

Spirituality and Psychological Adaptation Among Women With HIV/AIDS: Implications for Counseling

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Survey interviews with 230 predominantly African American and Puerto Rican low-income women who were living with HIV/AIDS in New York City revealed high levels of spirituality and spiritually based coping with HIV. Both spirituality indicators positively correlated with the frequency of receipt of HIV-related social support; they were negatively related to recent drug use. Two hierarchical regression analyses that controlled relevant covariates indicated positive correlations between the spirituality indicators and psychological adaptation (i.e., a composite measure of depressive symptomatology, mood states, mastery, and self-esteem). The beneficial effect of spiritually based coping persisted even when other types of coping were controlled. The discussion considers implications for counseling women living with HIV as well as for research and theory in the area of spiritually based coping.

HIV challenges an individual physically, socially, and psychologically. Furthermore, it may threaten one's sense of meaning, purpose, and significance in life. Research on other life-threatening illnesses has indicated that individuals often turn to religion and spirituality to cope (Dein & Stygall, 1997; Demi, Moneyham, Sowell, & Cohen, 1997; Dunbar, Mueller, Medina, & Wolf, 1998; Jenkins & Pargament, 1995; Pargament, 1997). Specifically, Sodestrom and Martinson (1987) reported that 88% of hospitalized cancer patients reported using a variety of spiritual activities and resources while coping with their illness. Reed (1987) found terminally ill adults who were hospitalized indicated a greater spiritual perspective than both nonterminally ill hospitalized and healthy adults. Among 103 female breast cancer patients, religion was an extremely important source of support (Johnson & Spilka, 1991).

Many studies involving coping among cancer patients have demonstrated the positive impact of spirituality on patients' psychosocial adaptation (Jenkins & Pargament, 1995; Pargament, 1997). Acklin, Brown, and Mauger (1983) studied patients with and without cancer and found that transcendent meaning, religiosity, and church attendance were negatively related to despair, anger-hostility, and social isolation. Among patients with advanced cancer, religious beliefs and activities were associated with less pain and greater happiness (Yates, Chalmer, St. James, Fol-

lansbee, & McKegney, 1981). Mullen, Smith, and Hill (1993) found that spiritual resources were positively correlated with a sense of coherence and a sense of life as comprehensible, manageable, and meaningful, which in turn was negatively correlated with psychological distress. In additional studies of cancer patients, spiritual well-being correlated with lower levels of state-trait anxiety (Kaczorowski, 1989), and spiritual awareness related to lower levels of psychosocial distress (Smith et al., 1993).

Other research has indicated a nonsignificant or negative effect of religious coping on adaptation, although it is not clear how differing operationalizations of the construct affected the findings (Jenkins & Pargament, 1995). Indeed, the research on religious coping has defined and operationalized spirituality in various ways (Burke & Miller, 1996; Maher & Hunt, 1993; Muldoon & King, 1995; Reed, 1987). Allport and Ross (1967) originally conceptualized religious orientation as extrinsic (using religion as a means to self-serving ends) or intrinsic (reflecting a true commitment to religious ideals as an end in themselves). Much of the coping literature, when it considers religion at all, treats it as a dispositional variable or assesses it with a few indicators such as belief in God, frequency of prayer, and church attendance or membership (Pargament et al., 1990). On the other hand, some definitions of spirituality are broad enough to cover existential beliefs, such as the search for meaning and purpose in life, and include even the occult (Connor, Wicker, & Germino, 1990; Muldoon & King, 1995). For example, Vastyan (1986) stated that spirituality involves transcendence, which means "to be aware of the numinous, of that which is beyond ordinary experience, beyond comprehension, beyond our material existence" (p. 112). Many researchers now distinguish between religiosity (i.e., organized systems of belief and practice) and spirituality (i.e., efforts to consider metaphysical or transcendent aspects of everyday life; Jenkins & Pargament, 1995; Zinnbauer et al., 1997), although the utility of this distinction has been contested (Pargament, 1999).

