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# The Multidimensional Nature of Received Social Support in Gay Men at Risk of HIV Infection and AIDS[1]

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*This article concerns received social support in gay men at risk of HIV and AIDS. Distinctions are made between three types of support (informational, tangible, emotional), four sources of support (friends, relatives, partner, organizations), and three dimensions of support (amount, satisfaction, reciprocity). A 24-item inventory reflecting these distinctions was administered to a sample of 587 gay men at two points in time. The psychometric properties of the instrument were determined, and the factor structure of the items varying sources and types of social support were tested. This was done by exploratory as well as by confirmatory factor analyses. The hypothesized structure was confirmed in both waves separately. Results corroborated the assumption that enacted or received social support is a highly differentiated construct and requires assessment tools that are designed according. Descriptive results on the support perceptions in this sample are also presented. Implications for the study of support in men at risk of HIV and AIDS are discussed.*

**KEY WORDS:** Social support; HIV; AIDS; support assessment.

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The construct of social support has received much attention, in particular by researchers studying stress, social relationships, and mental and physical health. It has been found repeatedly that social support can assist coping and can be beneficial with effects on various health outcomes (see reviews in Cohen & Syme, 1985; House, Umberson, & Landis, 1988; Rodin & Salovey, 1989; Sarason, Sarason, & Pierce, 1990; Schwarzer & Leppin, 1989, 1991; Veiel & Baumann, 1992). Social support has been defined in various ways, for example, as "resources provided by others" (Cohen & Syme, 1985), as "coping assistance" (Thoits, 1986), or as an exchange of resources "perceived by the provider or the recipient to be intended to enhance the well-being of the recipient" (Shumaker & Brownell, 1984, p. 13). Several types of social support have been investigated such as instrumental support (e.g., assist with a problem), tangible support (e.g., donate goods), informational support (e.g., give advice), emotional support (e.g., reassurance) among others. The definition and measurement problems involved in studying the social support construct, however, have remained an issue from the beginning of this research tradition. Instruments that are psychometrically unsound or that have evolved from different concepts of social support produce diverse results. This also stems from the fact that there is little agreement on how to define social support. Only recently, disparate opinions have converged and the necessary conceptualization that is a prerequisite for the design of appropriate measurement tools has taken place (Dunkel-Schetter & Bennett, 1990; Kessler, 1992; Vaux, 1992).

### *Conceptual Distinctions of Social Resources*

Several attempts have been made to introduce theoretical perspectives and to distinguish social support and social integration. House et al. (1988) argue for a theoretical subdivision of social relationships into social integration, social networks, and relational content. *Social integration* refers to the mere existence or quantity of social relationships, and it comprises the size of a network, such as number of relatives and friends, and the frequency of contact with these people. The number of active social ties determines one's degree of embeddedness, with social isolation being one extreme endpoint. Social integration has also been conceptualized as the number of important roles as a person holds, such as being a friend or a boss, or being married (Thoits, 1986). *Social network structure* has been defined as a set of relational properties such as density, reciprocity, sex composition, durability, or homogeneity of one's network. The presence of women in one's network, for instance, might facilitate coping with stress because, on the average, women are regarded as being more supportive than men. The assessment of social networks has been discussed by Mueller (1980), Pilisuk and Froland (1978), Vaux and Harrison (1985), and Walker, MacBride, and Vachon (1977).

*Relational content* refers to the function and nature of social relationships with various people, such as spouse, boss, friends, or relatives. It includes social support and other contents such as social regulation and control, and social demands and conflicts. House et al. (1988) reserve the term "social support" itself for the "positive, potentially health-promoting or stress-buffering, aspects of relationships" (p. 302). Social regulation or control, on the other hand, may either promote or impair health, depending on the circumstances. Relational demands and conflicts represent negative qualities of relationships and may contribute to poor health or lack of well-being. Deleterious effects due to negative content or lack of support may be greater than beneficial effects caused by helpful actions.

Within this *functional perspective, perceived availability of support* must be distinguished from the *activation of support.* It has been demonstrated that support perceived as available and support actually received overlap very little in studies where both concepts have been measured (Dunkel-Schetter, 1984; Dunkel-Schetter & Bennett, 1990; Dunkel-Schetter, Folkman & Lazarus, 1987). For example, McCormick, Siegert, and Walkey (1987) applied confirmatory factor analysis to two scales, one for received and one for perceived support. Five factors emerged, three of which included only items on received support, whereas the remaining two were established by items pertaining exclusively to perceived support. Also, Newcomb (1990), using confirmatory factor analysis, found an unbiased correlation of only .35 between perceived and received support.

