

HIV Disclosure Among Women of African Descent: Associations with Coping, Social Support, and Psychological Adaptation

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Trained interviewers recruited and interviewed a nonprobability sample of HIV-positive women from outpatient clinics and scatter site housing in New York City. Hispanic Black ($n = 37$) and non-Hispanic Black ($n = 106$) women reported high rates of HIV disclosure to family, friends, and lovers; few ethnic differences were noted. Bivariate analyses revealed disclosure was related to greater frequency of HIV-related social support, although not directly to less depressive symptomatology (CES-D) or mood disturbance (POMS-TMD) scores. Additionally, disclosure rates were positively associated with the use of more adaptive coping strategies (i.e., spiritual resilience, constructive cognitions, and community involvement). Multiple regression analyses indicated satisfaction with social support mediated the relationship between adaptive coping and psychological distress. The discussion considers HIV disclosure within the constellation of processes leading to successful adaptation to HIV/AIDS.

KEY WORDS: HIV/AIDS; African Americans; women; disclosure; psychological adaptation; coping; social support.

INTRODUCTION

New cases of AIDS are increasing rapidly among women, particularly women of color (Centers for Disease Control and Prevention [CDC], 1997a,b). In 1997, 21% of new AIDS cases were diagnosed among women—a threefold increase from 1985. New cases of AIDS are disproportionately higher among African-American (60%) and Hispanic (19%) women compared with Whites (20%). Similar gender and

racial trends have been reported for AIDS mortality and morbidity. As the proportion of AIDS cases among women due to heterosexual contact increases (it was 38% in 1997), African-American and Hispanic women are at increasingly greater risk of infection.

Women in New York State and New York City have been particularly devastated by the epidemic (CDC, 1997a; New York City Department of Health, 1997; New York State Department of Health, 1997). New York State has the third highest rate of female AIDS cases (42.90/100,000) and accounts for 24% of all female AIDS cases nationally. In New York City, the proportion of AIDS cases in women increased from 19% in 1993 to 25% in 1997. As in the United States overall, African-American (53%) and Hispanic (34%) women are disproportionately represented.

Public health efforts to reduce HIV transmission rates include programs that aim to identify individuals who are HIV-positive, contact their high-risk partners, inform them of their HIV risk, and offer testing

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and other services (CDC, 1988; McDonald, 1986; Toomey and Cats, 1989). The success of these efforts depends upon the willingness and ability of HIV-positive individuals to directly or indirectly reveal their HIV serostatus, a process which many describe as highly stressful (Demas *et al.*, 1995). As little is known about the patterns of disclosure among women with HIV/AIDS, existing programs are poorly equipped to deal with their particular concerns.

Literature on HIV Disclosure

Research on disclosure in sociology, communications studies, and social psychology has generally revealed that women tend to disclose more intimate or sensitive information than men due to traditional sex-role expectations that encourage women to be expressive about emotional matters and inhibit men from such displays (Hill and Stull, 1987). Seemingly, a person's HIV serostatus would qualify as such sensitive or intimate information that we might expect women to express more freely than men. HIV infection, however, is a highly stigmatizing and contagious condition associated with high fatality, all of which may inhibit disclosure of seropositive status among women. If women are financially dependent upon their male partners, fear verbal or physical assault or abandonment, are drug addicted, or lack coping or other social resources, HIV disclosure may be especially constrained (Gielen *et al.*, 1997; Moneyham *et al.*, 1996; Rothenberg *et al.*, 1995; Sherr, 1996). In one study of injection drug users (IDUs), for example, women were less likely than men to disclose to sexual partners (51% vs. 72%) and delayed disclosure for longer periods of time than did men (Warren, 1992). Simoni *et al.* (1995a) reported that, while lovers of women who disclosed appeared to be as frequently emotionally supportive as other targets, they also were more likely to become angry and withdraw, with 20% subsequently leaving the respondent. It is probable, then, that the expected costs of HIV disclosure, such as abandonment and violence, counter the more usual tendencies for women to reveal intimate information.