Individuals battling life-threatening illnesses use religious coping in complex and variable ways, making it difficult to identify

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the mechanisms by which it operates. One possibility is that spirituality provides a sense of meaning in the face of threat to one's existence (Frankl, 1959; Mullen, Smith, & Hill, 1993; Pargament & Hahn, 1986). This has been found for both cancer patients (Connor et al., 1990) and those diagnosed with HIV/AIDS (Jenkins, 1995; Schwartzberg, 1993). Research on coping has highlighted the role of religion in social cognition, including attributions of the nature and controllability of an aversive event and its reframing or reinterpretation in a more positive light (Pargament et al., 1990). Sevensky (1981) suggested that prayer allows expression of the anger, disappointment, and fear that often accompany the illness experience; engenders a closer relationship with God; and provides the opportunity for contemplation and meditation. Additionally, it assists one in repairing damaged relationships, letting go of the past, achieving a sense of closure while also providing hope of an ultimate victory, despite death, by joining God (Sevensky, 1981). Pargament et al. (1990) used factor analysis to place 31 different strategies within six categories of religious coping: spiritually based coping, good deeds, religious support, discontent, pleading, and religious avoidance. They found the best predictors of outcome to be belief in a just, loving God; the experience of God as a supportive partner; involvement in religious rituals; and the search for spiritual and personal support through religion. Hall's (1998) qualitative analyses of the spiritual responses of 10 individuals with advanced HIV suggested spirituality can influence interpretation of body and mind states. Three themes were revealed: a purpose in life emerges from stigmatization, an opportunity for meaning arises from an incurable disease, and spirituality frames life after suffering.

Despite the widespread use of religious coping and its demonstrated association with enhanced outcome, social scientists often ignore spirituality and religion as significant coping tools (Johnson & Spilka, 1991). A number of factors may account for this neglect, including that both researchers and clinicians tend to be less religious than the general population (Gallup & Proctor, 1982; Lukoff, Lu, & Turner, 1992; Turbott, 1996). Historically, Freud (1928/1961) viewed religion as neurotic wish fulfillment, and Ellis (1970) initially argued it can be reduced to irrational supernaturalism. In general, religion seems to be taboo in research and health care settings (Weaver et al., 1998). Perhaps some clinicians fear imposing a system of beliefs or values onto their patients or view spirituality as detrimental to emotional functioning and believe that it fosters passivity, dependency, and denial (Jenkins & Pargament, 1995). Finally, the construct of spirituality is diffuse and not well understood; therefore, it is difficult to operationalize and measure empirically. Researchers may not want to be associated with the less empirical or "softer" science this suggests.

The failure to study spiritual aspects of coping is particularly glaring in AIDS research, especially in comparison to the wealth of studies among cancer patients. Intuitively, the life-threatening nature of both diseases would suggest that the findings would generalize. The limited research on spirituality among individuals with HIV is predominantly qualitative and based on samples of gay White men. Comparisons are limited, owing to the various ways spirituality is defined and measured. Nevertheless, studies indicate that HIV is associated with greater religiosity and spirituality among HIV-positive (HIV+) and HIV-negative (HIV-) partners of men with AIDS (Folkman, Chesney, Cooke, Boccellari, & Collette, 1994) and that spiritual well-being may abet an HIV+

man's ability to maintain hope in the midst of HIV and AIDS-related illness (Carson, Soeken, Shanty, & Terry, 1990). A spiritual belief system can serve to maintain a positive attitude, thereby lessening the fear of death in end-stage HIV among men and women (Hall, 1994). Among 422 HIV+ military personnel, Jenkins (1995) found religious coping associated with less distress and more adaptive social functioning.

The use of spiritually based coping has been found to be more prevalent among women (Spilka, Hood, & Gorsuch, 1985) and among African Americans (Jackson, Neighbors, & Gurin, 1986; Potts, 1996) than other individuals. Therefore, examining spirituality would appear particularly important in the study of HIV-infected women, who are predominantly African American and Hispanic (e.g., Biggar et al., 1999; Kaplan, Marks, & Mertens, 1997). Jenkins (1995) found that African Americans with HIV, compared with Whites with HIV, indicated a greater preference for a coping style involving collaboration with God. In addition, studies have consistently indicated a greater use of spiritually based coping activities among samples of women than samples of gay men (Demi, et al., 1997; Jenkins, 1995; Remien, Rabkin, Williams, & Katoff, 1992; Schwartzberg, 1993). In fact, among White gay men, spirituality has not been identified as a widely used coping strategy (Remien et al., 1992; Schwartzberg, 1993). Research among gay men with AIDS has shown that formal religiosity (i.e., greater church attendance and belonging to the religion of childhood) versus a more intrinsic religious orientation appears to be associated with greater death anxiety (Bivens, Neimeyer, Kirchberg, & Moore, 1995; Franks, Templer, Cappelletty, & Kauffman, 1990), perhaps due to the virulently heterosexist doctrine of many traditional religions.