When social support is viewed as a general sense of being loved and valued, the concept comes fairly close to reflecting a personality variable rather than referring to social interactions or to resources provided by others. Measures of perceived available support are highly intercorrelated and are associated with personality characteristics (Sarason, et al., 1990); these authors conclude that perceived social support can be defined as a stable individual difference variable that is based on a sense of acceptance by others. In contrast, received support deals with explicit behaviors by others intended to be helpful or perceived as helpful (Dunkel-Schetter, Blasband, Feinstein, & Herbert, 1992). Although it also may concern subjective perceptions, these do not pertain to hypothetical situations or general impressions but to behaviors that are perceived to have actually occurred (Cutrona, 1986a, 1986b, 1989). Consequently, this conceptualization of support should be particularly useful in situations where individuals must cope with stressful life events. Dunkel-Schetter and Bennett (1990) suggest that available support is more cognitive in nature and received support is more behaviorally based.

In sum, most authors today agree that social integration, perceived available social support, and received or enacted social support represent distinct concepts that operate in different ways and that have to be measured separately. Vaux (1992) labels the three constructs "network resources," "social support appraisal," and "social support behavior." He refers to global social support as a metaconstruct that cannot be well operationalized and, therefore, appears to be less useful.

### *Social Support and HIV*

Previous research on social support in the context of HIV risk in gay men has assessed several of these distinct support concepts. For example O'Brien, Wortman, Kessler, and Joseph (1993) have shown that perceived availability of social support and the absence of conflicts in social network relationships were related to lower depression and anxiety over time in a large sample of gay men at risk of AIDS in Chicago (see also O'Brien, 1992). Lackner et al. (1993) reported that subjective social isolation was associated with more adverse mental health over time among members of the same cohort. In a large sample of gay men in New York, Lennon, Martin, and Dean (1990) found that the availability of instrumental and emotional support was unrelated to grief reactions subsequent to losing someone to AIDS. However, the perceived *adequacy* of both types of support reduced the impact of bereavement on subsequent reactions. Hays, Catania, McKusick, and Coates (1990) in a longitudinal survey of San Francisco gay men found peers (friends and primary partners) were perceived to be the most helpful source of support to gay men regardless of HIV status and AIDS diagnosis. Family members (parents and siblings) were less likely to be sought for support and were seen as less helpful. Ratings of the degree of helpfulness of peers were significantly and inversely associated with anxiety and depression. Finally, Turner, Hays, and Coates (1993) in a related sample found that depression and HIV symptoms in gay men in San Francisco were associated with the availability of social support (see also Blaney et al., 1991). By and large, these studies have had to adapt existing measures or develop their own measures of social support to fit the specific context of HIV/AIDS and they have focused mainly on available support (usually called "perceived support"). One premise of the present investigation is that contextually relevant measures of received support are needed to advance research on HIV/AIDS and other health issues. Such measures have been shown to have predictive validity in recent research on pregnancy and birth outcomes (Collins, Dunkel-Schetter, Lobel, & Scrimshaw, 1993). Moreover, understanding actual support transactions has been considered essential to planning supportive interventions (Gottlieb, 1981, 1988).

### *Measurement of Received Social Support*

Received social support can be assessed in a quantitative or descriptive sense and in a qualitative or evaluative sense. That is, one can ask people (a) how often or how much they have received support from others, and (b) how satisfied they were with what they received. The present paper deals with *received social support* exclusively and contributes to the further refinement of the measurement of this construct (reviews of measures can be found in Heitzmann & Kaplan, 1988; House & Kahn, 1985; Tardy, 1985). Although most existing support instruments assess perceived available support, few make an attempt to assess received support (Dunkel-Schetter & Bennett, 1990).

The Social Relationship Scale (SRS; McFarlane, Neale, Norman, Roy, & Streiner, 1981) is an example of such an instrument that attempts to describe and evaluate received support. Subjects are asked to list the names of persons with whom they have discussed their problems; then they are asked to describe their relationships to these persons and to rate the degree of support quality they experienced by the discussions. Also, reciprocity of help is assessed. Yet, this approach is limited to "discussions" and does not assess instrumental and emotional support separately.

The Inventory of Socially Supportive Behaviors (ISSB; Barrera, 1981; see also Barrera, Sandler, & Ramsay, 1981) assesses the frequency of supportive actions by one's network members within the preceding month. A distinction is made between instrumental, emotional, and informational support as well as companionship. However, the ISSB tends to confound support provided with degree of need for support. This is sometimes reflected by positive correlations between support and distress. Barrera (1986) argues that such positive associations are a result of support mobilization, that is, the more distress is experienced, the more support is mobilized. In addition, the ISSB is not situation-specific; it assesses a variety of different support acts in general without reference to a stressor which limits its usefulness in studies on stress and coping.