Earlier research on disclosure focused almost exclusively on gay and bisexual men, but recently women have received more attention. Among both men and women, studies have demonstrated a consistent pattern in which disclosure was most common to spouses and intimate lovers, followed by close

friends and female family members. Such consistency may be partly due to the reluctance of gay men to follow traditional male-sex roles that inhibit the discussion of intimate topics. Disclosure was somewhat less common to "casual" sex partners, coworkers, and male family members. Employers, religious leaders, and landlords were least likely to be informed (Hays *et al.*, 1993; Kegeles *et al.*, 1988; Mansergh *et al.*, 1995; Marks *et al.*, 1991, 1992, 1994, 1995; Mason *et al.*, 1988; Moneyham *et al.*, 1996; Perry *et al.*, 1994; Schnell *et al.*, 1992; Simoni *et al.*, 1995a,b; Sowell *et al.*, 1997; Stempel *et al.*, 1995). Younger women were more likely than older women to disclose according to Simoni *et al.* (1995a), but not according to Sowell *et al.* (1997). There are data for men (but not women) suggesting disclosure increases with length of time since diagnosis (Mansergh *et al.*, 1995), disease severity independent of length of time since diagnosis (Hays *et al.*, 1993; Mansergh *et al.*, 1995; Marks *et al.*, 1992), and disclosure of a gay or bisexual orientation (Marks *et al.*, 1992; Mason *et al.*, 1998).

Examination of ethnic differences in disclosure rates indicates that African Americans (Mason *et al.*, 1998; Sowell *et al.*, 1997; Stein *et al.*, 1998) and less acculturated Hispanics (Mason *et al.*, 1995; Simoni *et al.*, 1995a) are less likely to disclose their HIV infection than their White and more acculturated Hispanic counterparts. Although both Hispanics and Whites were more likely to withhold their diagnosis from parents to prevent worrying them than to avoid personal rejection (i.e., for other-focused rather than self-focused reasons), this tendency was somewhat stronger among Hispanics (Mason *et al.*, 1995; Simoni *et al.*, 1995a). The authors suggested the Hispanic cultural values of *simpatía* and *familismo* may deter some Hispanics from seeking HIV-related social support in times of need (see also Szapocznik, 1995).

Researchers also have examined reactions to disclosure, which tend to be more positive than expected (Gielen *et al.*, 1997; Mansergh *et al.*, 1995; Mason *et al.*, 1998; Schnell *et al.*, 1992; Simoni *et al.*, 1995a, 1997; Stempel *et al.*, 1995). Schnell *et al.* (1992) found that 82% of the relationships of HIV-positive respondents who had disclosed to their lovers remained strong 6 months later; however, in another study, male family members and primary sexual partners responded least favorably (Stempel *et al.*, 1995). Parents and friends frequently reacted to a woman's HIV disclosure by providing emotional support and rarely responded by becoming angry or withdrawing (Simoni *et al.*, 1995a).

HIV Disclosure and Psychological Adaptation

In addition to benefitting secondary prevention efforts, research on HIV disclosure may inform programs that assist individuals in adjusting socially and psychologically to their HIV infection (i.e., tertiary prevention). As relatively few published studies have examined the emotional trauma of HIV notification and the mental health implications for women (Lamping and Mercey, 1996; Simoni *et al.*, 1998), such research is needed to enhance our ability to provide adequate and appropriate care (Sherr, 1996).

There is some evidence that HIV disclosure, although it serves as both an ongoing and acute stressor, facilitates emotional support, which may lead to more effective coping and enhanced psychological adaptation (Holt *et al.*, 1998). For example, one study of women, including approximately 40% IDUs, found less depression among those with a confidante to whom they were able to disclose their HIV status (Clark *et al.*, 1995). In another study of drug-using women and female partners of male drug users, nondisclosure to sexual partners was associated with high levels of depression and hopelessness, fewer social support resources, and secrecy in general (Brown *et al.*, 1992). Among seropositive gay men, nondisclosure has been related to diminished perceptions of social support (Perry *et al.*, 1994; Stein *et al.*, 1998), while social integration and successful disclosure experiences have been associated with less anxiety and depression (Hays *et al.*, 1993; Kelly *et al.*, 1993). Data with other populations suggest social support (Cohen and Hoberman, 1983; Cohen and Wills, 1985) and coping (Carver *et al.*, 1989; Folkman *et al.*, 1986; Lazarus, 1974) moderate stressful situations, with social support playing an important role in coping and recovery from physical illness (Cohen, 1988; Kulik and Mahler, 1989).

Despite the tremendous impact of HIV on women of African and Hispanic descent, there is a paucity of literature on important psychosocial aspects of the lives of these women. In the present study of women living with HIV in New York City, we assessed rates of disclosure of HIV infection to family, friends, and lovers. We were particularly interested in learning if disclosure was related to more adaptive coping strategies, greater social support, and better psychological adaptation to HIV disease. Our access to an ethnically diverse sample provided us with an opportunity to examine how women adjust to living with HIV and to explore intragroup differences among women of African descent. Although women

of African descent are often grouped together, ethnic diversity exists (Cross, 1991) and should be explored, since cultural differences may precipitate difficulties in how one adjusts to living with HIV. Informed by prior research (Mason *et al.*, 1998; Simoni *et al.*, 1995a), we anticipated that Hispanic women of African descent would be less likely than non-Hispanic women of African descent to disclose their HIV status. Other demographic differences in disclosure as well as social support and psychological adaptation (e.g., variations with respect to age and income) were examined in an exploratory fashion.

