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The effect of perceived and actual social support on the mental health of HIV-positive persons

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Abstract

The purpose of this paper is to compare the ways in which perceived and actual social support affect the mental health of gay men, straight or bisexual men, and women living with HIV/AIDS. Participants included 125 women and 232 men with an HIV-positive or AIDS diagnosis involved in three larger investigations of HIV, disclosure and mental health. Results suggest each sub-group experienced perceived social support as significantly predictive of better mental health while the effect of actual social support was minimal.

Introduction

Rates of HIV/AIDS infection remain most pronounced among men who have sex with men (MSM). In fact, the Centers for Disease Control and Prevention (CDC) estimate that 65% of all male adults and adolescents living with HIV/AIDS are MSM (CDC, 2003). A notable change to the HIV/AIDS statistics over the past few years, however, has been the rapid increase of infection rates among heterosexuals, particularly women. The CDC (2003) estimated 170,679 cases of AIDS and 63,740 cases of HIV infection, respectively, among women in the US. Most alarmingly, women between the ages of 20 and 44 represent the majority of reported HIV and AIDS cases among women (CDC, 2003).

HIV infection presents a challenging life circumstance for individuals and impacts various aspects of mental health. For example, rates of depression among HIV-positive men and women have been reported to be twice as high as the general population (Atkinson & Grant, 1994; Lyketsos et al., 1996), with rates of diagnosable depressive disorders estimated between 4 and 14% (Lyketsos et al., 1996). Prevalence rates of post-traumatic stress disorder have been reported to be as high as 62% and significantly related to the progression of HIV (Kimerling et al., 1999). Individuals with HIV have also been found to experience higher levels of loneliness than the general population (Vance, 2006). The social stigma of living with an HIV diagnosis may contribute to a lack of connectedness to support persons and lack of adherence to antiretroviral therapy (Ware et al., 2006).

Managing an HIV diagnosis may be facilitated by social support and this support may be instrumental (e.g. providing transportation or monetary assistance) or emotional (e.g. providing positive feedback or giving advice). Researchers have examined the role of perceived social support in improving the lives of HIV-positive individuals (Friedland et al., 1996; Hays et al., 1990, 1992; Kelly et al., 1993; Leserman et al., 1992). Most suggest that social support buffers stress-related or stress-inducing crises, such as depression (Hays et al., 1990, 1992; Johnson et al., 2001; Serovich et al., 2001; Silver et al., 2003; Turner et al., 1993), hopelessness (Johnson et al., 2001), physical distress (Leserman et al., 1999), disclosure to sexual partners (Kalichman

et al., 2003; Marks et al., 1991) and psychological well being (Hays et al., 1990; Serovich et al., 2001).

It is important to note, however, that perception of social support may differ from the actual availability of social support. In one study of women with HIV, Serovich and colleagues (2001) found perceived social support was more significant than perceived availability of support in predicting mental health outcomes. In another study HIV-positive gay men reported larger social support networks than women, but women reported higher satisfaction with their perceived social support than men (Semple, 1996). This suggests that mere network size may not be the only factor predictive of satisfaction.

One deficiency in the current literature base is that many studies investigating perceived versus available social support have featured predominantly gay male samples (Kadushin, 1999). Interestingly, this issue has not been well investigated with men who identify as straight or bisexual and the samples of women have been too small to make conclusions. What role, if any, does gender or sexual orientation have on the perception of social support? Burgoyne and Saunders (2000) found no significant relationship between perceived and actual social support for newly-diagnosed HIV-positive individuals but the majority (85%) of the sample were identified as either gay or bisexual men. In fact, only two heterosexual men and 15 women were included in the analysis; therefore, any assumptions about gender or sexual orientation based on these results are tentative at best. Previous researchers have found that sexual orientation influences the association between perceived social support and psychological well-being (Carels et al., 1998) but little is known about how sexual orientation or gender might affect the association for available social support.