In the current project, we conceptualized spirituality's role in the process of coping and psychological adaptation in accordance with Lazarus and Folkman's (1984) classic stress, appraisal, and coping theory. According to their model, stress is defined as a "relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being" (p. 21). The significance of the stressor is determined through cognitive appraisals influenced by personal beliefs and values, such as personal control and existential or spiritual beliefs. When challenged, individuals engage in various ways of coping to manage the stressor based on available resources, with effective coping dependent on the match between coping options and actual coping demands.

Drawing upon this model, Pargament (1997) stated that, under duress, people will be more likely to cope spiritually when religion is the more available and compelling way of managing the stressor. Spirituality may be an especially available and compelling resource in cases in which the usual human coping resources are ineffective or are threatened, as in the face of potentially fatal diseases like HIV/AIDS. From the perspective of Lazarus and Folkman's (1984) theory that beliefs influence cognitive appraisals critical to the coping process, we see that spirituality may help individuals to appraise negative events differently and may provide a greater sense of control, thereby aiding in psychological adjustment. However, the relationship between spirituality and psychological adaptation is complex. Pargament (1997) stated that spirituality may help individuals conserve meaning and transform their sense of significance through integration of the stressor into existing definitions of self.

Spirituality also provides practical, supportive resources that assist with psychological adaptation such as ritual, prayer, an outlet to express affect, and community. However, although there is overlap between the concept of spiritual support and social support—long shown empirically to benefit psychological adaptation—the support provided by spiritual beliefs is distinctive because it describes one's relationship with a higher power and the unique rituals and community that surround those beliefs.

In the present study, we aimed to extend current findings regarding the apparently beneficial effects of spiritual coping to women with HIV/AIDS. We examined spirituality and its correlates as well as frequency of spiritually based coping, which we expected to be high in our sample of predominantly African American and Puerto Rican low-income women. We hypothesized that spirituality and spiritually based coping would relate to better psychological outcomes even after we controlled potentially confounding variables such as demographics, drug use, and social support. Furthermore, we examined the ability of spiritually based coping to explain variance in psychological adaptation beyond the effects of other types of coping.

Method

Participants

The sample of 230 women living with HIV comprised Hispanics (47%), non-Hispanic African Americans (46%), and women of other or mixed ethnic backgrounds (7%). Eighty-nine percent of the Hispanic women were born in the United States, and 84% self-identified as Puerto Rican. Their mean acculturation level was 3.42 ($SD = 1.04$) according to the Short Acculturation Scale (Marín & VanOss Marín, 1991), which consists of four items assessing language scored from 1 (*only Spanish*) to 5 (*only English*). The women, ranging in age from 24.6 to 61.0 years ($Mdn = 39.5$), indicated they were single and never legally married (56%), legally married (14%), separated (14%), divorced (6%), and widowed (10%). Seventy-one percent classified themselves as exclusively heterosexual. Mean education was 11.0 years ($SD = 2.6$), with 44% of the women reporting a high school degree or general equivalency diploma (GED). Only 11% were employed full- or part-time. Total household monthly income ranged from less than \$500 (51%) to greater than \$1,500 (8%); 91% reported less than \$1,000. Nineteen percent reported crack cocaine or injection drug (ID) use in the past 30 days.

According to self-report, 24% of the women had AIDS, 36% had minimal symptoms, and 39% were asymptomatic. Time since HIV diagnosis ranged from 3 months to almost 15 years ($Mdn = 4.3$ years). Self-reported modes of infection were sex with an ID user (53%), sex with a non-ID user (30%), respondents' own ID use (41%), and blood transfusion (8%; respondents could check more than one).

Measures

We assessed basic demographics, drug use, and social support in addition to coping, spirituality, and psychological adaptation. Unless otherwise indicated, scale items were rated on a Likert-type format ranging from 1 (*strongly disagree*) to 4 (*strongly agree*), and individual items were averaged to form a total score for each scale. We acknowledge that the original psychometric data do not apply to modified scales and that most measures were originally validated on samples in which physically ill, poor, inner city, minority women were underrepresented. However, estimates of internal consistency, provided below for this sample (Cronbach's alphas), were all within acceptable limits. Kurtosis scores were between $-.70$ and $.07$, and only the spirituality measure was more than 2.5 times greater than its kurtosis standard deviation, suggesting these scores were somewhat

negatively skewed. This was not surprising, given the high levels of spirituality we expected in this population.

Drug use. As part of a more comprehensive measure, we assessed recent drug use with two *yes-no* items asking if the respondent had used crack or injected any drug in the past 30 days.