METHOD

Participants

Of our original sample of 230 HIV-seropositive women, 46% ($n = 106$) selected "Black—not Hispanic" as the best characterization of their racial and ethnic background and 16% ($n = 37$) selected "Black Hispanic." Among the latter, 87% ($n = 32$) self-identified as Puerto Rican, 87% were born in the United States, and their mean acculturation level according to the Short Acculturation Scale (Marín *et al.*, 1987; Marín and VanOss Marín, 1991) was 3.72 ($SD = 1.05$) on a 5-point scale. None opted to complete the interview in Spanish.

The 143 women ranged in age from 24.62 to 61.02 years ($mdn = 39.69$). In terms of current legal marital status, respondents indicated they were single and never legally married (53%), legally married (13%), separated (16%), divorced (7%), or widowed (11%). Forty-eight percent had at least a high school education, and 5% had an associate's or other college degree (mdn years of education = 11). Only 13% were employed full- or part-time. Personal monthly income ranged from less than \$500 (62%) to greater than \$1,500 (4%); 92% reported \$1,000 or less. Seventy-six percent reported either renting a house or apartment or living in someone else's house or apartment, and 14% were in a group home, shelter, or residential treatment program. Eighty-three percent had biological children ($M/SD = 2.90/1.95$ children), with 28% reporting living with their children.

In terms of sexual orientation, 67% classified themselves as only heterosexual, 10% as more heterosexual than homosexual, 7% as equally heterosexual and homosexual, 4% as more homosexual than heterosexual, and 12% as only homosexual. In response to the item asking with whom they usually had sex

in their life, respondents indicated men only (59%), mostly men (18%), men and women equally (8%), mostly women (11%), and women only (4%). Thirty-nine percent reported a current steady partnership with a man and 9% with a woman.

According to self-report, 20% had AIDS, 37% reported HIV-related symptoms, and 41% were asymptomatic (2 had missing data). Time since HIV diagnosis ranged from 3 months to almost 13 years (*mdn* = 4.09 years). Self-reported modes of HIV infection were sex with an IDU (49%), sex with a non-IDU (33%), respondent's own IDU (35%), and transfusion (8%; total percentage exceeds 100 because respondents could check all that apply). Twenty-two percent reported having injected drugs or used crack cocaine in the past 30 days.

Measures

In addition to basic demographics, we assessed HIV-related variables, HIV disclosure, coping strategies, psychological distress, and social support. The internal consistencies (Cronbach's alphas) for each scale are listed in Table I.

HIV-Related Variables

We assessed five HIV-related medical variables (all self-reported): time since testing positive; having an AIDS diagnosis; most recent T-cell count; general health according to one item from the Medical Outcomes Study survey (Ware and Sherbourne, 1992) rated from 1 (*poor*) to 5 (*excellent*); and symptomatology over the last 30 days according to a subscale of eight items rated from 1 (*not at all*) to 5 (*very much*) from the Functional Assessment of HIV Infection Quality of Life Measurement System (Cella and Bonomi, 1996; e.g., "I have nausea").

HIV Disclosure

Respondents were asked to report if they had disclosed their HIV status to anyone (*yes/no*). Those who answered affirmatively indicated whether they had disclosed (*yes/no/don't have one*) to each of eight targets (i.e., husband or steady male or female sex partner, mother, father, brother, sister, other relative, friend, and other nonrelative). We created two overall disclosure indices. The first is the sum of targets

of the possible eight to whom the respondent had revealed her HIV status (note that this variable refers to the total number of *targets* informed and not the total number of *individuals* informed). The second index is the percentage of targets the respondent had informed of all targets that were applicable to the respondent. For respondents who disclosed to no one, we do not know which targets were applicable (recall that they were instructed to skip over the items on specific targets). For these respondents, we know only that both indices equal zero.

Psychological Distress

Respondents completed the Center for Epidemiological Studies Depression (CES-D) Scale (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 scores range from 0 to 60, with scores of 16 or above defining "caseness" or possible clinical depression (Weissman *et al.*, 1992). Many studies have demonstrated the measures's validity and high internal consistency and test-retest reliability (Guarnaccia *et al.*, 1989; Roberts, 1980).

