the best of their knowledge. During this time a staff team member was also available to answer questions. After the survey was completed, participants were compensated \$20.00.

Study Design

This investigation utilized a cross-sectional design, which was intended to capture a “snap shot” of the current conditions, additionally, by investigating this relationship at one time point, the present study provided the foundation for further investigation. There are strengths and limitations to using this design. Some of the strengths included: the collection of data consistent with the goals and aims of this pilot study, reducing the intrusive manner of collecting data at several time points, affordability and practicality and the exclusion of issues such as maturation, history or attrition with interrupted time series designs. A limitation to this design includes the inability to detect change over time.

This study utilized a non-random sample of self-selected participants, which is an appropriate and practical method of sampling for the aims and sensitive nature of this study. A limitation to the use of a non-random sample was the increased probability of sampling bias occurring as a result of participants self-selecting themselves into the study. In an attempt to reduce sampling bias, several recruitment strategies were employed to obtain a broad range of participants. The state of Michigan also provides a good demographic representation of the fastest growing HIV/AIDS incidence rates nationally; as such the pilot data from this study may be generalizable. To date, there is scarce research on the impact of culture on the relationship between social support and psychological well-being particularly among African Americans with HIV/AIDS; therefore this was an exploratory pilot study.

Measures

A self-report survey instrument was administered assessing psychosocial variables including culture, health status and intention to adhere to treatment regimen. The following variables were included, depression, social support, cultural orientation, substance use, disease progression, religiosity/spirituality and demographic information.

Demographics. Six items assessed participants' gender, age, education level, marital status, region of the country raised in, and religious preference. Participants selected from a list of several responses. These results are displayed in Table 1.

Collectivist Orientation. Ten items assessed participants' level of collectivist orientation including behavioral choices that favor group goals in situations where group and personal goals come into conflict. Response values were measured on a 5-point Likert scale. The response values for each item ranged from 1 "completely describe," to 5 "completely does not describe." For example, I sacrifice self-interest for my group. This scale has adequate internal reliability ($\alpha = .88$ see Appendix A). In this sample this scale demonstrated lower internal reliability ($\alpha = .73$).

The Social Support Questionnaire (SSQ-6). An adapted version of the SSQ assessed satisfaction with perceived social support. The original scale measured both the functional and structural aspects of social support. The modified measure as used in previous studies (Ingram, et al., 1999) examines functional support. In the modified version, participants rated their satisfaction with the provided support. Response items were measured on a 6-point Likert scale and ranged from 1 "very dissatisfied" to 6 "very satisfied." For example, "how satisfied are you that ...you can really count on someone to listen to you when you need to talk?" This scale has exhibited good internal reliability

($\alpha = .93$)(see Appendix B). In this sample this scale demonstrated internal reliability ($\alpha = .91$), similar to the standardized sample.

The Prime MD Patient Questionnaire. Ten items assessed symptoms of depression. This measure is commonly utilized by physicians to determine the effectiveness of treatment. The modified measures response stems were increased from four to seven stems to increase variability in responses. The response values ranged from 1 “not at all” to 7 “Nearly every day.” For example, “over the past 2 weeks have you been bothered by any of the following problems (e.g. Little interest or pleasure in doing things)?” (see Appendix C). The reliability for the original measure was not available, however in this sample the internal reliability was ($\alpha = .85$).

The Multidimensional Measure of Religious Involvement for African Americans. Sixteen items assessed religiosity among African Americans living in the continental US. A modified version (Martin, 2001) adapted from Lewin, Taylor and Chatters (1995) was utilized in this pilot study. The modified measure includes 4 items on spirituality to ensure that both aspects of religiosity and spirituality were assessed. The response items were on a 5-point Likert scale that ranged from, 1 “not at all” to 5 “always.” For example, “How often do you attend religious services?” (see Appendix D). The internal reliability for the original measure was ($\alpha = .86$). The internal reliability for this sample was ($\alpha = .88$).

Addictive Severity Index. This measure is the sum of two subscales, one of illicit substances and the other of prescribed medications. This scale contains 13 items. For example, “in the past 30 days how many times have you used marijuana?” Response

items were continuous (see Appendix E). The internal reliability for this sample was ($\alpha = .69$).

Disease progression. Previous studies investigating persons with HIV/AIDS typically examined disease progression in terms of CD4 count, viral load and symptoms. Objective and accurate CD4 counts and viral loads require the drawing of blood samples and laboratory testing. This was a self-report study that was interested in the participant's perception of their illness including disease progression; therefore, the collection of such information went beyond the scope or necessity of this study. Previous studies have also used self-report CD4/T-cell counts as indicators of disease progression (Serovich & Kimberly, 2000). In the current study indicators of progression were operationalized as presence of co-morbidities or opportunistic infections and self-report CD4/T-cell counts (APPENDIX F).

Two items assessed disease progression. For example, "What is your most recent t-cell count?" The second question is an eleven item dichotomous "yes" or "no" checklist, which assessed co-morbidities that had occurred in the past 6 months. This scale was developed specifically for this study and was based on the current HIV/AIDS literature. Two HIV/AIDS healthcare specialists reviewed these items for validity.

Sample Size

A power analysis (Cohen, 1992) was calculated to determine the sufficient sample size necessary to obtain a large effect size for a multiple regression/correlation analysis with five independent variables. At a P value of ($p < .05$), a multiple regression with five independent variables has 80% power to detect $f^2 = .35$ with a minimum sample size of $n = 45$. The sample size for this study was $n = 72$.

Analyses

In order to test the first hypothesis of whether cultural orientation moderated the relationship between social support and psychological well-being, Multiple Linear Regression (MLR) analysis was conducted to determine if a correlation between social support and psychological well-being changed as a function of level of cultural orientation. Introduction of a moderator variable aids in the prediction as well as the understanding of the relationship between social support and psychological well-being when a third variable, in this case cultural orientation was introduced. MLR examines the degree of association between the independent variables, social support and the covariates and the dependent variable, psychological well-being operationalized as depressive symptoms (Tabachnick & Fidel, 1983). Research suggests that multiple factors influence psychological well-being, including perceived social support and other possible influential factors pertaining to HIV/AIDS including substance use, disease progression, and religiosity/spirituality (Bing et al., 2001; Catz et al., 2000; Hockman et al., 2000; Simoni et al., 2002). To test the second hypothesis of a positive relationship between perceived social support and psychological well-being over and above the covariates, substance use, disease progression and level of religiosity/spirituality, Hierarchical Linear Regression (HLR) was conducted to hold the covariates constant in order to control for initial differences. Partial regressions (R^2), were calculated to determine the proportion of variance in psychological well-being accounted for by the covariates.