Social support. We assessed support with a modified version of the University of California, Los Angeles, Social Support Inventory (UCLA-SSI; Schwarzer, Dunkel-Schetter, & Kemeny, 1994), which assesses support related to the participant's stress or worry about his or her HIV disease in the past 30 days. The measure draws distinctions among emotional, informational, and tangible HIV-related support from four targets: partners, friends, relatives, and groups or organizations. Frequency of receipt of each type of support from each target is rated separately from 1 (*never*) to 5 (*very often*). For the 16 items composing the overall mean score, $\alpha = .85$.

Coping. We used Reed, Kemeny, Taylor, Wang, and Visscher's (1994) adaptation of the Ways of Coping Scale (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986), which was designed to assess coping responses to stressful life events. Respondents were presented a list of 33 coping behaviors and asked, "In the past 30 days, how much have you used each of these different ways to deal with the effects of HIV/AIDS on your health and the life-threatening nature of this illness?" Possible responses ranged from 1 (*never*) to 4 (*a great deal*). Reed et al. found six factors, which they labeled community involvement and spiritual growth, active cognitive coping, avoidance and self-blame, social support seeking, realistic acceptance, and information seeking. In the present study, principal-components factor analysis with varimax rotation led to a final solution with five factors comprising 27 items that accounted for 56% of the variance. Each item loaded on its respective factor with a coefficient of at least .34 and had no coefficient for any other factor that was higher. The factors were community involvement ($\alpha = .82$ for five items; e.g., "I participated in organizations geared toward helping those with HIV and AIDS"); constructive cognitions ($\alpha = .80$ for eight items; e.g., "I tried to look on the bright side of things"); avoidance ($\alpha = .69$ for five items; e.g., "I refused to believe that this problem has happened"); realistic acceptance ($\alpha = .76$ for five items; e.g., "I tried to accept what might happen"); and spiritually based coping ($\alpha = .71$ for the following four items: "I prayed or involved myself in other spiritual activities," "I found new faith," "I meditated or used relaxation or visualization to help with this problem" [these three items loaded on Reed et al.'s first factor], and "I rediscovered what is important in life" [this item loaded on Reed et al.'s second factor]).

Spirituality. A scale based on Somlai et al.'s (1996) scale was used to assess intrinsic spirituality based on a person's mental or moral nature (not necessarily the dogma of traditional religion). Comprising 13 attitudinal items ($\alpha = .91$), the scale tapped both dispositions (e.g., "My spirituality provides me with a sense of hope") and behaviors (e.g., "I pray often"). The terms *religion* and *religiosity* were avoided on the basis of pilot testing that suggested the target population preferred the term *spirituality*. We also assessed denominational affiliation, church membership (with a *yes-no* item asking if participants were "a member of a church or other place of worship"), and frequency of attendance in the past 90 days at religious services (*not at all*, *1-3 times a month*, *1-2 times a week*, or *3 or more times a week*).

Depression. Respondents also completed the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977), a nondiagnostic screening measure for examining the prevalence of nonspecific psychological distress in community samples, for which factor analytic studies have identified four underlying dimensions: negative affect, positive affect, somatic and retarded activity, and interpersonal concerns (Radloff, 1977). The scale's 20 items assessing depressive symptomatology in the previous week (e.g., "I was bothered by things that usually don't bother me") are rated from 0 (*rarely or none of the time [less than one day in the past week]*) to 3 (*most or all of the time [5-7 days in the past week]*). Total CES-D sum scores range from 0 to 60, with scores of 16 or above defining "caseness" or possible clinical depression (Weissman, Sholomakas, Pot-

tenger, Prusoff, & Locke, 1992). Many studies have demonstrated the measure's validity and high internal consistency and test-retest reliability (Guarnaccia, Angel, & Worobey, 1989; Roberts, 1980). In the current sample, $\alpha = .90$.

Profile of Mood States. Respondents also completed the short form of the Profile of Mood States (POMS-SF; Curran, Andrykowski, & Studts, 1995; McNair, Lorr, & Droppleman, 1981; Shacham, 1983), a commonly used measure of psychological distress. The POMS-SF constitutes a less taxing alternative to the POMS for use with physically ill populations; it accurately estimates original POMS scores. The POMS-SF had demonstrated acceptable internal consistency, with Cronbach's alpha ranging from .75 in healthy samples to .90 in breast cancer patients. Respondents indicate how they have been feeling during the past week by rating each of 37 adjectives (e.g., active, annoyed, cheerful) according to a 5-point Likert scale format from *not at all* to *extremely*. Standard scoring of the POMS-SF yields six subscales (i.e., Fatigue-Inertia, Vigor-Activity, Tension-Anxiety, Depression-Dejection, Anger-Hostility, and Confusion-Bewilderment) in addition to the Total Mood Disturbance score (POMS-TMD) that was computed in this study as the mean of all items after reverse coding the Vigor-Activity items ($\alpha = .96$).