Respondents also completed the short form of the Profile of Mood States (POMS-SF; Curran *et al.*, 1995; McNair *et al.*, 1981; Shacham, 1983). The POMS-SF constitutes a less-taxing alternative to the POMS for physically ill populations that accurately estimates original POMS scores. Respondents indicate how they have been feeling during the past week by rating each of 37 adjectives (e.g., active, annoyed, cheerful) in a 5-point Likert scale format from *not at all* to *extremely*. Standard scoring of the POMS-SF yields six subscales (Fatigue–Inertia, Vigor–Activity, Tension–Anxiety, Depression–Dejection, Anger–Hostility, and Confusion–Bewilderment) in addition to the Total Mood Disturbance score that was computed in this study as the mean of all items after reverse coding the Vigor–Activity items.

Coping

We also employed the adaptation of the Ways of Coping scale (Folkman *et al.*, 1986) of Reed *et al.* (1994). Respondents are presented a list of 33 coping

Table 1. HIV-Related and Demographic Differences in the Main Variables^a

Variable	Alpha	M ± SD	Symptomatology	General health	T-cell count	Age	Years of education	Personal income	Hispanic ethnicity	Steady partner	Drug use
Disclosure											
Sum of targets told	na	4.33 ± 2.29	.03	.15	.29**	-.30**	.10	.03	-2.90**	-2.72*	2.18*
Proportion of applicable targets told	na	.65 ± .31	.05	.12	.18*	-.21*	.10	.06	-2.24*	-1.13	2.12*
Coping											
Adaptive	.88	1.89 ± .58	-.17*	.30**	.12	-.17*	.01	.08	-2.26*	-1.10	2.97**
Avoidant	.75	.91 ± .67	.29**	-.21*	.01	-.18*	-.29**	-.22*	-.29	.31	-1.48
Psychological adaptation											
Depression (CES-D)	.92	21.41 ± 13.17	.53**	-.36**	.00	-.12	-.22*	-.20*	-1.96*	.89	-1.73
Mood states (POMS)	.97	2.39 ± .87	.61**	-.45**	.00	-.11	-.19*	-.19*	-1.95	.25	-1.56
HIV-related social support											
Total received	.86	2.84 ± .85	-.05	.16	.26**	-.23*	.13	-.09	-2.48*	-4.47**	1.69
Satisfaction	.80	2.96 ± .72	-.31**	.29**	.09	.05	.03	-.00	-.46	-.77	2.02
Need	.83	2.79 ± 1.11	.38**	-.18*	-.04	-.07	-.19*	-.06	-1.94	1.06	.44

^aN = 143. Statistics for the last three columns (0 = no, 1 = yes) are two-tailed independent-samples *t* tests. Other statistics are Pearson zeroth-order correlation coefficients. As time since testing, HIV-positive, and having an AIDS diagnosis were not significantly related to any variable, they were omitted from the table.

p* < .05; *p* < .005.

behaviors and asked, "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 range from 1 (*never*) to 4 (*a great deal*). A principal-components factor analysis with varimax rotation of the 33 items revealed eight factors, but the last three factors had low reliabilities and were conceptually problematic. The four items in these factors that did not load on any other factors were omitted and the analysis rerun. This second analysis revealed six factors, but the last factor had only two items and low reliability. For the purposes of constructing factor scales, these two items were grouped with other subscales on which they loaded moderately. The final five factors were constructive cognitions, community involvement, realistic acceptance, avoidance, and spiritual resilience. The first four of the factors resembled those identified by Reed *et al.* (1994) and other coping researchers. The fifth appears to be a novel factor that points to unique coping in this population. Based on factor intercorrelations and preliminary analyses, we created two separate subscales: avoidant coping (6 items; e.g., "I refused to believe that this problem has happened") and adaptive coping (18 items; the mean of constructive cognitions, community involvement, and spiritual resilience; e.g., "I tried to look on the bright side of things" and "I prayed or involved myself in other spiritual activities").

Social Support

We assessed support with a modified version of the UCLA Social Support Inventory (Schwarzer *et al.*, 1994). The 24-item scale assesses the amount of HIV-related support the participant has received for the stress or worry she may have been feeling about 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/organizations (e.g., "How often did your partner listen and try to understand your concerns about your HIV-related stress?"). Frequency of receipt of each type of support from each target is rated separately from 1 (*never*) to 5 (*very often*). Across all targets, respondents also indicated how much they needed each type of support [from 1 (*not at all*) to 5 (*extremely*)] and how satisfied they were with each type of support [from 1 (*very dissatisfied*) to 4 (*very satisfied*)].