The UCLA Social Support Inventory (UCLA-SSI; Dunkel-Schetter, Feinstein, & Call, 1986) is designed to address some of the gaps in other instruments. It distinguishes types of support (such as information and advice, aid and assistance, and emotional support) from sources of support (such as parents, friends, relatives, or professionals). It also considers several dimensions of support such as the quantity of received support, the quality (or satisfaction with it), the level of support need, and whether support is given to providers in return (reciprocated support). To account for negative social interactions also, the amount of social stress in the particular support relationships is also assessed. Thus, the items in the inventory form a matrix with

three axes: *sources* of support, *types* of support, and *dimensions* of support. Relationship stress items can be seen as forming a second matrix with two axes: sources and types of stress. The instrument is not designed as a completely standardized measure, however. It is argued that each research problem or sample has its unique sources, types, and dimensions of interest, and the dimension subsets as well as the item content can be adjusted to the specific research context. Thus, although the original inventory consisted of 70 items, substantial item reductions are possible if required.

The present study used such an adjusted and abbreviated version of the UCLA-SSI, tailored to this particular application. In studying a large sample of gay men, three sources, three types, and three dimensions of social support were considered. The UCLA-SSI was administered at two points in time to a cohort of 587 gay men who were confronting the stresses imposed by the HIV/AIDS epidemic. The value of using this sample for the assessment of social support is that it is large, relatively homogeneous (young gay males, predominantly white and well-educated, living in Los Angeles), and that all men are exposed to a profound stressor, the risk of developing HIV/AIDS. Previous research has shown that the risk of HIV/AIDS can result in high levels of dysphoria and that coping efforts are mobilized to deal with these feelings (Taylor et al., 1992). In addition to addressing pressing issues in the study of social support, information on the support needs of those at risk of HIV infection is greatly needed as a basis for community programs.

## METHODS

### *Sample*

The sample was recruited from an existing cohort of approximately 1,400 gay and bisexual men participating in the Multicenter AIDS Cohort Study (MACS) in Los Angeles. The MACS is a multisite collaborative longitudinal research study of the epidemiology and natural history of AIDS. It is designed to determine the factors associated with the risk of HIV infection, and, among HIV seropositive individuals, the factors affecting the course of HIV infection.

Between April 1984 and December 1985, 1,637 participants were enrolled in the Los Angeles MACS cohort. Inclusion criteria were 18 years of age or older, no diagnosis of AIDS or cancer (excepting skin cancer), and no radiation therapy. Participants ranged in age from 18 to 50 years ($M$ = 32). Ninety-five percent were white (including white-Hispanic). An additional 122 participants were recruited in 1986 if they were current intimate partners of MACS participants (age range 18-57 years, $M$ = 33).

The majority of participants had at least a college education (55%) and were employed in professional or managerial positions (51%). In 1984, 49.5% were HIV seropositive.

Beginning in August 1987, active MACS participants, except those diagnosed with AIDS, were offered the opportunity to participate in the Natural History of AIDS-Psychosocial Study (NHAPS). This study is aimed at determining current psychological appraisals of, emotional responses to, and ways of coping with the risk of developing AIDS, and the impact of these processes on behavior and health (Aspinwall, Kemeny, Taylor, Schneider, & Dudley, 1991; Kemeny et al., 1994). Between August 1987 and October 1988, approximately 1,330 men without AIDS had visited the MACS study site for their exam; 798 of them were recruited into the NHAPS, yielding a 60% participation rate in the psychosocial study.

The NHAPS sample of 798 filled out a questionnaire at the initial wave in 1977-1978. Of these participants, 587 responded to a follow-up questionnaire about 1 year after their first visit. The present study deals with this longitudinal sample of 587 gay men. (The actual sample size is not the same for all variables, due to missing values.) Their demographic characteristics did not differ significantly from those of the original sample. Mean age was 36.8 years ($SD$ = 6.8) with a range from 22 to 58 years. The mean were predominantly white (92%) and well educated (8% high school or less, 57% college, and 35% graduate or professional school). Half of them had a primary partner at the first time point (51%), and this remained stable at Wave 2 (51%). Of those who knew their HIV antibody status, 44% reported to be seropositive at Wave 1, 46% at Wave 2.