Mastery. The seven-item mastery scale of Pearlin and Schooler (1978) assesses a person's sense of self-governing in relation to his or her external world. Sample items include, "I can do just about anything I really set my mind to do" and "I have little control over the things that happen to me" ($\alpha = .72$).

Self-esteem. We also included the 10 items of Rosenberg's (1965) Self-Esteem Scale ($\alpha = .80$; e.g., "I take a positive attitude toward myself"). Silber and Tippett (1965) reported a 2-week test-retest correlation of .85 for the scale, which they found to correlate from .56 to .83 with several similar measures and clinical assessment. Rosenberg provided further evidence of the scale's construct validity by demonstrating its correlation with several related mental health measures.

Procedure

As part of a larger investigation (Project STAR: Stress, Strength, and Resilience Among Seropositive Women), we trained a diverse group of 12 women, including health care consumers from the seropositive women's community, to administer highly structured face-to-face interviews (see

Simoni, Weinberg, & Nero, 1999). In 1996, interviewers recruited participants by word of mouth and posted notices at several HIV/AIDS outpatient clinics and at community-based AIDS organizations serving low-income women in the New York metropolitan area. They interviewed participants at the clinics, community-based AIDS organizations, or scatter site housing projects and gave each \$10, a list of free or low-cost referrals, and an AIDS information booklet for completing the 50-min personal interview. Each participant was assured of the confidentiality of her responses and provided written informed consent. Eligibility criteria stipulated that the participants had to have been diagnosed with HIV at least 3 months prior to participation, be at least 18 years of age, possess the ability to give informed consent, and be English or Spanish speaking. The questionnaire was written originally in English, translated into Spanish, and independently back-translated to identify and clarify ambiguity of meaning. Respondents were given a choice of completing the interview in Spanish or English.

Results

Spirituality

Responses to the 13-item spirituality measure indicated that respondents rated themselves highly on this dimension ($M = 3.28$, $SD = .50$; out of a possible 4.00). Participants considered themselves to be Catholic (38%), Baptist (26%), Pentecostal (6%), Jewish (1%), or of some "other" religious affiliation (22%). Thirty-five percent were members of a church or other place of worship, and typical attendance at religious services in the past 90 days ranged from *not at all* (50%), to *1-3 times a month* (34%), *1-2 times a week* (14%), and *3 or more times a week* (3%). Not surprisingly, the spirituality indicators were significantly intercorrelated. It is interesting to note, however, that church membership and attendance were more strongly associated with spiritually based coping with HIV ($r = .21$, $p = .001$, for church membership; $r = .31$, $p = .000$, for church attendance), than with spirituality in general ($r = .15$, $p = .025$, for membership; $r = .19$, $p = .004$, for attendance).

Table 1
Descriptive Statistics and Demographic Correlates for Main Variables

Main variable	<i>M</i>	<i>SD</i>	Minimum	Maximum	Age	Education	Ethnicity	Drug use	Social support
Spirituality indicators									
Church membership	0.35	0.48	0.00	1.00	-.03	-.02	-.13*	-.12	.03
Frequency of church attendance	0.69	0.80	0.00	3.00	-.05	-.01	.01	-.15*	.09
Spirituality	3.28	0.49	1.00	4.00	-.10	.10	.03	-.16*	.34***
Spiritually based coping	1.81	0.76	0.00	3.00	-.10	.03	.02	-.16*	.44***
Coping strategies									
Community involvement	1.62	0.83	0.00	3.80	-.14*	.06	.02	-.21**	.60***
Constructive cognitions	2.11	0.58	0.50	3.00	-.08	-.05	-.05	-.13*	.33***
Realistic acceptance	1.88	0.67	0.40	3.00	-.16*	-.14*	.16*	-.10	.32***
Avoidance	0.88	0.65	0.00	3.00	-.15*	-.21***	.05	.10	-.13
Psychological adaptation									
CES-D	2.87	0.62	1.45	4.00	.11	.15*	-.15*	-.15*	.15*
POMS-TMD	3.58	0.84	1.11	4.94	.09	.12	-.13*	-.14*	.07
Mastery	2.88	0.51	1.71	4.00	-.03	.26***	-.11	-.07	.19**
Self-esteem	3.02	0.49	1.60	4.00	-.07	.24***	-.07	-.18**	.20***
Combined (unstandardized)	3.09	0.52	1.52	4.19	.04	.21***	-.14*	-.16*	.17**

Note. $N = 230$. For drug use (i.e., having used crack cocaine or injected any drug in the past 30 days), 0 = no and 1 = yes. For ethnicity, 1 = African American and 0 = other. CES-D = Center for Epidemiological Studies Depression Scale; POMS-TMD = Profile of Mood States Total Mood Disturbance score.