The purpose of this paper was to test models that explored the relationship between social support and mental health for those with HIV/AIDS. Specifically, we compared the ways in which perceived and actual social support affect the mental health of gay men, straight or bisexual men, and women living with HIV/AIDS. We hypothesize that for all groups perceived support will be a greater predictor of better mental health than actual support.

Methods

Participants

Participants in this study included 125 women and 232 men with an HIV-positive or AIDS diagnosis involved in three larger investigations of HIV, disclosure and mental health. Two were longitudinal studies of HIV disclosure that involved women and gay men who completed questionnaires regarding mental health, physical health, social support, disease progression and sexual risk-taking behaviours once every six months for three years resulting in seven data collection points. The third study was a single wave investigation of straight and bisexual men. In all studies, sexual orientation was self-reported. While the larger studies involved collecting data longitudinally, to avoid any influence of a practice effect on measures the data used in this study were only from wave one of each study.

Procedure

Separate IRB approval from Ohio State University was garnered for each study and participants were treated in accordance with the 'Ethical Principles of Psychologists and Code of Conduct' (APA, 1992). There were two types of recruitment sites for this study. The first recruitment venues were large medical facilities associated with a large Midwestern university medical centre. The second were nonprofit AIDS Service Organizations (ASOs) in the three largest metropolitan areas of the state, which deliver comprehensive case management services, including social support, mental health, housing and advocacy for those living with HIV/AIDS.

Recruitment strategies varied only slightly depending on the site. A research nurse at the medical facilities provided possible participants with a project summary sheet when they attended their regular medical appointments. Case managers at the ASOs provided possible participants with a project summary sheet when they attended their regularly scheduled case management appointments. Additionally, flyers were posted in the waiting and interview rooms at each facility. Because of the diversity of recruitment strategies employed, a refusal to participate rate could not be computed. All participation was voluntary and refusal to participate or dropping out of the study did not endanger or compromise participants' treatment at any of the sites. Participants were interviewed by trained doctoral students who also conducted the assessments. All interviewers completed 4–6 hours of supervised training.

Instruments

Perceived social support—Perceived social support was measured using an adapted version of the Perceived Social Support-Friends (PSS-Fr) and Perceived Social Support-Family (PSS-Fa) scales (Procidano & Heller, 1983). The scales consist of 20, five-point Likert-type items ranging from 1 = 'strongly disagree' to 5 = 'strongly agree', with higher averaged scores reflecting more perceived support. The internal consistency of both scales, PSS-Fa and PSS-Fr, was excellent ($\alpha = 0.95$ and 0.90 respectively for women; $\alpha = 0.95$ and 0.89 for gay men and $\alpha = 0.94$ and 0.90 for straight and bisexual men).

Actual social support—Actual social support was measured using an adapted version of Barrera's (1981) Arizona Social Support Interview Schedule (ASSIS). The ASSIS consisted of a series of questions tapping a number of dimensions of a social support network. The number of family members (anyone related by blood, marriage or adoption) and friends available to provide support were calculated on several dimensions. For this project the following dimensions were utilized: discussing private feelings, providing positive feedback, getting physical assistance and socialising. The percentage of family members and percentage of friends available in the total network was used to accommodate for the variation in size of networks within each group.

Mental health—Mental health was measured with indices of depression and loneliness. The presence of depressive symptoms was measured with the Depressed Mood Scale (CES-D) (Radloff, 1977). The CES-D is a 20-item, four-point Likert-type scale designed to measure depressive symptomatology. The CES-D was chosen because of its good internal consistency ($\alpha = 0.85$) and validity (Radloff, 1977). For this study $\alpha = 0.93$ for women, for gay men $\alpha = 0.93$ and for straight and bisexual men $\alpha = 0.92$. Loneliness was measured with the State Versus Trait Loneliness Scales (Gerson & Perlman, 1979). These scales consist of two 12-item, five-point Likert-type scales designed to measure long-term, chronic, dispositional traits and short-term, situational or transient loneliness. The measures have reported more than adequate internal consistency and convergent validity (Shaver et al., 1985). For this study, loneliness over the past year had good reliabilities (for women $\alpha = 0.87$, for gay men $\alpha = 0.92$ and for straight and bisexual men $\alpha = 0.87$). Loneliness over the past few days also had good reliabilities (for women $\alpha = 0.87$, for gay men $\alpha = 0.93$ and for straight and bisexual men $\alpha = 0.88$).