### *Instrument*

An adapted and abbreviated version of the UCLA-SSI was administered at both points in time. Participants were given the instruction to indicate the most troubling or upsetting AIDS-related experience they had over the past month. They were then instructed to complete the UCLA-SSI with regard to that AIDS-related experience. Participants could select one of eight stressors provided or indicate another stressful experience. The eight stressors were changes in life-style, general worry about developing AIDS, symptoms that you think could be AIDS-related complex (ARC) or AIDS, a positive AIDS (HIV) antibody test, development of AIDS or ARC in a friend, and death of friend due to AIDS or ARC.

This inventory measured three types of received support, namely, informational, tangible, and emotional support as reflected in four items referring to advice, assistance, reassurance, and listening. The last two items were considered to be indicators of emotional support. Each item had to be answered for four sources of support separately, namely, friends, relatives, partners, and groups (or organizations). Groups and organizations were added as a potential source of support because there is an increasing number of formal and informal organizations and groups available to individuals who are confronting illnesses or other stressors. For example, there are a variety of AIDS- and/or gay-related organizations that are available in Los Angeles and other urban areas. These organizations are believed to function as major sources of informational, tangible, and emotional support. These 16 items, constituting a 4×4 matrix, represented the core of the instrument. In addition, three dimensions of received social support were considered. Each of the above 16 items asked for the quantity (or frequency) of supportive acts. Four additional items assessed quality of support (or satisfaction) from each source. The satisfaction items were arranged as 7-point scales ranging from very dissatisfied (1) to very satisfied (7); their median was anchored *neither satisfied nor dissatisfied.* All other items were 5-point scales with the anchors *never, rarely, sometimes, often,* and *very often.* Finally, reciprocity was assessed with four more items by asking how often the subject had given support in return to each of the four providers.[3] In addition to the social support instrument, participants answered background questions including whether they knew their HIV status or not (coded as: know HIV negative, know HIV positive, don't know).

### *Analyses*

The initial analysis aimed at examining the pattern of item responses as well as the internal consistencies of all scales derived from the 24 items. The scales formed were 4 type subscales (advice, assistance, reassurance, listening), 4 source subscales (friends, relatives, partner, groups), 1 satisfaction subscale, and 1 reciprocity subscale. The test–retest correlations from Wave 1 to Wave 2 also were computed.

The second stage of the analysis dealt with the factorial structure of the core part of the inventory, the 16 quantity of support items. By exploratory as well as by confirmatory factor analyses the variation in support sources versus support types, inherent in these items, was examined.

[3]The 24-item inventory can be obtained from the authors.

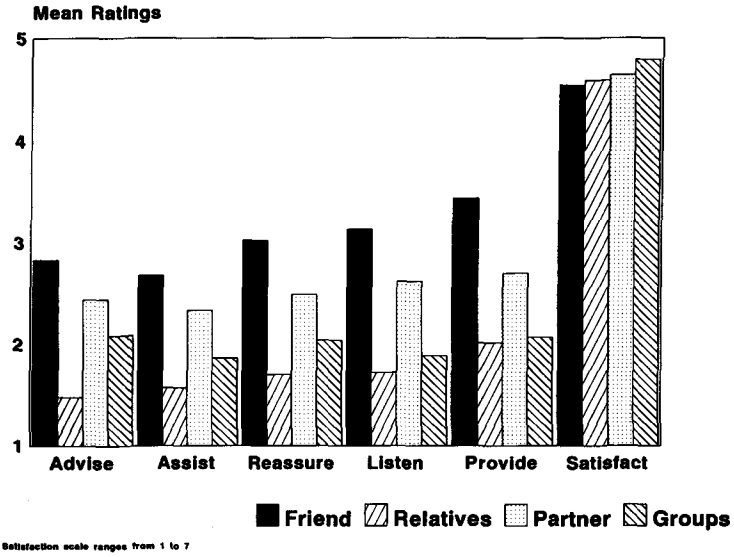


**Fig. 1.** Amount of social support from four different sources at Wave 1 (the Satisfaction Scale ranges from 1 to 7).

## RESULTS

### *Descriptive Results*

Inspection of responses to each individual item gives an impression of the amount of received support by source and by type. Figure 1 displays the mean ratings for Wave 1. Those for Wave 2 were similar. As can be seen, support by friends was reported most frequently ("sometimes"), for all types of support and in both waves. The second most frequent source was the partner although not all participants had a partner. Both sources provided the subject with informational, tangible, and emotional support. Reciprocity occurred with friends and with the partner. It is of note that support from relatives is almost nonexistent which may be due to the nature of this sample of gay men and the nature of the stressor or context. Support received from formal groups or organizations is also negligible in this sample. The similarity of means for support in both waves is striking.