Assumptions of Regression. Multiple linear regression is an appropriate statistical technique for measuring the association between variables in non-experimental designs,

and to detect moderating effects using categorical and continuous variables (Baron & Kenny, 1986). In order to conduct MLR, several assumptions must be satisfied including, normality, linearity, homoskedasticity, lack of multicollinearity, and specification. MLR is generally robust in the presence of departures from some of these assumptions except for linearity, measurement errors and high specification. The normality assumption assumes that the sample and variables will have a normal distribution. Linearity assumes that the relationship between the predictor(s) and dependent variable is linear. The assumption of homoskedasticity refers to premise that the variability in scores on a variable should be the same at all values of the other variable, while multicollinearity refers to the constant pattern of correlation between variables. The specification assumption refers to the inclusion or exclusion of the proper variables in the model and measurement error results in a bias estimate of the correlation coefficients. These assumptions were examined by histograms, residual scatter plots and computational options on SPSS Version 10. In this model social support was a predictor of psychological well-being, and cultural orientation was introduced as a moderating variable on this relationship. Substance use, disease progression and religiosity/spirituality were all covariates.

RESULTS

The following analyses were performed at a conventional significance level ($p < .05$) (Cohen, 1986). Multiple Linear Regression and Hierarchical Linear Regression (HLR) were conducted to test the two hypotheses 1) Collectivism moderates the relationship between social support and psychological well-being and, 2) Social support predicts psychological well-being above and beyond substance use, disease progression and religiosity/spirituality. In order to test these hypotheses, preliminary data screening and analyses were performed.

Preliminary Analyses.

Demographic information is presented in Table 1 and descriptive statistics of the variables employed in the current investigation are presented in Table 2. Some of the variables slightly to moderately deviated from a normal distribution (as evidenced by skew > 2 , and kurtosis > 7 , according to West, Finch & Curran, 1995). Additional information regarding the departure from normality in the data was visually represented by histograms and scatter plots of the variables.

Data Preparation. Data were examined prior to hypothesis testing to determine the goodness of model fit. Preliminary examination of the dataset included detection of missing data and outlier scores, which may have had influential effects on the correlation coefficients. There are a number of techniques to deal with missing data. For this study, missing data was random and represented a small percentage of the data, therefore the mean substitution method was utilized and missing data were replaced with mean scores (Tabachnick & Fidell, 1983). Outliers were detected by examining scatter plots and using Degree of Freedom Betas (DFBETAS), which examines the extent to which a single case

has an influence on a slope coefficient. Larger absolute values of DFBETA indicated a stronger influence. Cooks Distance (Cooks D) was also utilized to determine if an entire case was an outlier with respect to the distribution of X values, the influence exerted by the case on the regression equation, and the extent to which the case has an outlying residual (Myers & Well, 1995). The mean replacement technique was also utilized for outliers since they were random and represented a small percentage of the data.

Descriptive statistics demonstrated that social support, depression, and substance use, were skewed, violating the normality assumption. Cultural orientation, disease progression, and religiosity/spirituality were all normally distributed. Examination of the skewness and kurtosis determined that the variables, which violated the normality assumption, could still be included in the analysis. Unstandardized sum scores of the variables were used in the analyses. Unstandardized scores were used in order to avoid sample-specific results.

Descriptives. Frequency distributions of the dependent variable, psychological well-being displayed a series of negative set responses. The majority of participants reported low levels of depression symptoms (\underline{M} =26). Frequency distributions of the social support variable demonstrated a series of positive set responses. The majority of participants responded in the positive direction on this measure reporting high levels of satisfaction with the available social support (\underline{M} =25). Frequency distributions of the in-group collectivism measure demonstrated good variation in a normal distribution (\underline{M} =25). Frequency distributions of the religiosity/spirituality scale demonstrated that the majority of participants reported high levels of religiosity/spirituality (\underline{M} = 40). Frequency distributions of the substance use scale demonstrated that the average number

of times participants used substances beyond their prescription, if they had one, was 7 days ($M=7$) in the past 30 days. Frequency distributions of the disease stage items revealed that the majority of participants were diagnosed with HIV, which had not yet developed into AIDS ($N=42$). The average amount of time individuals had been diagnosed with HIV was 60 months or 5 years. The average t-cell count was 374, which constitutes the middle symptomatic stage of HIV. The average viral load count for participants was 6,772 and the average number of co-morbidities was ($M=2$). Zero-order bivariate correlations were conducted to assess the association between the variables in the models and detect multicollinearity. At a standard significance level ($p < .01$) for a two-tailed test, the results are summarized in Table 3.

Assumption Testing. As previously stated, most variables appeared to have a normal distribution or distribution approaching normality. For those variables, which did not have a normal distribution, their skewness and kurtosis failed to indicate that they should not be included in the model therefore satisfying the specification assumption. A scatter plot of the dependent variable and each independent variable was conducted to determine linearity (Figures 9-14). The relationship between social support and depression/psychological well-being was non-linear (Figure 9). Regression is not robust to the violation of the linearity assumption, therefore data transformation to induce linearity was performed. Log transformations of the dependent variable and the independent variable social support were performed separately and simultaneously. The relationship between the two variables remained non-linear. Examination of the residuals detected homoskedasticity as evidenced by the random spread of the residuals (Myers & Wells, 1995). Heteroskedasticity was examined to determine if the error variance was

constant which may have increased the bias of the estimates. The plot determined that there was no indication of heteroskedasticity. Regression is dependent on the non-relatedness of the independent variables, examination of the tolerance tested lack of multicollinearity of the independent variables. A Tolerance of less than or equal to .10 indicates a serious problem of correlated independent variables. The tolerance of most of the variables indicated no violation of the multicollinearity assumption (as evidenced by a tolerance approaching 1, Myers & Wells, 1995). It is apparent that the violation of the linearity assumption between social support and depression led to the inability to make any inferences regarding the regression analyses which is based on the linear relationship between variables. Analyses were conducted despite prior knowledge of the serious violation, which would yield biased results.

Hypothesis Testing

To test the first hypothesis of whether cultural orientation moderated the relationship between social support and psychological well-being, a Multiple Linear Regression (MLR) was conducted according to Baron and Kenny's (1986) criteria for a moderating variable. For example, if collectivism moderated the relationship between social support and psychological well-being, the relationship between psychological well-being and social support would differ according to the level of collectivism. In this regression, cultural orientation and social support were the independent variables; psychological well-being was the dependent variable. The interaction term was the product of collectivism and social support. In the analysis, psychological well-being operationalized as depressive symptoms was the dependent variable. Social support and collectivism were the independent variables entered into the first block. The interaction

term was another independent variable entered into the second block. The results did not detect any main effects, [$F(2, 69) = .726; p = .24$] or interactions, [$F(3, 68) = .635; p = .26$]. These findings suggest that individuals who reported a higher collective cultural orientation did not demonstrate a stronger correlation between social support and psychological well-being in comparison with individuals who reported lower levels of collectivism.