* $p < .05$. ** $p < .01$. *** $p < .005$.

Bivariate analyses of the demographic correlates of the spirituality indicators (see Table 1) indicated African American women were less likely than other women to be church members, frequency of church attendance was negatively related to recent drug use, and spirituality and spiritually based coping were both related to less drug use and more social support.

Coping and Psychological Adaptation

Descriptive information regarding coping strategies and psychological adaptation and their associations with potential confounders (i.e., demographics, drug use, and social support) are presented in Table 1.

The frequency with which the various coping strategies were used varied somewhat, with the lowest scores existing for avoidant coping. Generally, more frequent use of the coping strategies was related to younger age, less education, less drug use, and more social support.

Converted into sums with individual items scored from 0 to 3, CES-D scores averaged 22.23 ($SD = 12.43$); 65% of the scores were 16 or above, the traditional indicator of possible clinical depression. This percentage is higher than the rates of 15–19% that Radloff (1977) observed among community-based samples, approximating the rate she reported for psychiatric inpatients (70%). Even after removing the five items of the somatic subscale, 52% of the sample scored 16 or above.

Considering the different response formats and direction of the scoring for the indicators of psychological adaptation, means and standard deviations were comparable. All four indicators significantly intercorrelated (with r ranging from .48 to .84). Given this overlap, we chose to calculate a composite indicator of psychological well-being. To calculate this variable, we first reverse coded the CES-D and POMS-TMD so that, as do the other two indicators, higher scores would indicate greater psychological adaptation. Next, we standardized all four means. Finally, we took a mean of these recoded, standardized means. In general, psychological adaptation related to greater education, non-African American ethnicity, less drug use, and greater social support.

Multivariate Analyses of Spirituality and Psychological Adaptation

Bivariate analyses revealed that spirituality and HIV-related spiritually based coping were significantly correlated with psychological adaptation ($r = .24, p = .000$, for spirituality; $r = .27, p = .000$, for spiritually based coping). However, associations of church membership and attendance were nonsignificant. Although we conceptually differentiated between spirituality and HIV-related spiritually based coping, the two measures were moderately intercorrelated ($r = .59, p = .000$). Therefore, we examined their association with psychological adaptation in separate hierarchical regression models. In each, we entered as covariates any variable that was significantly associated with the composite psychological adaptation indicator in bivariate analyses. Specifically, in the first regression, we entered education, ethnicity, and drug use in the first step, social support in the second step, and spirituality in the third step. As seen in Table 2, each step resulted in significant changes in R^2 . In the final model, spirituality as well as drug use,

Table 2
Spirituality and Psychological Adaptation

Regression step	Step 1	Step 2	Step 3
Step 1			
Education	.22***	.21***	.20***
Ethnicity	-.15*	-.16*	-.16*
Drug use	-.22***	-.20***	-.18***
Step 2			
Social support		.15*	.14
Step 3			
Spirituality			.16*
F	9.13***	8.42***	7.88***
ΔR^2	.11***	.02*	.02*

Note. $N = 230$. Statistics are standardized betas. For drug use (i.e., having used crack cocaine or injected any drug in the past 30 days), 0 = no and 1 = yes. For ethnicity, 1 = African American and 0 = other.

* $p < .05$. *** $p < .005$.

education, and ethnicity remained significant independent predictors of psychological adaptation.

In the second hierarchical regression of spiritually based coping, we entered education, ethnicity, and drug use in the first step, social support in the second step, the other four coping strategies in the third step, and, finally, spiritually based coping. As seen in Table 3, each step resulted in significant changes in R^2 . In the final model, spiritually based coping as well as education and three of the four coping styles (i.e., avoidance, realistic acceptance, and constructive cognitions) remained significant independent predictors of psychological adaptation.