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 consumers from the seropositive women's community, to administer face-to-face interviews (Simoni *et al.*, 1999). In 1996, interviewers recruited participants by word of mouth and posted notices at several HIV/AIDS outpatient clinics and community-based AIDS organizations serving low-income women in the New York metropolitan area. They interviewed most participants at the clinics, community-based AIDS organizations, or scatter site housing projects and gave each \$10, two subway tokens, a list of free or low-cost referrals, and an AIDS information booklet for completing the 50-min interview. 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 backtranslated to identify and clarify ambiguity of meaning. Respondents were given a choice of completing the interview in Spanish or English.

RESULTS

After considering the disclosure results, we present analyses of all the main variables of interest with respect to differences in HIV-related variables and demographic indicators. The zero order associations among all the main variables are then explored, and, finally, regression analyses are performed to test a mediation model of how disclosure, coping, and social support related to psychological adaptation.

HIV Disclosure

Almost all respondents (90%) reported disclosing their HIV status to someone; 50% had told 5 or more targets, and 8% informed all 8 ($M = 4.43$; $SD = 2.29$). The number of applicable targets ranged from 3 to 8 ($M = 6.80$; $SD = 1.46$). Almost one fourth of the women told 100% of applicable targets, but, on average, they told 65% ($SD = .31$). Similar to previous findings among women infected primarily through heterosexual contact (Simoni *et al.*, 1995a),

disclosure rates were highest among partners (91%), friends (82%), mothers (81%), and sisters (79%) and somewhat lower for brothers (69%) and fathers (51%) as well as other relatives (67%) and nonrelatives (54%).

The zeroth-order correlations of the disclosure variables (as well as the other main variables) with HIV-related variables and the demographic indicators are presented in Table I. Consistent with previous findings, younger women disclosed more (i.e., age was inversely related to the total number of targets informed and the proportion of applicable targets informed). Contrary to previous findings with men, disclosure was not related to longer time since testing or having an AIDS diagnosis; in fact, T-cell count was *positively* related to the total number of targets informed and the proportion of applicable targets informed. Additional bivariate analyses revealed that both disclosure indices were significantly inversely related to using use crack cocaine or injecting drugs in the past 30 days. Finally, the sum, but not the proportion index was higher in those reporting a steady partner.

Although they reported equal numbers of applicable targets, Hispanic Blacks told more targets about their HIV infection ($M/SD = 5.24/1.96$ vs. $4.01/2.32$), $t(141) = -2.90$, $p < .01$, and told a higher percentage of applicable targets ($M/SD = .75/.25$ vs. $.62/.32$), $t(141) = -2.24$, $p < .05$, than non-Hispanic Blacks. There were no ethnic differences in individual targets. Among Hispanic Blacks, level of acculturation was not related to either index of disclosure. However, further analyses indicated Hispanic Blacks were significantly younger ($M/SD = 38.08/7.12$ vs. $41.08/6.94$), $t(141) = 2.24$, $p < .05$, and reported higher T-cell counts ($M/SD = 478.94/293.76$ vs. $357.62/273.87$), $t(125) = -2.15$, $p < .05$, and higher symptomatology scores ($M/SD = 2.21/.90$ vs. $1.84/.74$), $t(141) = -2.47$, $p < .05$, than non-Hispanic Blacks. These factors may have contributed to the ethnic differences.

To identify independent predictors of disclosure by controlling for all potential confounding variables, we conducted a simultaneous multiple regression analysis of each disclosure index including all significant correlates as covariates. For the sum index, the overall model was significant, $F(5, 121) = 5.99$, $p = .0001$, and accounted for 20% of the variance in disclosure. Drug use was the only independent predictor ($b = -.98$, $SE = .47$, $p < .05$), although for age, ethnicity, and T-cell count, $p < .10$. A similar regression analysis conducted on the proportion of

applicable targets informed (with all but the partner variable as predictors) also was significant, $F(4, 122) = 3.66$, $p < .01$, $r^2 = .11$. No variable independently predicted the disclosure, although for age and drug use, $p < .10$.

Psychological Adaptation

Respondents' scores on the CES-D ranged from 0 to 51, with a mean of 21.41 ± 13.17 . Lack of appropriate norms with which to compare the present population renders a discussion of the absolute level of psychological adaptation difficult. However, 65% of the sample scored above the conventional "caseness" level of 16 or above. This rate of depression is substantially higher than the rates of 15–19% Radloff (1977) observed among community-based samples and approximated the rate she reported for psychiatric inpatients (70%). Even after removing the five items of the somatic subscale, 49% of the sample scored 16 or above. Bivariate analyses of HIV-related and demographic differences in CES-D scores as well as the other main variables are reported in Table I.