To test the second hypothesis of whether social support predicted psychological well-being while controlling for substance use, disease progression, and religiosity/spirituality, a Hierarchical Linear Regression (HLR) was conducted. The dependent variable psychological well-being and the independent variables were entered in two blocks specified by previous research. The first block contained substance use, disease progression and religiosity/spirituality. The findings demonstrated that the covariates explained 17 percent of the variance in psychological well-being $F(4, 67) = 3.38, p < .01$). In order to determine if social support predicted psychological well-being above and beyond the covariates, social support was entered into the regression analysis in the second block. Results demonstrated that social support did not predict psychological well-being above and beyond the covariates $F(5, 66) = 2.68, p < .03$). Examination of R^2 change for the second model, suggests that the covariates accounted for all of the variance in the regression model ($\Delta R^2 = .001, \Delta F = .067$). Examination of the beta weights indicated that disease progression, specifically comorbidities was the only significant predictor of psychological well-being, accounting for the greatest proportion of variance ($\beta = 1.62, p < .00$) in the overall model. Results are displayed in Table 5.

DISCUSSION

This investigation examined the role of cultural orientation on the relationship between social support and psychological well-being while accounting for other relevant factors that may influence this relationship among African Americans with HIV/AIDS. The results from this study do not support the hypotheses. The well-substantiated relationship between social support and psychological well-being was not demonstrated by the findings. This is in stark contrast to the wealth of findings, which support this relationship (Cohen 1985; Myers & Durvasula, 1999; Pierce et al., 1986). The lack of support for the hypotheses may be attributable to the homogenous sample in terms of support group members, which may have biased the results. The majority of individuals who participated in the study, with the exception of two, were members of a support group. As expected, most participants reported high levels of satisfaction with the support they received. This may be due to the fact that many HIV/AIDS support groups generally promote healthy attitudes and optimistic thoughts. Support groups tend to take a holistic approach with group members promoting healthy psychological feelings in order to promote or maintain optimal physical health. As such, participants in this sample reported low levels of depression or otherwise stated, higher levels of psychological well-being. This is contradictory to research, which has demonstrated a slightly higher level of depression in HIV/AIDS populations (Burack et al., 1993; Ciesla et al., 2002; Clay, 2000; Lyketsos et al., 1993).

Research demonstrates that among persons with HIV infection, clinical depression is the most frequently observed psychiatric disorder, affecting between 4 percent and 14 percent of gay men and non-drug-using women, with higher rates among

both infected and uninfected injection drug users. When researchers compare depression rates for HIV-infected individuals to the general population rates, results are inconsistent. More recent reports have not reported different rates of depression in samples at different stages of HIV illness. The cumulative evidence is inconsistent and demonstrates a need for continued research on this topic, including other possible predictors of psychiatric symptoms such as social support.

It is not known whether the findings of high levels of satisfaction and low levels of depression are unique to the support group sampled in this study or due to lack of a diverse sample. The use of a comparative sample composed of non-support group members would have been ideal for statistical analysis but was a limitation of recruitment in this sensitive population for this pilot study. There is a sparse amount of research on support group participation and psychological well-being among persons with HIV/AIDS, therefore, there was no prior indication that the relationship between social support and psychological well-being in this sample would not be supported. On the contrary, it is reasonable to predict that support group members would have demonstrated a relationship between social support and psychological well-being since they are receiving support in comparison with persons with HIV/AIDS who may not belong to a support group and in turn may not receive support from other sources. This provokes the question of whether sources of support are even relevant.

All sources of support were not identified in this investigation. As previous literature suggests, cultural orientation dictates that the source of support is as important as satisfaction with that support (Kniselt & Norhouse, 1994; Krzysztof & Norris, 2000; Sarason & Sarason, 1982). In recent years, the construct of culture has emerged as an

important factor used to explain the actual and perceived availability of social support (e.g., Barrera & Reese, 1993; Dunkel-Schetter, Sagrestano, Feldman, & Killingsworth, 1996; Maton et al., 1996; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988; Sinha & Verma, 1994; Vaux, 1988). Individuals may utilize and evaluate social support according to their cultural schemas. Evidence suggests that seeking and receiving help are guided by general concerns of dependence versus independence (Kanaisty & Norris, 2000; Nadler, 1997; Weres & DePaulo, 1991). Thus, individual differences in the propensity to rely on social support networks in times of need could be a reflection of cultural values and norms that inherently encompass "dependence-independence." In other words, certain cultural traditions and orientations may foster greater development of and reliance on natural support systems which is not always possible if an individual with HIV/AIDS is confronted with the stigma issues associated with HIV/AIDS disease. For instance, a characteristic of collectivism is that individuals will utilize support from natural sources including family and friends more effectively than from formal institutions. This study cannot make inferences about this relationship since information about the source of support was not collected. It may be speculated that support from a formal group may have had a different affect than support from natural sources and therefore should be included in a future investigation.

Taking culture into account, the Individualism/Collectivism (I/C) theory was an appropriate theory used to guide this study and examine the processes by which culture may influence the relationship between social support and psychological well-being. Ball and colleagues (Ball, 1983; Ball, Warheit, Vandiver, & Holzer, 1979; 1980) demonstrate that low-income black women have easy access to highly developed networks of relatives

and friends that are perceived as willing to provide support. Nevertheless, compared to their white counterparts, black women's requests for assistance were infrequent. In contrast, other studies suggest that African Americans call on aid from others with equal or greater frequency than European Americans (e.g., Ulbrich & Warheit, 1989; Husaini, Moore, & Cain, 1994, Steward & Vaux, 1986). This may not be indicative of persons with HIV, since trust issues, particularly regarding disclosure may exist. Individuals may be satisfied with the support they receive from various sources, however, if they have not disclosed their disease status, they may not receive support directly related to their illness, which in turn may not buffer the negative feelings associated with that illness.

In this investigation social support did not predict psychological well-being above and beyond substance use, disease progression and level of religiosity/spirituality. Consistent with previous research (Hayes et al., 2000; Burack et al., 1993, Lyketsos et al., 1993; Morrison et al., 2002), disease progression was the strongest predictor of psychological well-being. Increasing evidence suggests that psychosocial factors such as stress and depression may have a harmful impact on the course of many diseases, such as cardiovascular disease, cancer and HIV (Faler et al., 1999; Fawzy et al., 1993; Frasure-Smith et al., 1993; Glaser et al., 1999; Mussel et al., 1998; Ramirez et al., 1989; Schulz et al., 2000; Spiegel et al.1989). Recent studies also examine the effects of depression on HIV disease progression, demonstrating an association between depression and early, as well as late, disease progression (Page-Schaeffer et al., 1996; Mayne et al., 1996; Leserman et al., 1999; Ickovics et al., 2001). Some studies assessing the effects of stress and depression on immune function in HIV-infected individuals have yielded a positive relationship (Evans et al., 1995; Leserman et al., 1997; Burack et al., 1993; Kemeny et

al., 1994), whereas others have found no association (Perry et al., 1992; Lipsitz et al., 1994; Rabkin et al., 1991). Thus, the mechanisms by which stress and depression may influence disease progression and mortality in HIV infection or the direction of this association remains to be determined (Lyketsos et al., 1996; Cohen et al., 2002).