Results

Women were primarily African American (68%), aged 18–63, with a mean of 37.74 years. Gay men were primarily Caucasian (68%), aged 21–61, ($M = 37.70$ years) and straight and bisexual men were primarily African American (74.2%) aged 18–62 ($M = 40.7$ years) (see Table I).

Analyses of variance

To begin, ANOVAs were performed to investigate if there were differences between the three groups in regards to perceived levels of social support. Results suggested there were no significant differences between gay men, women and straight or bisexual men on the amount of perceived social support; $F(2, 354) = 0.93$; $p = ns$. However, results of a MANOVA suggested that there were significant differences between groups on the amount of perceived social support received from family members; $F(2, 354) = 6.05$; $p \leq 0.01$ and the amount of perceived social support received from friends; $F(2, 354) = 3.74$; $p \leq 0.05$. Specifically, gay men ($M = 3.04$; $SD = 1.06$) perceived receiving less social support from family members than women ($M = 3.42$; $SD = 0.85$) and greater social support from friends ($M = 3.69$; $SD = 0.64$) than straight and bisexual men ($M = 3.47$; $SD = 0.60$).

There were also no significant differences in level of actual support between the groups, $F(2, 354) = 1.64$; $p = ns$. However, levels of actual support from family members were significantly different between gay men, women, and straight and bisexual men; $F(2, 354) = 7.14$; $p \leq 0.01$. Again, gay men ($M = 14.6\%$; $SD = 14.8$) reported less actual support from family than women ($M = 22.2\%$; $SD = 18.0$) and straight and bisexual men ($M = 20.7\%$; $SD = 19.1$) yet there were no significant differences in actual social support from friends; $F(2, 354) = 2.69$; $p = ns$.

Analyses of covariance were performed in order to better articulate these differences by group. Race, relationship status, education level and employment status were entered as the covariates to explore differences of perceived social support and available social support among the three participant groups (i.e. gay men, women and straight and bisexual men).

Results revealed that significant differences among the three groups on perceived social support from family ($F(2, 318) = 1.20$; $p = ns$) and friends ($F(2, 318) = 1.44$; $p = ns$) did not emerge when the four covariates were included. Particularly, education level was significantly related to the perceived social support from friends, $F(1, 318) = 15.51$; $p \leq 0.001$. Again, the group effects on available social support from family were not found after the adjustment of four covariates, $F(2, 321) = 1.72$; $p = ns$. Only, race had a significant association with the amount of available social support from family, $F(1, 321) = 6.12$, $p \leq 0.05$.

Paired t-test

Next, differences between perceived support from family and friends were explored within the three groups and significance emerged only for gay men. More specifically, gay men perceived receiving significantly more social support from friends ($M = 3.69$) than family members ($M = 3.03$) ($t = -7.10$; $p \leq 0.001$). Similar differences did not emerge for women ($M = 3.42$, PSS-Fa; $M = 3.55$, PSS-Fr) or straight and bisexual men ($M = 3.32$, PSS-Fa; $M = 3.47$, PSS-Fr). Differences between family and friends available for support for each group were then explored. Women reported a higher proportion of family members ($M = 22\%$; $SD = 18\%$; $R = 0-100\%$) than friends ($M = 16\%$; $SD = 17\%$; $R = 0-73\%$) in their networks ($t = -2.50$; $p < 0.05$). Other individuals included in women's support networks included medical professionals ($M = 6\%$; $SD = 9\%$; $R = 0-50\%$), sexual partners ($M = 5\%$; $SD = 6\%$; $R = 0-33\%$), and religious leaders ($M = 1\%$; $SD = 5\%$; $R = 0-30\%$). There was also a significant difference for gay men ($t = 3.09$; $p < 0.01$). Gay men also reported higher proportions of friends ($M = 20.77\%$; $SD = 16.39\%$; $R = 0-75\%$) than family members ($M = 15\%$; $SD = 15\%$; $R = 0-73\%$) in their networks. Other individuals included in gay men's support networks included medical professionals ($M = 4\%$; $SD = 7\%$; $R = 0-38\%$), sexual partners ($M = 5\%$; $SD = 6\%$; $R = 0-25\%$) and religious leaders ($M = 0.5\%$; $SD = 3\%$; $R = 0-20\%$). There was no significant difference between amount of family and friends available for straight and bisexual men.