Intercorrelations Among Main Variables

Zeroth-order Pearson correlation coefficients were used to examine how disclosure related to coping styles, social support, and psychological adaptation (see Table II). First, we looked at the relationship between disclosure and social support, which prior research has assumed, but not demonstrated. Both the total number of targets informed and the proportion of applicable targets informed related to the frequency of total social support received (although not need for or satisfaction with support). Second, we noted that both disclosure indices correlated with adaptive coping, yet neither was significantly related to avoidant coping. Finally, while neither disclosure index related to CES-D or POMS-TMD scores, both avoidant and adaptive coping as well as need for and satisfaction with social support were associated with both measures of psychological adaptation.

Mediation Analyses

The bivariate analyses suggested satisfaction with social support might mediate the relationship

Table II. Correlations Among Main Variables^a

Variable	2	3	4	5	6	7	8	9
Disclosure								
1. Sum of targets told	.88**	.30**	-.05	.02	.07	.53**	.11	.10
2. Proportion of applicable targets told		.30**	-.13	-.09	.01	.47**	.16	.14
Coping								
3. Adaptive coping			-.04	-.28**	-.27**	.57**	.44**	.03
4. Avoidant				.51**	.43**	-.17*	-.22*	.29**
Psychological adaptation								
5. Depression (CES-D)					.85**	-.05	-.37**	.47**
6. Mood States (POMS-TMD)						.00	-.34**	.46**
HIV-related social support								
7. Total received							.42**	.18*
8. Satisfaction								-.10
9. Need								

^a $N = 143$. Statistics are Pearson zeroth-order correlation coefficients.

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

between coping and psychological adaptation (see Fig. 1). The zeroth-order correlations, however, did not control for potential confounding variables or allow a direct test of mediation. Therefore, we conducted a series of three hierarchical least squares multiple regression analyses to test the models (Baron and Kenny, 1981). The first regresses support satisfaction (the mediator) onto adaptive coping (the IV), and the second (not shown in the figure) regresses CES-D scores (the DV) onto adaptive coping. In the final regression, CES-D scores are regressed onto both coping and support satisfaction. In each regression, the effects of all significant demographic and HIV-related covariates of the dependent variable were controlled (though both general health and symptomatology were significant correlates, only the latter was included to avoid potential multicollinearity). If coping is a significant predictor in the first two regressions, but not the third (in which only support satisfaction is significant), mediation is suggested. In other words, to demonstrate mediation, adaptive coping must directly predict the CES-D score, but fail in the presence of satisfaction with support.

Findings regarding the mediation model of CES-D score are presented graphically in Fig. 1. In separate regressions, adaptive coping predicted support satisfaction ($\beta = .40$, $SE = .09$, $p = .0000$) and CES-D scores ($\beta = -.19$, $SE = .08$, $p < .01$). When both support and coping were in the same regression equation, however, only support satisfaction ($\beta = -.18$, $SE = .07$, $p < .05$) and not adaptive coping predicted CES-D scores. Findings concerning the POMS-TMD, also shown in Fig. 1, similarly support the mediation hypothesis. Adaptive coping predicted

support satisfaction (as above) and POMS-TMD scores ($\beta = -.16$, $SE = .10$, $p < .05$). In the final regression, support satisfaction ($\beta = -.13$, $SE = .09$, $p = .08$), but not adaptive coping, predicted POMS-TMD (note this finding was significant only at the less stringent p level of $< .10$).

DISCUSSION

A survey of Hispanic Black and non-Hispanic Black women living with HIV/AIDS in New York City revealed relatively high rates of HIV disclosure. Specifically, 90% had told someone about their HIV diagnosis; on average, they informed 65% of applicable targets. Consistent with prior studies, disclosure rates positively correlated with younger age and were highest to steady partners, friends, and female family members and somewhat lower for nonrelatives and male family members. Contrary to findings among predominantly gay and bisexual men that indicated disclosure was related to greater disease severity, disclosure was *positively* associated with self-reported T-cell count in our sample. This unexpected finding must be placed in the context of the lack of association between disclosure and the other four HIV-related variables (i.e., time since diagnosis, symptomatology, general health, and having an AIDS diagnosis). Findings that disclosure rates were lower among women who had used IV drugs or crack cocaine in the last month suggest this group might be at particular risk for social isolation.