While disease stage predicted psychological well-being, surprisingly and contrary to previous research (Bing et al., 2000; Brome, 2000; Lyon & Munro, 2001; Malbergier et al., 2001; Simoni et al., 2002), substance use and religiosity did not. One possible explanation for the lack of association between substance use and psychological well-being may be the low levels of reported substance use. One qualification for attending the support group sampled in this study is that members must be sober. This may have led to under reporting of substance use for fear of repercussions or a simple distrust of revealing sensitive information that individuals may feel could have possible legal ramifications. Another possible explanation is the inclination to give socially desirable responses, especially for participants who were administered the survey in an interview format. Lastly, participants may also be aware of the negative interaction between substance use and treatment effectiveness and, therefore, have low levels of substance use. It can be concluded from the current investigation's findings and previous studies, that in addition to behavioral, more effective clinical management of HIV-related symptoms may improve functioning and well-being in persons at all stages of HIV infection.

The issue of social support and depression among African Americans with HIV/AIDS is of particular importance due to the isolation some African Americans may feel as a result of an HIV diagnosis in comparison with the white gay male community,

the group with the second highest HIV/AIDS incidence and prevalence rates. It is important to recognize that the majority of HIV-infected individuals are likely to experience periods of sadness and distress from time to time particularly, in relation to the illness or the death of friends or family. This is to be expected and is common. Therefore, the low rates of depression reported in this cross-sectional investigation do not necessarily signify a total absence of distress. The significance of disease stage predicting psychological well-being is consistent with previous findings (Ostow, 1989; Lyketsos, 1996) and inconsistent with longitudinal studies of HIV-infected men and women, which suggests that rates of depression do not increase over time (Lipsitz et al., 1994; Perdices et al., 1992; Blaney et al., 1990; Chuang et al., 1989; Rabkin et al., 1997). Further research is necessary to better understand this finding.

Limitations.

The findings of the current study are subject to methodological limitations. It appears that the recruitment strategy most heavily employed introduced a biased sample (towards individuals who received high levels of support and reported high levels of psychological well-being), into the study. This resulted in a lack of a comparative sample to compare the results to. Although a comparative sample is ideal for statistical comparison, lack of normality violations in the study's preliminary descriptive analyses demonstrated that the regression test would be robust to the amount of skewness and kurtosis detected. Due to the sensitive nature of HIV and the feasibility constraints in this investigation, members of support groups were the most willing to participate in the study.

Another limitation may have been the interview style format, which was used to collect data. Participants were given the option to self-administer the survey or complete the survey in small groups of two to four people with a trained interviewer reading each item. Most individuals opted to complete the survey in small groups, which may have also resulted in response bias. A related limitation of this study is the use of a self-report instrument and a cross-sectional design. As previously stated, one provision of support group participation is that members are sober during the meetings. This provision may influence the responses given on several of the measures including, substance use, in addition to the influence of social desirability when reporting socially “undesirable” or even illegal behavior. Secondly, due to the study's design, inferences about causal relationships cannot be made.

A third potential methodological difficulty in this study is the issue of depression in populations with known mental illness. It is sometimes difficult to distinguish symptoms of depression from symptoms of medical illness due to the possibility that complications from both depression and HIV disease result in similar somatic symptoms. Fatigue, lethargy, low libido, low appetite, and weight loss may be manifestations of either HIV-related illnesses or depressive disorder. In contrast, cognitive and affective symptoms such as feeling sad, losing interest in formerly enjoyable activities, guilt, and irritability are components of mood alone. In evaluating "interest," for example, “in the past 14 days have you had little interest in doing things,” the measure does not distinguish between loss of physical energy and loss of interest per se. For clarification, an assessment may be specific and an item may include, "If you had the energy, are there things you'd like to do today?" Similarly, if reduced appetite and weight loss occur in

the presence of medical problems such as oral lesions, which make eating difficult, gastrointestinal disease, or antibiotics known to cause anorexia or nausea these indicators would not be considered depressive symptoms if they were not also initiated, maintained, or exacerbated by depressed mood. With improved measures, the diagnosis of depression, even in the context of severe medical illness, can be done with greater confidence.

Finally, the failure to find any significant relationships between some of the independent variables and the dependent variable may be attributable to the measures employed. The measure of substance use only provides a rough estimate of recent alcohol and drug use (past 30 days) and does not provide a sensitive measure of lifetime use. In addition, the religiosity/spirituality measure attempts to operationalize this construct in terms of practices and rituals. Further testing of these instruments in African American samples is necessary because of the inadequate representation of African Americans in the normative sample data on some measures.

Despite this investigation's limitations, several strengths of the present study should be noted. Study participants represent a heterogeneous, often difficult to reach sample of African Americans with HIV/AIDS. African Americans represent an increasing proportion of the HIV epidemic in the United States, and there is a paucity of information on psychiatric diagnoses in this population. The findings from this study may be useful in future research and suggest that interventions may want to include a component of religiosity, substance use and disease management. Also, lack of support for the relationship between social support and psychological well-being in a support

group sample may be further examined to determine the effectiveness of support group participation.

To date, there are no published studies examining the influence of cultural orientation on the relationship between social support and psychological well-being among African Americans with HIV/AIDS, therefore this study provides a foundation from which further research can be conducted.

Future Direction.

In summary, the current investigation attempted to examine the influence of cultural orientation on the relationship between social support and psychological well-being in a sample with a limited amount of published research. Additional areas for future investigation include addressing the processes by which individuals utilize social support and factors, which influence this relationship. Additionally, future studies may utilize a longitudinal design in order to make inferences about the relationships between variables. While the results of this study did not support the hypotheses of collectivism moderating the relationship between social support and psychological well-being and social support predicting psychological well-being above and beyond substance use, disease stage and religiosity/spirituality, findings from this study are useful for informing the design of future investigations and interventions.