Analyses of variance were conducted to test for differences in support received item ratings as a function of knowledge of HIV status. Few differences were significant with the exception that men who knew they were HIV positive received more social support of each of the four types from family members than men who knew they were HIV negative or did not know their HIV status, $F(2, 586) = 3.85$, $p < .05$, for information and advice; $F(2, 586) = 5.33$, $p < .01$, for task assistance, and $F(2, 586) = 5.43$, $p < .01$, for encouragement and reassurance. Differences by HIV knowledge were nonsignificant for each of four types of support from friends, partner, and groups/organizations.

### *Internal Consistencies*

For each subscale and each time point, the descriptive statistics were computed along with the internal consistency as reflected in Cronbach's alpha coefficient. Table I summarizes the results.

The four support type scales and the reciprocity scales yielded only moderate internal consistencies whereas the four support source scales and the satisfaction scale yielded excellent reliabilities. This suggests that support provision is more homogeneous within sources than within types.

### *Stability of Support Scales Over Time*

Test–retest correlations from Wave 1 to Wave 2 were determined for each of the social support scales. The stability coefficients were $r = .42$ for Advice, $r = .51$ for Assistance, $r = .46$ for Reassurance, $r = .44$ for Listening, $r = .44$ for Friends, $r = .56$ for Relatives, $r = .47$ for Partner, $r = .51$ for Groups, $r = .39$ for Satisfaction, and $r = .54$ for Reciprocity. With a range from .39 to .56, these coefficients can be seen as moderate, which is expected. This reflects the behaviorally based and nondispositional nature of the concept.

### *Exploratory Factor Analyses*

The 16 core items of this version of the UCLA-SSI, which measured four types of support received from four sources, were factor analyzed using principal component analysis. For Wave 1, the first five eigenvalues were 6.3, 2.7, 2.4, 1.6, and 0.65; for Wave 2, the first five eigenvalues were 7.0, 2.6, 2.2, 1.4, and 0.63. Applying the scree test as well as the eigenvalue criterion with cutoff at unity, four factors were extracted in each Wave. In both data sets, the four factors represented the support sources whereas the support types did not come up with substantial factor loadings.

Table I. Means and Internal Consistencies of the Social Support Scales[a]

| | Wave 1 ($n$ = 351) | | | Wave 2 ($n$ = 286) | | |
|---|---|---|---|---|---|---|
| Scale | *M* | *SD* | α | *M* | *SD* | α |
| Advice | 8.64 | 3.26 | .58 | 8.00 | 3.17 | .62 |
| Assistance | 8.15 | 3.53 | .66 | 7.68 | 3.53 | .71 |
| Reassurance | 8.90 | 3.72 | .65 | 8.39 | 3.73 | .71 |
| Listening | 8.93 | 3.46 | .59 | 8.51 | 3.60 | .69 |
| Friends | 11.31 | 4.70 | .92 | 10.22 | 4.53 | .91 |
| Relatives | 6.03 | 3.25 | .89 | 5.97 | 3.41 | .91 |
| Partner | 9.75 | 5.52 | .94 | 9.48 | 5.25 | .94 |
| Groups | 7.54 | 4.70 | .93 | 6.91 | 4.34 | .95 |
| Satisfaction | 18.51 | 4.68 | .90 | 17.87 | 4.90 | .92 |
| Reciprocity | 9.93 | 3.53 | .67 | 9.40 | 3.55 | .68 |

[a] Note listwise deletion of missing values.

*Confirmatory Factor Analyses*

Traditional factor analysis, however, is not the most appropriate method for the examination of this 4×4 item matrix. This data set resembles a multitrait multimethod matrix (MTMM). An MTMM is a correlation matrix of a set of traits each of which is measured by the same set of methods. Different measures of the same trait should correlate highly in order to indicate convergent validity, those of different traits should correlate less so in order to indicate discriminant validity. This approach to two facets of construct validity was introduced by Campbell and Fiske (1959). Later, it was shown that the superior strategy to analyze such matrices is within the framework of structural equations or confirmatory factor analysis (Alwin, 1974; Jreskog & Srbom, 1988; Schmitt, 1978; Schwarzer, 1986).

The MTMM confirmatory factor analysis design is illustrated in Figure 2. The 16 core items of this UCLA-SSI version were specified as indicators of eight latent variables, four support sources, and four support types. (Reassurance and Listening were used here as two separate factors of the Emotional Support construct.) The variance of each of these 16 indicators (or "manifest variables") was determined by two latent variables (i.e., one source variable and one type variable). This is the same rationale as if a test score variance is determined by a trait factor and by a method factor. The relationship of each indicator to the six other latent variables was constrained to be zero.