Multiple regression analyses

Regression analyses were employed to compare the effects of perceived and actual social support on mental health outcomes for the three groups. Regression models were significant for all three measures of mental health for each sample (see Table II). For women, perceived social support from family was the only significant predictor of depressive symptoms, $B = -4.86$; $p \leq 0.01$. Loneliness over the past few days was predicted by both perceived social support from family, $B = -3.72$; $p \leq 0.001$ and perceived social support from friends, $B = -3.32$; $p \leq 0.05$. Loneliness over the past few years was also predicted by both perceived social support from family, $B = -3.63$; $p \leq 0.001$ and perceived social support from friends, $B = -4.15$; $p \leq 0.01$.

Regression models for gay men showed that both perceived social support from friends, $B = -12.12$; $p < 0.001$, and actual support from family, $B = -0.24$; $p \leq 0.05$, were significant predictors of depressive symptoms. These variables were also significant in predicting loneliness over the past few days, $B = -12.28$; $p \leq 0.001$ and $B = -0.17$; $p \leq 0.05$, respectively. Loneliness over the past few years was significantly predicted by both perceived social support from family, $B = -3.22$; $p \leq 0.01$ and perceived social support from friends, $B = -7.34$; $p \leq 0.001$. Actual social support from friends was not significant in predicting any indices of mental health for this sample.

Regression models for straight and bisexual men showed that perceived social support from family was the only predictor of depressive symptoms, $B = -4.00$; $p \leq 0.05$. Perceived support from family, $B = -3.33$; $p \leq 0.01$ and perceived support from friends were significant predictors of loneliness over the past few days, $B = -6.09$; $p \leq 0.001$. Perceived support from friends was the only significant predictor of loneliness over the past few years, $B = -7.34$; $p \leq 0.001$. Actual support from family or friends was not significant in predicting indices of mental health for this sample.

Discussion

Differences in support from network members

There are a number of interesting findings from this study. As previous researchers have indicated, gay men perceived receiving significantly more social support from friends than family (Friedland et al., 1996; Hays et al., 1994; Johnston et al., 1995; Schwarzer et al., 1994). Women and straight or bisexual men did not experience such discrepancies. There are numerous plausible explanations for this disparity. First, gay men may be distanced emotionally from family and thus perceive friends as a greater resource to them. This may be due to their sexual orientation or other issues related to how they contracted HIV. Second, gay men also reported larger social networks of friends versus family than women and straight or bisexual men. Thus, it is plausible that sheer numbers of friends available results in greater perception of support. Third, given that the HIV epidemic in the US initially emerged in the gay community, friends may be more likely to make themselves available for assistance to gay men than would be experienced by women or straight or bisexual men. Furthermore, peer-based support groups and buddy systems for HIV-positive gay men have historically been pivotal in increasing social support for these men. Fourth, it is also plausible that gay men choose not to request support from family members while others perceive family as a resource to be utilized.

Straight and bisexual men perceived neither family nor friends as providing more support, nor as providing more actual support than the other. This perception of a balanced social network may result in feelings of being adequately supported. This result may also be attributed to straight and bisexual men only reporting social network members who consistently provide

support, which may include both family and friends. Family and friends who are present but provide negligible support may be perceived as irrelevant and thus minimized in importance.