The role of culture in the relationship between social support and psychological well-being is yet to be understood in this context. Persons with HIV/AIDS are living longer and remaining active and contributing members of society. Various ethnic groups, particularly African Americans are overrepresented in the epidemic, since cultural differences demonstrate to be a major factor in social support and psychological well-

being, research must continue to investigate this area. The present investigation emphasizes a number of factors and complex relationships that exist between these factors among individuals infected with HIV/AIDS. The current investigation's findings have clinical implications for comprehensive treatment services, such that, individuals may be encouraged to participate in some form of supportive network at critical points during the progression of their disease to promote their psychological well-being. The current findings suggest that interventions should continue to provide social supportive services in addition to comprehensive substance use, disease management and a religious/spiritual component in order to promote psychological well-being among persons living with HIV/AIDS. The benefits of social support are substantial, it is important to determine conditions that facilitate its receipt and utilization (Kanaisty & Norris, 2000). Lastly, support is often sought or given at critical times, specifically for individuals with illnesses. This investigation demonstrates that support should be a process that is utilized and provided on a continual, long-term basis. An understanding of cultural variability in the patterns of various types and sources of support may have implications for understanding cultural differences in health outcomes among persons with HIV/AIDS. In the future, this study will be expanded to include other samples of African Americans with HIV/AIDS and will continue to examine the relationships, which were not supported in this current investigation due to the overwhelming amount of literature that continues to support these relationships.

Table 1

Demographics of Sample Population

Sample	No. (%)
Gender	
Male	45 (63%)
Female	27 (38%)

Age	<u>M</u> = 42, <u>SD</u> 7
Education	<u>M</u> = 9-12 years

Marital Status	
Single	49 (68%)
Married	7 (19%)
Divorced	5 (7%)
Widowed	6 (8%)
Cohabiting	5 (7%)

Table 3

Correlations of the Dependent and Independent Variables

	Depress	Soc Sup	Collect.	Substance Use	Comorbidities	T-Cell Count	Religion/Spirit
Depress	1.00	.024	.197*	-.139	.368**	-.100	.001
Social Support	.024	1.00	.039	-.039	-.014	-.055	.388**
Collectivism	.197*	-.039	1.00	-.122	-.130	.034	.023
Substance Use	-.139	-.311**	-.122	1.00	.054	-.128	-.164
Comorbidities	.368**	-.014	-.130	.054	1.00	-.095	.039
T-Cell Count	-.100	-.055	.034	-.128	-.095	1.00	.060
Religion/Spirituality	.001	.388**	.023	-.164	-.039	.060	1.00

* $p < .05$ (2 tailed)** $p < .01$ (2 tailed).

Table 2

Means, Standard Deviations, Range, Skewness and Kurtosis of Variables

Variable	Mean	Std Dev	Range	Skewness	Kurtosis
Depression	25.51	11.17	1-7	.436	-.422
Social Support	24.58	5.25	1-5	-1.02	.420
Collectivism	25.27	6.15	1-5	-0.18	-2.33
Substance Use	7.04	17.18	continuous	3.09	9.84
Comorbidities	2.41	2.51	continuous	-.789	-.348
T-Cell Count	374	419	continuous	1.51	3.02
Religion/Spirituality	39.55	10.29	1-7	-.596	-.225

Figure 2

Multiple Linear Regression and Hierarchical Linear Regression of the Dependent Variable, Independent Variable and Confounding Variables

Multiple Linear Regression Equation

Hypothesis 1

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_1 X_2 + e_i$$

Y = Depression/Psychological Well-being

β_0 = intercept

X_1 = Social Support

X_2 = Collectivism

X_{12} = Interaction

Hierarchical Linear Regression

Hypothesis 2

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e_i$$

Y = Depression/Psychological Well-being

β_0 = intercept

X_1 = Social Support

X_2 = Substance Use

X_3 = Disease Progression

X_4 = Religiosity/Spirituality

Table 4

Summary of Multiple Linear Regression Analysis for Variables Predicting Psychological Well-being (N=72)

Variable	B	SE B	β
Step 1			
Social Support	----	.247	.030
In-group (Collectivism)	.263	.228	.138
Step 2			
Interaction (Social Support * Ingroup)	-----	.029	-.347

Note $R^2 = .014$ for Step 1. $\Delta R^2 = .004$ for Step 2 (p=ns)

Table 5

Summary of Hierarchical Regression Analysis for Variables Predicting Psychological Well-Being (N=72)

Variable	B	SE B	β
Step 1			
Substance Use	-.11	.07	-.17
Comorbidities	1.62	.49	.37
T-Cell Count	-----	.00	-.09
Religiosity/Spirituality	-----	.12	-.26
Step 2			
Substance Use	-.12	.07	-.18
Comorbidities	1.62	.50	.37
T-Cell Count	-----	.00	-.09
Religiosity/Spirituality	-----	.13	-.00
Social Support	-----	.27	-.03

Note $R^2 = .17$ for Step 1. $\Delta R^2 = .001$ for Step 2 (p=ns)