The correlations between the eight latent variables were constrained to two triangles, one for sources and one for types of support, whereas the relationship between sources and types was considered to be nonexistent. The LISREL modification indices showed that there was no need to specify paths between types and sources. This is a "restricted model" in contrast to a "full model" (see Schwarzer, 1986). The more constraints of this kind are introduced, the more theoretical assumptions are made in terms of parsimony, and the more difficult it becomes to fit the data. This result points to the likelihood that different sources provide all types of support.

Several indices of goodness of fit have been suggested in the literature (cf. Bentler, 1980; Jreskog & Srbom, 1988). We have used five of them in this study (a) the chi-square analysis that, if significant, indicates that the data deviate from the model, (b) the chi-square/degrees of freedom ratio that takes the degrees of freedom into account ($df = 3$) and that should be as low as possible; ratios above 3.0 are usually seen as unsatisfactory, (c) Jreskog's Goodness of Fit Index (GFI) that should be close to unity, (d) his Adjusted Goodness of Fit Index (AGFI) that makes an adjustment

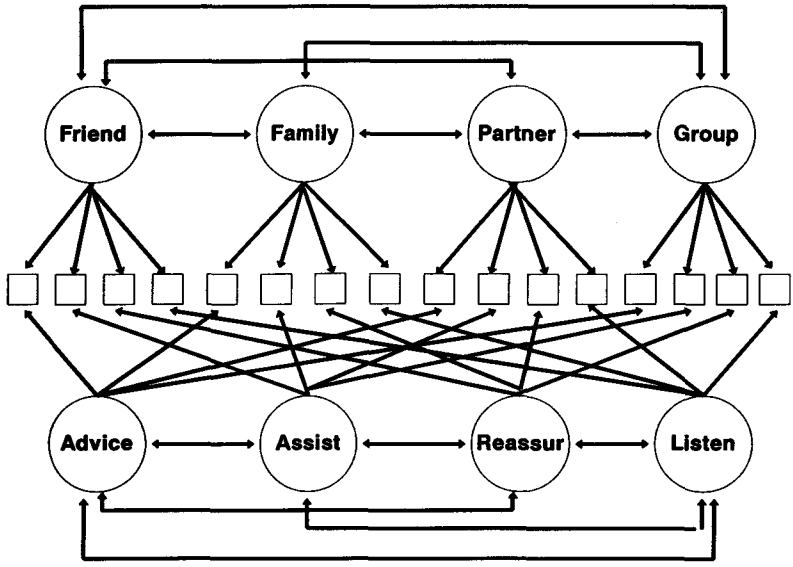


Fig. 2. Confirmatory factor analysis model with four source dimensions and four type dimensions.

to the degrees of freedom and also should be as high as possible, and (e) the Root Mean Square Residual (RMSR) that is an index derived from the deviations of the original correlation matrix from the reproduced correlation matrix based on the estimated parameters; this index should not exceed .05.

The LISREL analysis for Wave 1 yielded an excellent fit of the data. The goodness-of-fit indices were $\chi^2(76) = 71.92$ ($p = .61$), $\chi^2/df = 0.95$, GFI = 0.98, AGFI = 0.96, AND RMSR = .02.

The results of the confirmatory factor analysis for Wave 1 are presented in Tables II and III. The factor loading matrix (lambda x-matrix) contains the parameter estimates for each indicator and its corresponding latent variable.

The source factors (Friends, Relatives, Partner, and Groups) received high loadings between .65 and .93 whereas those for the type factors (Advice, Assistance, Reassurance, and Listening) were substantially lower, between .15 and .63.

Table III contains the unbiased correlations between latent variables. The factors Friends and Groups were moderately related ($r = .45$) but, overall, the four source factors were only weakly interrelated which demonstrates discriminant validity. On the other hand, the four type factors

**Table II.** Confirmatory Factor Analysis: LISREL Estimates for Factor Loadings (Wave 1)[a]

| | Latent variables | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Indicators | Fri | Rel | Par | Gro | Adv | Ass | Rea | Li |
| Advice | | | | | | | | |
| Friends | 80 | | | | 45 | | | |
| Relatives | | 78 | | | 42 | | | |
| Partner | | | 81 | | 43 | | | |
| Groups | | | | 83 | 17 | | | |
| Assistance | | | | | | | | |
| Friends | 68 | | | | | 63 | | |
| Relatives | | 65 | | | | 42 | | |
| Partner | | | 80 | | | 44 | | |
| Groups | | | | 83 | | 29 | | |
| Reassurance | | | | | | | | |
| Friends | 76 | | | | | | 59 | |
| Relatives | | 80 | | | | | 38 | |
| Partner | | | 87 | | | | 41 | |
| Groups | | | | 93 | | | 18 | |
| Listening | | | | | | | | |
| Friends | 75 | | | | | | | 57 |
| Relatives | | 85 | | | | | | 29 |
| Partner | | | 91 | | | | | 32 |
| Groups | | | | 90 | | | | 15 |