In multiple regression analyses controlling relevant health and demographic indicators, disclosure

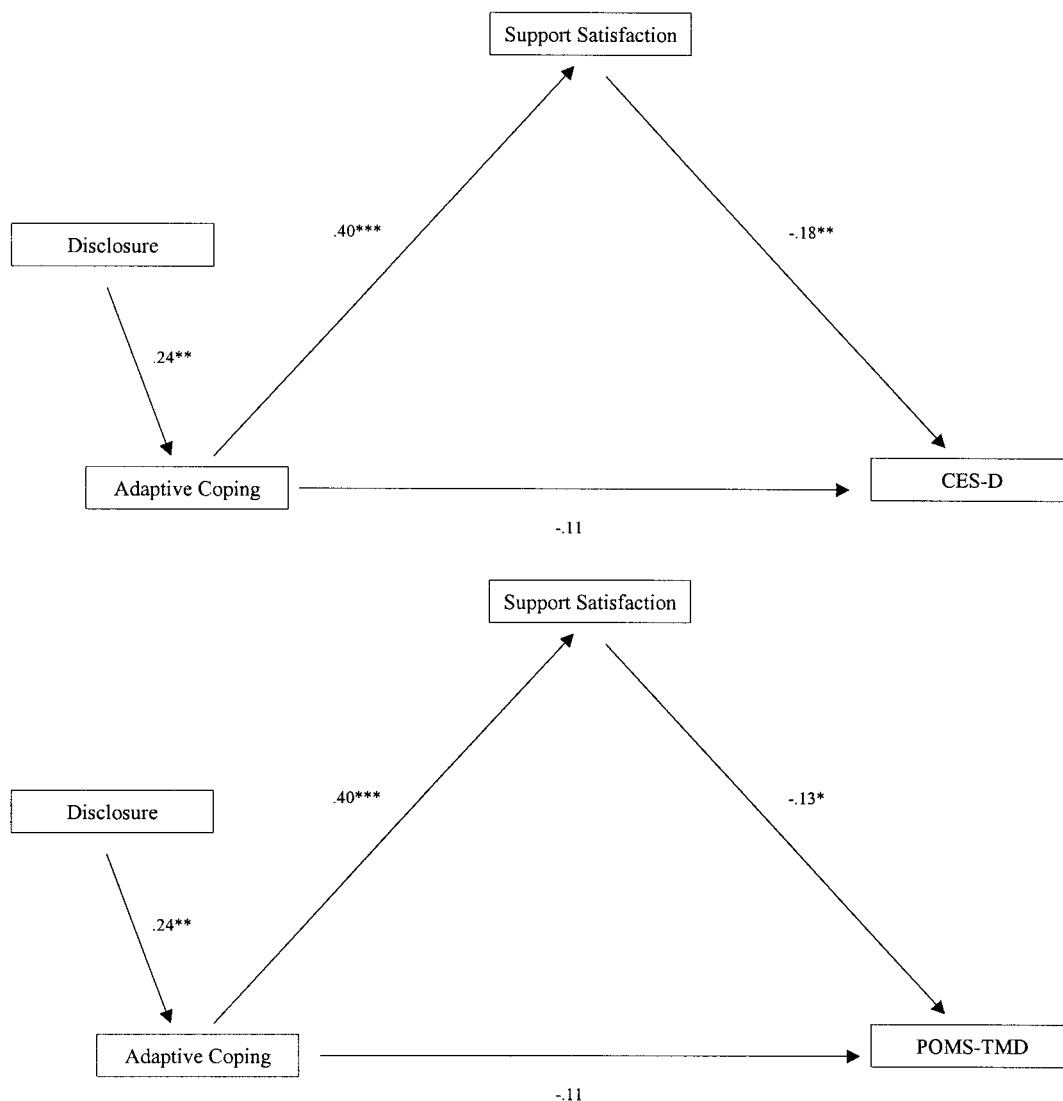


Fig. 1. Mediation models of HIV disclosure, coping, satisfaction with support, and psychological distress. Statistics are standardized beta weights from multiple regression analyses that controlled for all significant HIV-related and demographic covariates of the respective dependent variable. * $p < .10$; ** $p < .05$; *** $p < .0001$.

rates did not vary between Hispanic Blacks and non-Hispanic Blacks. These findings differ from the results of previous studies of both men and women in which less acculturated Hispanics disclosed less often than their more acculturated counterparts and White individuals. One explanation for the discrepancy is that the Hispanics in our New York City sample differed from those in Los Angeles. The Los Angeles sample comprised predominantly unacculturated Mexican and Mexican-American women, many of whom were born outside the United States and had limited English-language proficiency. They were in-

fectected primarily through heterosexual contact with partners who were gay or bisexual and were interviewed in 1991–1992. They may have perceived a greater sense of stigma than the more acculturated, predominantly Puerto Rican women interviewed in this more recent sample. AIDS is now the leading cause of death among young women in New York City, and most of the respondents knew many others living with HIV/AIDS. A diminished sense of stigma may have allowed for greater disclosure.