Figure 3

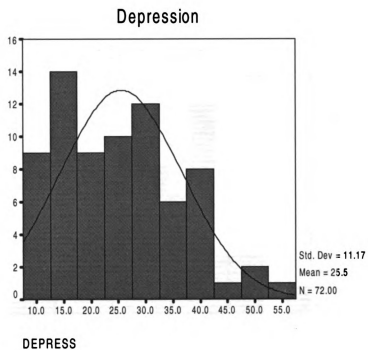


Figure 4

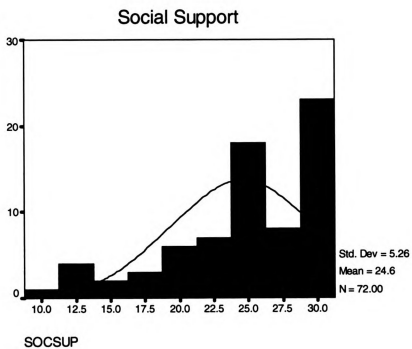


Figure 5

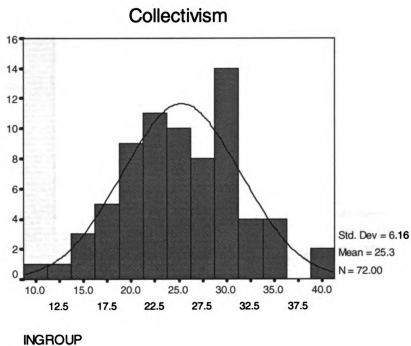


Figure 6

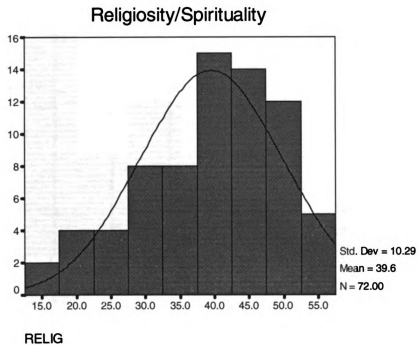


Figure 7

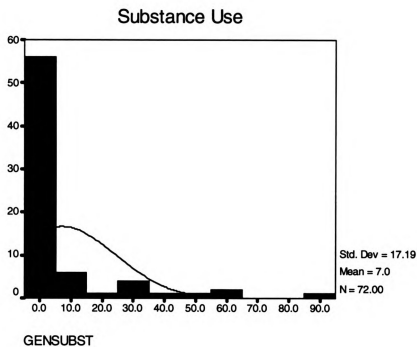


Figure 8

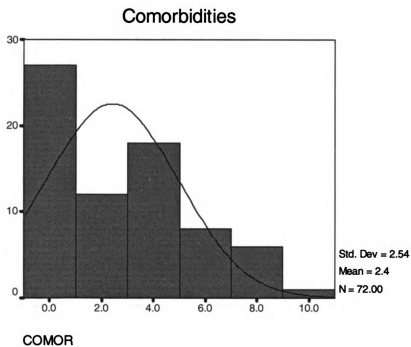


Figure 9

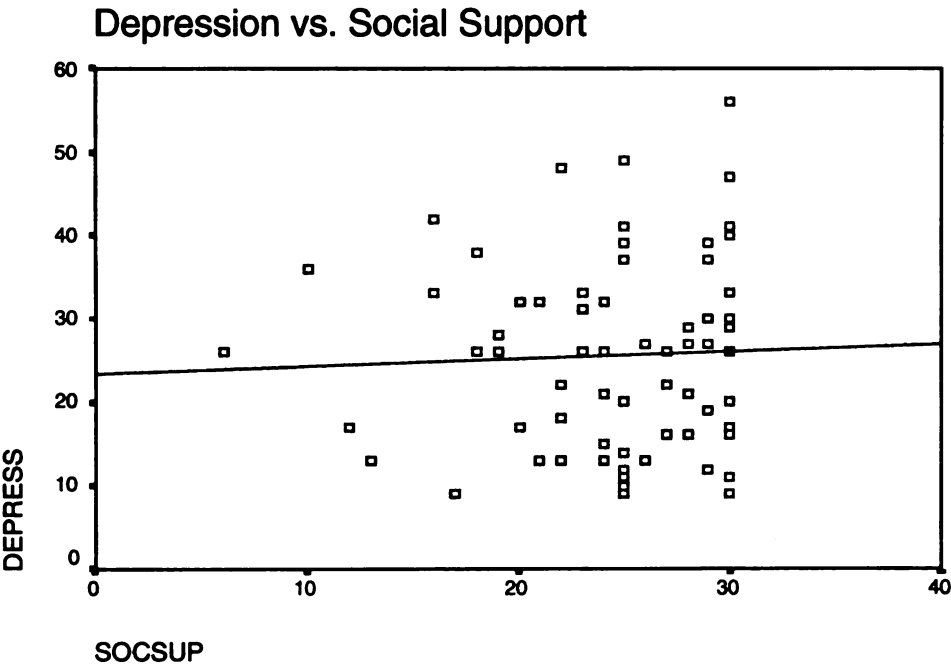


Figure 10.