Finally, we wanted to consider the additive effects of spirituality and spiritually resilient coping. This was not possible in the regressions, where, given their significant association, one variable would have largely canceled out the effect of the other. Therefore, we created dichotomous variables for both spirituality and spiritually resilient coping using median splits, and we divided respondents into three groups: (a) those who scored in the lower half of the distribution for either variable, (b) those who scored in the lower half for one variable and the upper half for the other, and (c) those who scored in the upper half for both variables. We then ran an analysis of covariance (ANCOVA) comparing the three groups on the psychological adaptation indicator. As in the regressions, all relevant variables were included as covariates. As seen in Figure 1, the main effect for group was significant, $F(4, 213) = 5.60, p < .001$, with unadjusted psychological adaptation scores for the groups increasing in the expected direction.

Discussion

Survey data from 230 low-income HIV+ women in New York City indicated high levels of spirituality and spiritually based coping, both of which were positively related to psychological adaptation. Specifically, hierarchical regression analyses revealed that after controlling for demographics, social support, and drug use, spirituality significantly related to psychological adaptation (i.e., our composite indicator of standardized CES-D, self-esteem, mastery, and POMS-TMD scores). In a separate regression, spiritually based coping also predicted psychological adaptation. This effect persisted even after we con-

Table 3
Spiritually Based Coping and Psychological Adaptation

Regression step	Step 1	Step 2	Step 3	Step 4
Step 1				
Education	.21***	.20***	.13**	.11*
Drug use	-.21***	-.19***	-.09	-.08
Ethnicity	-.15*	-.16*	-.07	-.05
Step 2				
Social support		.14*	-.01	-.02
Step 3				
Community involvement			.01	-.01
Constructive cognitions			.50***	.45***
Realistic acceptance			-.16*	-.43**
Avoidance			-.41***	-.42***
Step 4				
Spiritually based coping				.17*
<i>F</i>	8.25***	7.67***	20.89***	19.79***
ΔR^2	.11***	.02*	.31***	.02*

Note. *N* = 230. Statistics are standardized betas. For drug use (i.e., having used crack cocaine or injected any drug in the past 30 days), 0 = no and 1 = yes. For ethnicity, 1 = African American and 0 = other.
* *p* < .05. ** *p* < .01. *** *p* < .005.

trolled for other types of coping strategies, suggesting spiritually based coping produces an independent, additive contribution to psychological adaptation. A similarly controlled ANCOVA demonstrated that spirituality and spiritually based coping are particularly potent when combined (the highest scores on psychological adaptation were among participants with high scores on both spirituality and spiritually based coping).

Of course, the correlational design of our study precludes making assumptions about the direction of the effect. Although spirituality and spiritually based coping may lead to better well-being, we cannot rule out the competing interpretation that women who feel better psychologically are more optimistic and appreciative regarding spirituality in their lives. Prior research, however, lends some credibility to our assumption that spirituality and spiritually based coping precede enhanced well-being. Specifically, Pargament et al. (1990) reported that individuals who used religious coping when confronted with a stressor were likely to have relied on their spirituality for support previously in their lives, rendering the hypothesis that adaptation leads to spirituality less likely. Additionally, longitudinal studies have demonstrated that early spiritual support predicted adjustment to college (Maton, 1989) and the stress of transplant surgery (Tix & Frazier, 1998).

If we assume that spirituality and spiritually based coping did exert some beneficial effect on psychological adaptation in our sample, what are the mechanisms underlying such an effect? Social support has been suggested as one potential mediator (e.g., Strawbridge, Shema, Cohen, & Kaplan, 2001). This would appear particularly likely for women who reported church membership and frequent attendance at religious services, where they may have had the opportunity to expand their social networks. However, in our sample, church membership and attendance were not associated with greater social support (or psychological adaptation for that matter). The bivariate associations between social support and the spirituality indicators as well as social support and psychological adaptation suggest that an enhanced support network may

account for some of the effect of the spirituality indicators on greater psychological adaptation. However, in multivariate analyses controlling for social support indexes, the effects of the spirituality indicators on psychological adaptation were only slightly attenuated. The effect of spirituality and spiritually based coping on psychological adaptation, then, is at most only partly attributable to the effects of enhanced social support (as reported as well in Tix & Frazier, 1998). The relationships appear somewhat complex, but it challenges the notion that greater receipt of social support is the essence of the ameliorating effect of the spirituality indicators.

In line with our theoretical conceptualization based on Lazarus and Folkman's (1984) theory that beliefs influence cognitive appraisals, respondents' spirituality may have helped them reappraise their situation and gain a greater sense of control, thereby aiding in psychological adaptation. To more explicitly identify these mechanisms in the future, researchers should include in their studies more specific assessments of appraisals as well as types of religious coping. For example, Pargament (1997) has differentiated among three types: collaborative (in which people work with God), self-directing (without God), and deferring (wait for God to solve their problems). He has stressed how the use of religion in coping has interactive, behavioral, emotional, and motivational components, each of which may have its own effects. Future investigations, therefore, might include more precise measures of spiritually based strategies or, minimally, may validate the preliminary spiritually based coping subscale we used with a larger sample.