The high rate of depressive symptomatology (65% of the sample scored above the conventional

“caseness” level of 16 or above on the CES-D) is alarming and suggests the need for services to address the psychological well-being of Black women living with HIV/AIDS. Findings that less educated, unemployed women with lower incomes reported greater psychological distress underscore the importance of addressing environmental and structural variables in the provision of mental health services. The bivariate findings suggest the powerful role of physical health in influencing mood and depression (symptomatology and general health were correlated with CES-D and POMS-TMD scores). However, we can only guess the direction of this effect; future research will need to determine if psychological distress precipitates or follows physical decline. Social support also strongly correlated with health, although, once again, our cross-sectional design limits our ability to make causal and temporal inferences.

Bivariate analyses of the disclosure indices and social support, coping, and psychological adaptation indicated disclosure was associated with more adaptive coping styles and higher rates of perceived social support. It is not clear from this cross-sectional study, however, if women disclosed and coped better because of the prior availability of supportive targets or if disclosure and adaptive coping led to more social support. Disclosure was not related directly to psychological adaptation. Apparently, the quantity of disclosure, although it relates to more received support, does not lead directly to satisfaction with support or psychological adaptation.

The mediation analyses offered some clarification of the associations among these variables. They indicated adaptive coping was associated with greater psychological well-being, with satisfaction with social support mediating this relationship. Disclosure's relation to adaptive coping suggests informing others of one's HIV diagnosis can be beneficial, but only within the context of a wider array of adaptive coping responses. By increasing satisfaction with support, these responses related to better psychological adaptation.

The study had many strengths, including its focus on Black women living with HIV/AIDS and its examination of intraethnic differences. However, it was limited in its cross-sectional design and sole reliance on self-reported data. The findings suggest the need for better measures of psychological adaptation, including those that conceptualize well-being from a strengths perspective instead of as the absence of psychological distress. Additionally, future studies should consider how conceptualizing and assessing

disclosure in alternative fashions (e.g., asking about the number of individuals—not targets—informed) might affect the results.

Our findings demonstrate that regardless of cultural background, active coping behavior and social support were evident in the lives of most of the participants. This result is not surprising, since research indicates that within Hispanic and African-American cultures, value is placed on mutual support, reliance on family, and reciprocity of support (Anderson, 1991; Miller, 1992; Sabogal *et al.*, 1987). Future research in this area should include specific aspects of social support (e.g., family cohesion, familism, emotional closeness, and reciprocity).

The selective nature of HIV disclosure observed in this and other studies may reflect the risks it entails. HIV remains a stigmatized condition within segments of both Hispanic and African-American cultures (Herek and Capitano, 1993, 1994). Therefore, women who choose to divulge their HIV status risk alienation, estrangement, and marginalization. In addition, both cultures place a premium on preserving family harmony, and disclosure of potentially painful or disruptive information does not necessarily conform to this value (Mays *et al.*, 1998; Triandis *et al.*, 1984). Accordingly, HIV disclosure may be avoided.

We found a preference for participants to disclose to females (particularly mothers and sisters) rather than to male family members. In African-American and Hispanic cultures, women are integral to maintaining social cohesion and providing social support (Chatters *et al.*, 1989; Vega *et al.*, 1991). Perhaps women in these cultures perceive their peers as less judgmental as well as more forgiving and empathetic. We hypothesize these factors influence women's decisions about to whom they disclose their HIV status; however, future research should test this empirically.

The results indicate the need to study disclosure in more detail. Why do women disclose when they do and what environmental or interpersonal conditions facilitate disclosure? What are reactions to disclosure? Maybe positive responses to the act of disclosing and not disclosure itself is related to better adaptation. Also, it would be worth investigating which specific aspects of adaptive coping are most predictive of enhanced well-being. Future research might also address why older women disclosed less than younger women and which barriers prevent drug users from accessing support. In terms of clinical implications, providers might urge their HIV-positive clients to be more active in getting the social support they need

(i.e., by disclosing to others who might help them rather than denying or avoiding their seropositivity). They could describe disclosure as most beneficial when it occurs in the context of other adaptive responses to the illness, all of which contribute to providing satisfying support and, ultimately, greater psychological well-being.

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