[a] Decimals omitted.

were quite closely related. Most strongly associated were the Reassurance and Listening factors ($r$ = .71) which was expected because their underlying items were designed to assess facets of Emotional Support.

The LISREL analysis for Wave 2 also yielded an excellent fit of the data. The goodness-of-fit indices were $\chi^2(76) = 118.26$ ($p$ = .01), $\chi^2/df$ = 1.53, GFI = 0.96, AGFI = 0.92, and RMSR = .03. The results of the confirmatory factor analysis for Wave 2 were very similar. Again, the source factors, Friends, Relatives, Partner, and Groups, received high loadings between .72 and .94, whereas those for the type factors, Advice, Assistance, Reassurance and Listening, were substantially lower, between .07 and .60. The source factors, Friends and Groups ($r$ = .51) and Friends and Relatives ($r$ = .51), were highly related but, overall, the discriminant validity was confirmed. The four type factors yielded higher discriminant validity than in Wave 1. Their intercorrelation was very low except for Assistance with Reassurance ($r$ = .54). It remains unclear why Listening and Reassurance were not more closely related in Wave 2 ($r$ = .18).

**Table III.** Confirmatory Factor Analysis: LISREL Estimates for Unbiased Factor Intercorrelations (Wave 1)[a]

| | Latent variables | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Indicators | Fri | Rel | Par | Gro | Adv | Ass | Rea | Li |
| Friends | 100 | | | | | | | |
| Relatives | 25 | 100 | | | | | | |
| Partner | 27 | 18 | 100 | | | | | |
| Groups | 45 | 19 | 19 | 100 | | | | |
| Advice | | | | | 100 | | | |
| Assistance | | | | | 48 | 100 | | |
| Reassurance | | | | | 55 | 53 | 100 | |
| Listening | | | | | 59 | 48 | 71 | 100 |

[a] Decimals omitted.

## DISCUSSION

The present study adds to the emerging consensus that social support must be conceptualized as a highly differentiated construct. It has been shown that, by examining received social support exclusively, different *types* of support, different *sources* of support, and different *dimensions* of support have to be considered. Virtually all of past research on social support and HIV in gay men has involved measures of social support availability (cf. Blasband, 1990; Zich & Temoshok, 1987). This study offers an alternative conceptual approach to social support as actual exchanges rather than as available resources.

In particular, support from different sources emerges as a critical dimension that should not be neglected in further studies. Help from a friend or partner for these gay men is not the same as help from one's family or from organizations. The four source scales yielded high internal consistencies, whereas those for the type scales were less reliable. The types were more closely intercorrelated, at least in Wave 1. This suggests that the UCLA-SSI may be best scored into source subscales each of which represent several types of support, at least in this application. All scales appeared to be only moderately stable over time and, thus, probably reflect changes in actually supportive transactions which may be useful in longitudinal research examining dynamic processes. It is of special importance that the hypothesized factor structure of the core instrument was demonstrated by confirmatory factor analysis. It is even more valuable that this model fit was replicated at Wave 2. Although not each individual parameter estimate was replicated, the model as a whole was.

The data from these analyses can help us to understand the support these gay men were receiving with regard to HIV and AIDS. In terms of sources of support, these men relied most heavily on support from friends and partners and relatively little on support from family and organizations. These data are consistent with other reports that gay men turn to friends rather than family of origin for support (Hays, Catania, et al., 1990; Hays, Chauncey, & Tobey, 1990). For example, Blasband (1990) conducted in-depth interviews with 40 gay or bisexual men with AIDS sampled from an AIDS assistance organization in San Diego. He found lovers were seen as providing greater amounts of support and more satisfying support compared to family. Larson (1982) stated with regard to gay men, "For whatever reason, the social group may function similar to the family as the primary basis of support and identify formation."