For HIV-positive women, perceived support from family was paramount. This could be due to the fact that women may be socialised to expect support from their family members versus friends. Family members may collectively offer support that is perceived by women to be beneficial. Friends may offer encouragement in ways that women do not distinguish as social support, thus affecting the perception. This may explain why perceived support from friends was predictive of less loneliness over the past few years. It is curious that availability of family for support had no impact on women's mental health indices and is worthy of further investigation.

The significance of family cannot be ignored for gay men. They were the only group to report that actual support from family members was important. This result may be due to the fact that, in this study, gay men only mentioned family members they knew would be important or supportive. If the four dimensions of support measured are examined more closely, it is equally plausible that having large numbers of family available means that men are living in localities that are near family. While not investigated in these studies, living near family may provide a direct link for these men to receive social support.

Relationship of social support and mental health

Results of this study suggest that there are significant differences in the relationship of perceived and actual social support to mental health. Women, gay men and straight/bisexual men all experienced perceived social support versus actual social support as significantly more predictive of mental health. The consistency of experience for these groups is striking and may be due to a number of factors. First, HIV is a disease with physical and emotional ramifications for all infected individuals, so it is reasonable that the importance of social support would be similar across gender and sexual orientation. Second, perception of support has been found to be predictive of mental health for individuals affected by other chronic illnesses as well (Bennett et al., 2001; Uchino et al., 1996) so its impact on those with HIV may be comparable.

There were differences in the relationship between perceived versus actual social support and mental health for each group that warrant more investigation. In this sample, perceived support was most predictive of mental health indices, but both depressive symptoms and loneliness over the past few days in gay men were predicted by actual support from family. This is similar to the findings of Smith and Rapkin (1996) who found that MSM were just as likely to rely on family members as friends for support. These men reported fewer barriers to receiving support from family members than friends. It may be that though gay men reported more friends than family members, access to these family members may influence the level of depression or loneliness experienced.

Limitations

There are some inherent limitations to consider when interpreting the results of this study. First, the majority of the data were collected retrospectively. When completing the measures of mental health, particularly loneliness over the past few years, participants may have been focused on their present state of mind and thus answered questions accordingly. Thus measurement imprecision may have played a role in the outcomes of this study. Second, the perceived family and perceived friend support scales measure the collective score for each group. It is equally plausible that one person in the family or friend group can exhibit differential impact and thus drive the overall score. Future researchers may seek to better understand how particular members of a person's network may drive the perception of support. Such information would be important for intervention development. Third, for this sample sexual

orientation was measured by self-identification. However, sexual behavioral measures indicated that a number of those men who self-identified as heterosexual were behaviorally bisexual. Instability of the data warranted a collapse of these two groups in data analysis. Further exploration of this phenomenon may be necessary to fully understand the importance of social support for these men.

Recruitment of participants occurred from a wide variety of venues, including medical clinics and ASOs, but it is a limitation that the amount or frequency with which these organizations were utilized for support was not measured. In addition, this study only measured social support but other types of support might also be important in explaining mental health. For example, financial support may play an important role in reducing stress, which could contribute to mental wellbeing or stability. Future work may be done to understand how HIV-positive individuals perceive the different types of support provided by many other people in their networks, outside of family and friends. This may also be beneficial for helping professionals in working to identify positive sources of support for clients.

Implications

In this sample, perception of support versus number of persons available appears to be vitally important to the mental health of those living with HIV, regardless of gender or sexual orientation. This information is important for helping professionals working with HIV-positive persons for a variety of reasons. First, it suggests that individuals with small social networks can be adequately supported. Therefore, investigating the degree to which clients feel they have the resources they need would be more important than assessing the numbers of persons who can assist. Helping professionals should focus on supporting clients in recognizing the many other dimensions of support offered that may not be easily recognisable such as offering material aid (i.e. providing transportation) or advice. Second, therapists and other helping professionals should invest in developing or enhancing interventions that increase the value of support provided by the social network. Clinicians might consider focusing on and assisting with repairing damaged family relationships or finding ways in which friends have offered support in order to adequately buffer the effects of HIV on functioning.