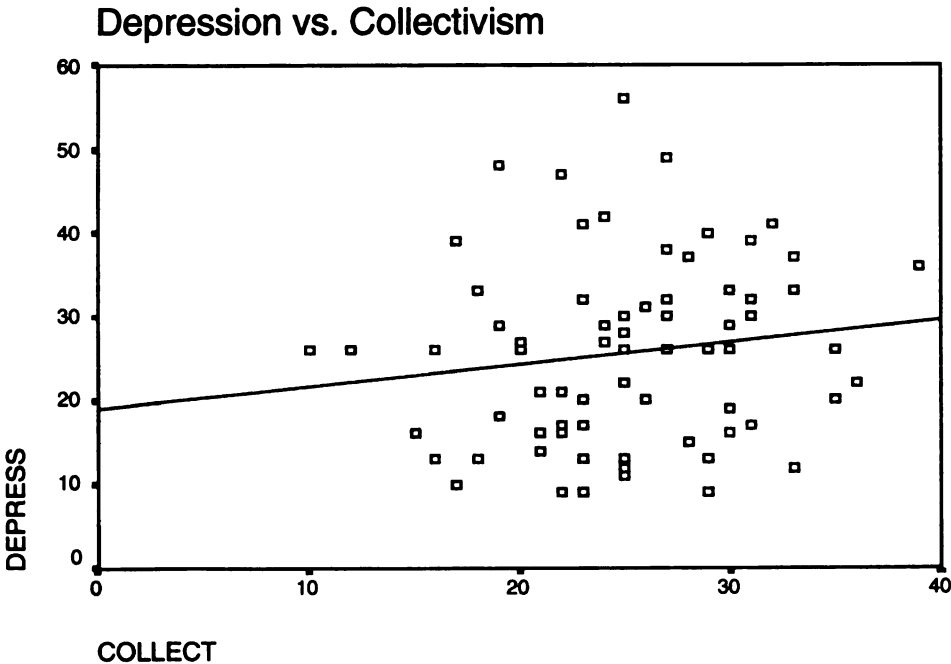


Figure 11

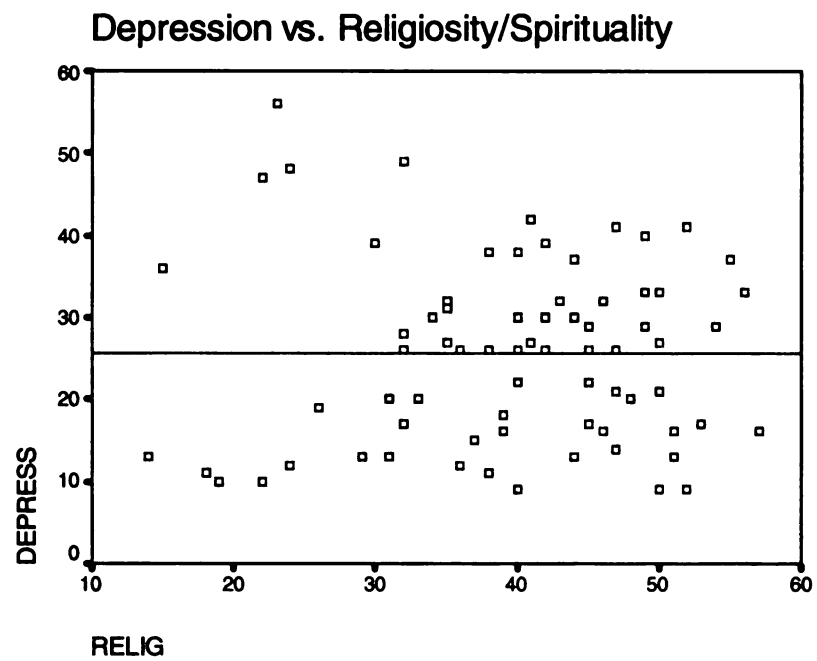


Figure 12

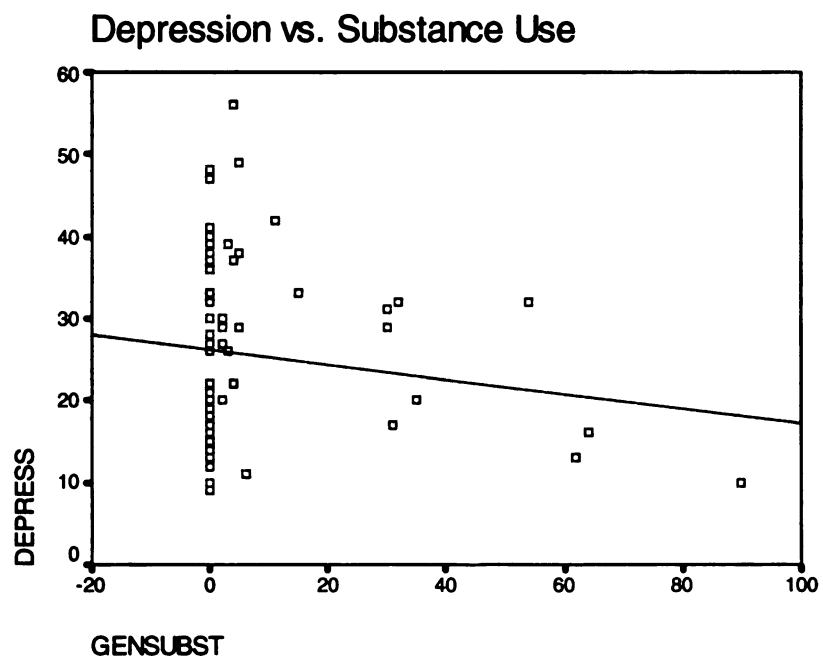


Figure 13

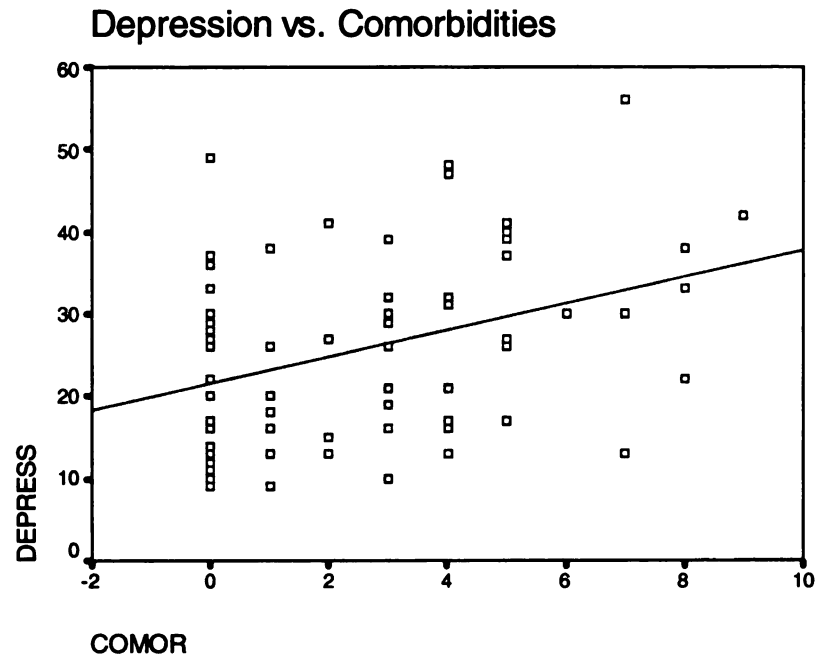


Figure 14

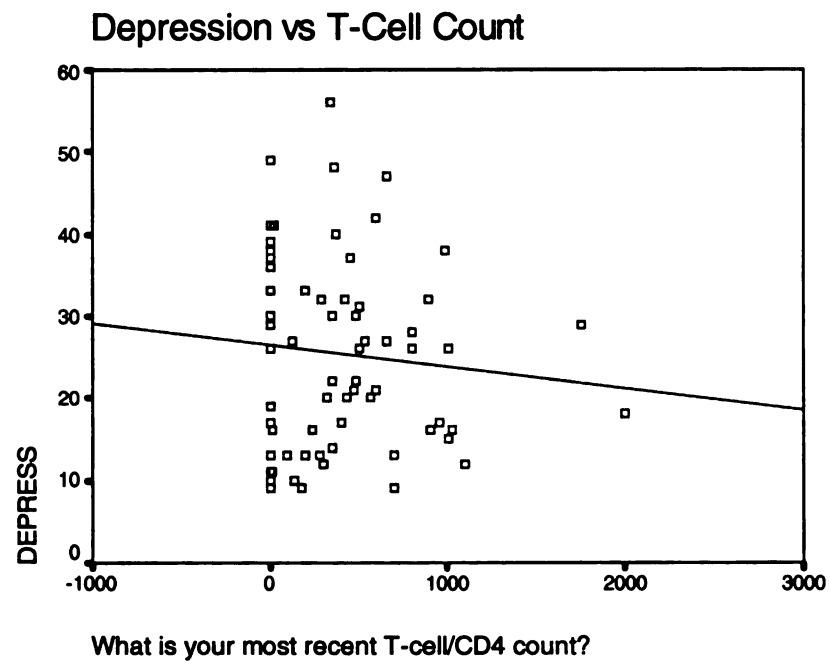
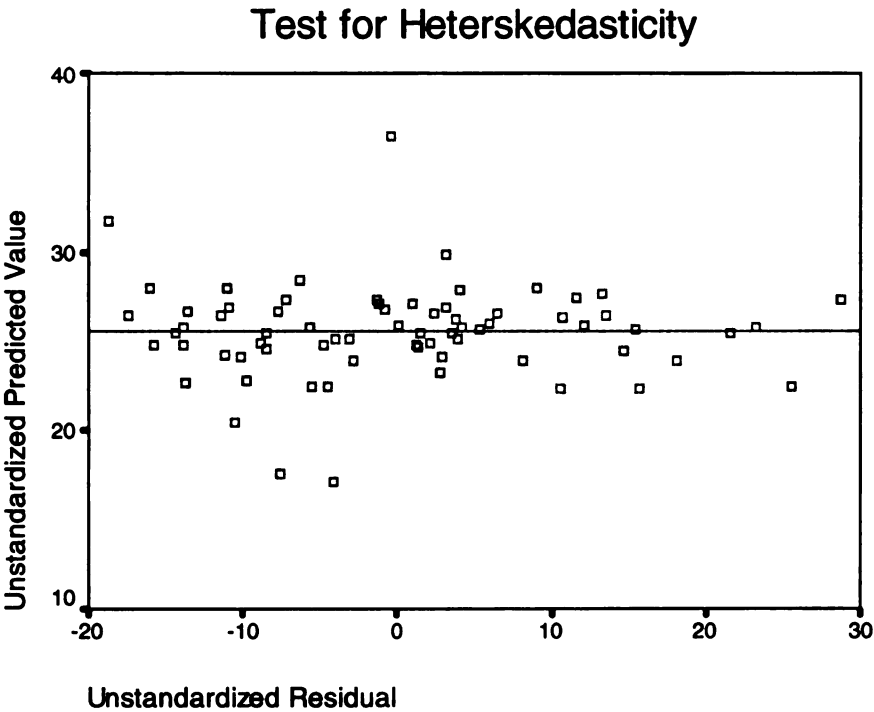


Figure 15



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Appendix A

The following items assess your feelings about your culture. In this section, we are only interested in your cultural beliefs.