Despite the fact that there are groups and organizations available to help gay men cope with the stresses of the AIDS epidemic, our sample received little of its support from such groups. Again, friends and partners appeared to play a much more important role in this regard. However, it is interesting to note that the men were equally satisfied with the support they received from all four sources, which may reflect an adequate match between expectations and receipt. In other words, although these men may not have received a great deal of support from organizations, the support they did receive appears to have been needed, helpful and satisfying. These results differ from those of Hays, Catania, et al. (1990) who found not only more help sought from peers but also greater satisfaction with peer support. Differences between measures or samples in the two studies may account for this discrepancy.

With regard to type of support, participants reported similar levels of the four types of support received. Together with the findings on the differentiability of the sources of support, this suggests that source by type specialization was not occurring. That is, gay men in this sample did not perceive themselves as getting task assistance from one source and emotional support from another. Instead, it appeared that certain individuals were providing many types of support rather than specializing in the provision of particular resources. An alternative is that source by type specialization occurred but was not perceived in such fine-grained detail by respondents. It is also possible that the design of the instrument pulls more for homogeneity across types of support and within sources, despite the goal of allowing more complex differentiation.

Given increasing evidence that the experiences of HIV positive and negative men differ (especially in the nature and degree of the stressors), it might be argued that their support patterns should be distinguished. However, few differences in social support patterns emerged between the two groups in this sample. Further, no differences on measures of

depressed mood were found between matched samples of HIV positive and negative men in this cohort, as reported elsewhere (Kemeny et al., 1994). Differences between symptomatic and asymptomatic seropositive men may be even more important given that symptomatology is associated with greater distress (cf. Kurdek & Siesky, 1990; Ostrow et al., 1989; Perry, Fishman, Jacobsberg, & Frances, 1992). However, of the HIV positive men studied at Wave 1 in this study, only 15% experienced symptoms in the prior 6 months, and this group was not examined separately. Further study of the predictors of support received would be worthwhile in this and other studies of HIV/AIDS examining health status and characteristics of the stress experienced including perceptions of threat and coping.

The present findings were obtained with a sample of gay men exposed to the stresses of the HIV epidemic, and may not be generalizable to other populations. However, this sample specificity is not considered a limitation; rather it is an essential step in the development of contextually based instruments for assessment of social support in stressed samples. Inventories that try to assess support in general tend to mask the effects that are unique to a specific problem such as cancer, sexual assault, or the challenges of life-style change due to obesity or diabetes. Therefore, we believe the measurement of received social support has to be adjusted to the specific research context in order to validly assess the actual resources provided by others in a life crisis (Wortman & Dunkel-Schetter, 1987). It remains to test the psychometric properties of this instrument in other samples experiencing different stressors.

Certain limitations of the version of the UCLA-SSI used in this study must be noted. First, the number of support items per type of support was constrained by time imposed by the overall study design and thus may not have been extensive enough to capture the type dimensions well. Ideally, more items assessing each type of support would have been included which might alter the results. Also, only one *satisfaction-with-support* item was included for each type of support whereas more items of *receipt of support* were included for each type. Thus, the satisfaction-with-support items are more global and would ideally be asked in a further differentiated manner. A second potential limitation is that the support-received items were worded to also solicit reports of support that may have been unwanted. This was intended to unconfound support quantity from support quality (satisfaction). However, it is possible that it inadvertently lumped together reports of negative interactions with those of positive interactions, thus blurring the distinction between support and interpersonal conflict or stress. Such issues can be addressed by multivariate analyses incorporating measures of negative interactions. Although the UCLA-SSI includes such items (Dunkel-Schetter et al., 1992), they were not administered in this study (cf. Helgeson, 1993).

This paper provides information on the construct validity of measures of support, yet other issues such as concurrent validity are not addressed. Because the present approach to support assessment is not common, no other measures supply as detailed information. Thus, concurrent validity is difficult to establish but would be valuable to obtain in future. Although correlations with many other variables in the NHAPS data set are available, these are beyond the scope of this paper.

As many experts have decried, for the concept of social support to continue to thrive and be useful in research, its definition and assessment must be improved. Concerning the study of enacted or received support, this paper aims to provide some options for assessment, along with information on the dimensions of possible value to assess. It has the advantage of being a contextual approach in that the specific sources and types of support studied were selected for relevance to HIV. Descriptive information on patterns of support in a large cohort of gay men with HIV are also provided to add to our sparse data base on this topic. Such data are essential as a basis for community intervention effects (D'Augelli, 1990). Hays, Catania, et al. (1990) suggested that "community mental health professionals can be valuable in developing strategies for promoting the abilities of peers as social support providers, preventing burnout among peer helpers and providers about sources of help for men who lack supportive peer networks (p. 751)." It is hoped that the information contained in this paper may be of use to psychologists interested in undertaking these activities and those pursuing social support research in various stress-inducing contexts.

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