Conclusion

The current study focused on the relationship between social support from family and friends and the relationship to mental health. This study is unique in the fact that comparisons are made between gay men, women, and straight and bisexual men using fairly large samples of each group. Though certain measurement limitations exist, reasonable conclusions about the differences between the groups for the link between social support and depression and loneliness can be drawn.

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Table I
Demographics for women, straight/bisexual men and gay men.

Age	Women (<i>n</i> = 125)	Straight-bisexual (<i>n</i> = 93)	Gay men (<i>n</i> = 139)
	M = 37.7 SD = 9.39	M = 40.7 SD = 8.43	M = 37.7 SD = 7.48
Variable	Frequency (%)	Frequency (%)	Frequency (%)
Race			
African American	85(68.0)	69(74.2)	34(24.5)
Caucasian/white	31(24.8)	21(22.6)	95(68.3)
Other	9(7.2)	3(3.3)	10(7.2)
Relationship			
Single (not dating)	61(48.8)	31(33.3)	79(57.7)
Single (and dating)	22(17.6)	27(29.0)	13(9.5)
Married/committed	42(33.6)	35(37.7)	45(32.8)
Education			
Less than high school	31(25.6)	10(10.8)	8(7.3)
High school graduate	37(30.6)	36(38.7)	15(13.6)
Some college	43(35.5)	28(30.1)	35(31.8)
College graduate	7(5.8)	15(16.1)	27(24.5)
Graduate school	3(2.5)	4(4.3)	25(22.8)
Employment			
Unemployed	97(78.2)	73(79.3)	57(41.9)
Employed	27(21.8)	19(20.7)	79(58.1)
Income (Monthly)			
\$0-\$500	3(2.4)	39(41.9)	25(18.0)
\$501-\$1000	7(5.6)	32(34.4)	35(25.2)
\$1001-\$1500	13(10.4)	6(6.5)	12(8.6)
\$1501-\$2000	10(8.0)	6(6.5)	14(10.1)
Over \$2000	9(7.2)	3(3.2)	41(29.5)
Don't want to answer	83(66.4)	7(7.5)	12(8.6)

Table II

Regression models predicting indices of mental health.

Independent	PSS-fa B (Std)	PSS-fr B (Std)	ASS-fa B (Std)	ASS-fr B (Std)	R ^{2a}	F
Dependent						
Women						
Depressive symptoms	-4.86 (1.63) ^{**}	-3.08 (2.23)	-0.06 (0.07)	-0.16 (0.08)	0.15	4.09 [*]
Loneliness (past few days)	-3.72 (1.02) ^{**}	-3.32 (1.38) [*]	0.005 (0.05)	-0.07 (0.05)	0.22	6.60 ^{**}
Loneliness (past few years)	-3.63 (0.99) ^{**}	-4.15 (1.35) [*]	-0.03 (0.04)	-0.07 (0.05)	0.27	8.16 ^{**}
Gay men						
Depressive symptoms	-0.42 (1.33)	-12.12 (1.98) ^{**}	-0.24 (0.10) [*]	-0.02 (0.07)	0.36	12.52 ^{**}
Loneliness (past few days)	-0.34 (0.98)	-12.28 (1.46) ^{**}	-0.17 (0.07) [*]	-0.03 (0.05)	0.52	24.21 ^{**}
Loneliness (past few years)	-3.22 (1.02) [*]	-7.09 (1.52) ^{**}	-0.01 (0.08)	0.002 (0.06)	0.39	14.27 ^{**}
Straight or bisexual men						
Depressive symptoms	-4.00 (1.92) [*]	-0.45 (2.45)	-0.13 (0.07)	-0.08 (0.07)	0.14	2.61 [*]
Loneliness (past few days)	-3.33 (1.37) ^{**}	-6.09 (1.93) ^{**}	0.01 (0.05)	-0.02 (0.05)	0.27	6.27 ^{**}
Loneliness (past few years)	-2.35 (1.25) ^{**}	-7.34 (1.67) ^{**}	-0.02 (0.05)	0.01 (0.05)	0.31	7.33 ^{**}

* $P \leq 0.01$;** $P \leq 0.001$.