Please circle whether you feel each statement completely, very much, somewhat, very little or not at all.

<u>Completely</u>	<u>Very much</u>	<u>Somewhat</u>	<u>Very Little</u>	<u>Not at all</u>
1	2	3	4	5

a. I sacrifice self-interest for my group.	1	2	3	4	5
b. I act as fellow group members would prefer.	1	2	3	4	5
c. I stick with my group even through difficulties.	1	2	3	4	5
d. I maintain harmony in my group.	1	2	3	4	5
e. I respect the majority's wish.	1	2	3	4	5
f. I support my group, whether they are right or wrong.	1	2	3	4	5
g. I respect decisions made by my group.	1	2	3	4	5
h. I remain in my group if they need me, even though dissatisfied with them.	1	2	3	4	5
i. I avoid arguments within my group, even when I strongly disagree with other members.	1	2	3	4	5
j. I make an effort to avoid disagreements with my group members.	1	2	3	4	5

Appendix B

The following questions ask about people in your environment who provide you with help or support.

Circle how satisfied you are with the overall support you have. Please answer all questions as best you can.

<u>Extremely Dissatisfied</u> 1	<u>Dissatisfied</u> 2	<u>Moderately</u> 3	<u>Satisfied</u> 4	<u>Extremely Satisfied</u> 5
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How satisfied are you that

a. you can really count on someone to listen to you when you need to talk?	1	2	3	4	5
b. you can really count on someone to help you out in a crisis situation, even though they would have to go out of their way to do so?	1	2	3	4	5
c. you can really count on someone to be dependable when you need help?	1	2	3	4	5
d. there is someone with whom you can totally be yourself?	1	2	3	4	5
e. there is someone you feel really appreciates you as a person?	1	2	3	4	5
f. there is someone you can count on to console you when you are very upset?	1	2	3	4	5

Appendix C

The following questions ask about how you have been feeling. Please circle the answer that best applies.

During the past 14 days have you experienced any of the following?

No Days 1	1-2 Days 2	3-4 Days 3	5-7 Days 4	8-10 Days 5	11-13 Days 6	All 14 Days 7
a. Little interest or pleasure in doing things	1	2	3	4	5	6 7
b. Feeling down, depressed, or hopeless	1	2	3	4	5	6 7
c. Trouble falling/ staying asleep, sleeping too much.	1	2	3	4	5	6 7
d. Feeling tired or having little energy.	1	2	3	4	5	6 7
e. Poor appetite or overeating.	1	2	3	4	5	6 7
f. Feeling bad about yourself or that you are a failure or have let yourself or family down.	1	2	3	4	5	6 7
g. Trouble concentrating on things, such as reading the newspaper or watching television.	1	2	3	4	5	6 7
Moving or speaking so slowly that other people could have noticed. Or the opposite-being so fidgety or restless that you have been moving around a lot more than usual.	1	2	3	4	5	6 7
i. Thoughts that you would be better off dead or of injuring yourself in some way.	1	2	3	4	5	6 7

Appendix D

The following section asks questions pertaining to your participation in religious or spiritual activity.

For each one please tell me whether you do the following, never, rarely, usually, often or always.

<u>Never</u> 1	<u>Rarely</u> 2	<u>Usually</u> 3	<u>Often</u> 4	<u>Always</u> 5
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a. How often do you usually attend religious services?	1	2	3	4	5
b. Are you an official member of a church or other place of worship?	1	2	3	4	5
c. How many church clubs or organizations do you belong to or participate in?	1	2	3	4	5
d. Besides regular service, how often do you take part in other activities at your place of worship?	1	2	3	4	5
e. Do you hold any positions or offices in your church or place of worship?	1	2	3	4	5
f. How often do you read religious books or other religious materials?	1	2	3	4	5
g. How often do you watch or listen to religious program on TV or radio?	1	2	3	4	5
h. How often do you pray?	1	2	3	4	5
i. How often do you ask someone to pray for you?	1	2	3	4	5
j. How religious would you say you are?	1	2	3	4	5
k. How important was religion in your home when you were growing up?	1	2	3	4	5

Appendix E

This next set of questions pertains to your medication and treatment. This information is important to gain an understanding of your disease management efforts.

In the past 30 days, how many days did you use...	# of days
a. Alcohol – please tell me about any use at all (If 0 days, skip to #c)	
b. Alcohol – use alcohol to the point that you felt the effects, you got a buzz, got high, or got drunk	
c. Cocaine	
d. Heroin	
e. Hallucinogens (LCD/acid/muchrooms/PCP)	
f. Inhalants (nitrous oxide/amul nitrate/poopers)	
g. more than one substance per day (including alcohol)	

In the past 30 days, how many days did you use...	Rx-Y/N- Name of Rx	# of days	Days Beyond Rx
a. Methadone			
b. Opiates/analgesics (Percocet/Percodan/Codeine/Demerol/Talwin)			
c. Barbiturates (Seconal/Nembutal)			
d. Sedatives, Hypnotics, Tranquilizers (Valium/Librium/Qualudes)			
e. Amphetamines (crank/speed/methamphetamine)			
f. Cannabis or Marijuana (hashish/pot/reefer)			

Appendix F

The following sections asks about your current health status including other illness or opportunistic infections. Please answer each question.

1) Has a healthcare provider ever told you that you have AIDS? **Yes** **No**

2) What is your most recent CD4 or T-cell count? _____

Have you had any of these side effects in the past 30 days? (Please circle all that apply)

a. Tuberculosis (TB)	Y	N
b. Varicella-Zoster (shingles)	Y	N
c. Ano-genital Warts	Y	N
d. Depression	Y	N
e. Cytomegalovirus (CMV)	Y	N
f. Mononucleosis	Y	N
g. Pneumocystis Carinii Pneumonia (PCP)	Y	N
h. Herpes	Y	N
i. Hepatitis	Y	N
j. Cancer	Y	N
k. Other. Please specify:	Y	N

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