Additional areas for future investigation include the identification of mediators (i.e., How do spirituality and spirituality based coping work to enhance psychological well-being?), moderators (i.e., For which groups of people or types of problems are they most efficacious?), and the areas of greatest impact (e.g., Is spirituality more likely to promote positive outcomes than to prevent deleterious ones?). Tix and Frazier (1998), for example, found that religious coping was more efficacious for Protestants than Catholics and that it could not be explained solely by the mediators of social support, perceived control, and cognitive restructuring. Maton (1989) demonstrated that spiritual support was related to well-being for high life-stress participants but not low life-stress participants. Pargament (1997) has done the most comprehensive

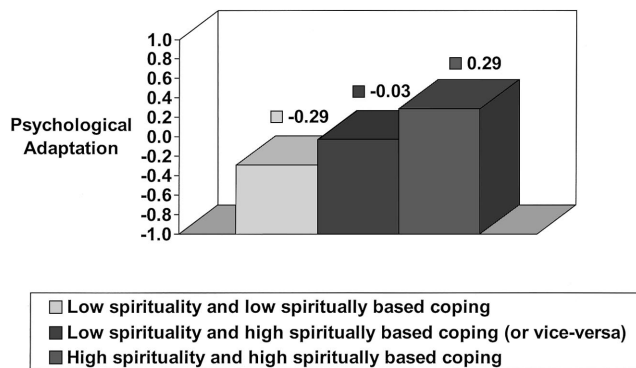


Figure 1. Spirituality and spiritually based coping as predictors of psychological adaptation.

research on situational factors, background variables, resources, specific coping activities, and self-management strategies and how they affect adaptation and well-being.

The findings of the current study are subject to some methodological limitations. Specifically, the sample was nonrandom, the data were self-reported, and there was no HIV— comparison group. Furthermore, we are not able to tell if the findings would generalize to groups of demographically different women or to men, two groups that should be studied in future research. Finally, as mentioned previously, the study's cross-sectional design precludes causal explanations of the findings or assumptions about the direction of the effects.

Despite these limitations, the results have important implications for women living with HIV with respect to applications in counseling interventions (Hathaway & Pargament, 1992). Foremost, the findings regarding the high level of depressive symptomatology suggest counselors should pay particular attention to suicidality in this group (see Simoni, Nero, & Weinberg, 1998). Additionally, spirituality and spiritually based coping should be explored as part of a strategy of identifying and bolstering cultural strengths. They appear to be important psychologically and are readily accessible. This area invites collaboration between religious professionals and mental health providers, most of whom have little or no training in how to address religious concerns within a counseling context (Kelly, 1994; Shafranske & Malony, 1990). In fact, as many as one third of patients in some studies indicated unmet spiritual needs (Jenkins & Pargament, 1995), suggesting providers may be overlooking this aspect of patient care. Hall (1994) has emphasized the importance of providing structures that build and support hope to balance the pain, suffering, and fear of a life with HIV.

Religious and spiritual components have been included in some interventions (Guterman, 1990), but these have yet to be systematically evaluated. If and how to incorporate spiritual coping in interventions to enhance psychological adaptation will depend on whether one can encourage spiritual coping or whether it has to be in place before the onset of the life-threatening event (Jenkins, 1995). Pargament (1997) has found that religious involvement in coping depends on the availability of religion to the individual. However, most people report themselves to be religious and churchgoing (Gallup & Castelli, 1989; Hoge, 1996), and among women and African Americans—two groups at increasing risk for HIV—religiosity is high, suggesting that most HIV patients may be capable of benefitting from spiritually based coping strategies.

Many counselors might question the appropriateness of discussing spiritual issues in the context of a counseling situation or may hesitate to pursue an area in which their own personal beliefs and values may be vastly different from their clients. Others rightly appreciate the potential negative influence of religion on emotional problems, such as when it leads to inappropriate or excessive guilt and anxiety or reinforces the oppression of women and sexual minorities (Maton & Wells, 1995). However, the high levels of spirituality and spiritually based coping observed in women living with HIV and their empirically demonstrated associations with enhanced psychological well-being suggest spiritual functioning is an area of vital importance to many clients and, therefore, an area any culturally competent counselor should be prepared to address.

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