

Correlates of Social Support Receipt

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Psychological correlates of social support receipt were examined in an investigation of stress and coping among 150 middle-aged community residents. Subjects were interviewed monthly for 6 months, each time concerning a specific stressful situation in the previous month. Social support received and methods of coping were assessed each time, as well as other variables. Factors hypothesized to be associated with support receipt were person predispositions, appraisal patterns with regard to specific stressful encounters, and coping strategies used. Each was most strongly associated with a particular type of social support. Person predispositions related most strongly to emotional support received, appraisal factors related most strongly to aid, and coping strategies related most to informational support received. Furthermore, of the three sets of variables, the individual's ways of coping appeared to be most strongly associated with all types of social support received. Two implications are explored. First, we suggest that the three types of social support studied represent different constructs with different antecedents and consequences. Second, we argue that coping behavior provides interpersonal cues regarding what is wanted or needed in a stressful situation and that the members of the social environment respond accordingly.

Social support has been defined by House (1981) as "an interpersonal transaction involving one or more of the following: (1) emotional concern (liking, love, empathy), (2) instrumental aid (goods or services), (3) information (about the environment), or (4) appraisal (information relevant to self-evaluation)" (p. 39). The concept of social support is in vogue among stress researchers in psychology and behavioral medicine for two reasons. First, social support appears to mediate the effects of life stress on health and well-being (see reviews by Berkman, 1985; Cohen & Wills, 1985; Kessler & McLeod, 1985; Kessler, Price, & Wortman, 1985; Turner, 1983; Wallston, Alagna, DeVellis, & DeVellis, 1983). Second, interventions for stressed individuals that include social support seem to hold promise for alleviating distress and facilitating adjustment (Gottlieb, 1983). Thus, the concept has value in both basic and applied research on stress, although it is not without problems in either arena (Broadhead et al., 1983; Heller, 1979; Rook & Dooley, 1985; Thoits, 1982).

Research to date has focused almost exclusively on the consequences of support and has paid little attention to its causes or correlates (House, 1981; Wortman, 1984; Wortman & Dunkel-Schetter, 1987). Factors possibly influencing support receipt include characteristics of recipients, of providers, of stressors, and of environments (Shinn, Lehman, & Wong, 1984; Shumaker &

Brownell, 1984; Wortman, 1984). Characteristics of recipients that have been noted in the literature as influencing support are sociodemographic variables such as sex, age, and race (Riley & Eckenrode, 1986) and such personality predispositions as affiliation and autonomy needs, self-esteem, sociability, locus of control, and interpersonal skills (Cohen, Mermelstein, Kamarck, & Hoberman, 1985; Cohen & Syme, 1985; Eckenrode, 1983; Gottlieb, 1985; Lefcourt, Martin, & Saleh, 1984; Sarason, Levine, Basham, & Sarason, 1983; Sarason & Sarason, 1985). Characteristics of providers of interest might include perceptiveness, motivation, and support skills. Characteristics of stressors can be categorized in many ways, such as intensity, duration, or ambiguity of the stressor (Lazarus & Folkman, 1984), the life domain in which stress occurs (Pearlin & Schooler, 1978), or, in phenomenological terms, as appraisal of the degree of threat or type of personal stakes or vulnerabilities involved (Lazarus, 1966; Lazarus & Folkman, 1984; Lazarus & Launier, 1978). Finally, characteristics of environments include those pertaining to the physical environment, to the organizational structure of environments (Shumaker & Brownell, 1984), and to social networks. Cutrona (1986) and others (Hirsch, 1979, 1980; Wellman, 1979), for example, have demonstrated that social network properties influence perceptions of support.

One additional factor that may be a significant predictor of support received is the coping behavior of the stressed person. Wortman (1984) mentioned coping style as a characteristic of the recipient that may be an important factor in whether one receives social support. However, coping has been shown to vary substantially across situations for a given individual (Folkman & Lazarus, 1980, 1985; Folkman, Lazarus, Gruen, &

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DeLongis, 1986), suggesting that it is best conceptualized not as a stable property of persons but as a process that depends on characteristics of both the person and the situation. Because coping does capture both person predispositions and situational requirements and because coping behavior is usually manifested socially, it has potentially greater power than the other factors mentioned here for determining the support that a person receives.

In this investigation we evaluated several of these possible correlates of support, specifically person characteristics, characteristics of stressful situations, and coping behavior in these situations. The following questions were addressed: (a) Do certain types of people receive more support than do others? Several authors have suggested that person factors might influence perceptions of support availability or its mobilization (Eckenrode, 1983) and that these must be further investigated for a full understanding of support (Cohen & Syme, 1985; Shumaker & Brownell, 1984; Wortman, 1984). In addition, past research provides indications that there are sex differences in support (see Vaux, 1986, for a review). (b) Are certain types of stressful situations more strongly associated with support than others are? Earlier work suggests that some situations are threatening to support providers (e.g., Dunkel-Schetter & Wortman, 1982), but no systematic attention has been given to the association between type of situation and support provision. A cognitive-phenomenological model of stress (Lazarus & Folkman, 1984) would imply that objective properties of stressful situations are not as powerful as the person's appraisal of the situation, although both should be considered. (c) Is the way the person copes in a particular encounter associated with the support provided by others? The effects of coping on social support are largely unexamined, with one exception; Billings and Moos (1981) found that people who used avoidant coping reported having fewer social resources.

These possible correlates of social support receipt are examined in this article as part of a large field study of stress and coping spanning 6 months with 75 middle-aged couples. The most stressful encounter that subjects experienced each month was reconstructed in interviews and assessed along dimensions such as its perceived intensity, the life domain involved, the person's appraisal of the situation, the method of coping used, and the immediate outcome. The stressful encounters reported included a wide range of severity and type of stressful experience, such as the death of a parent, fights with family members, or problems at work. Regarding social support, information was obtained for each specific stressful encounter as to whether support was provided, by whom, and the amounts of each of three particular types. In addition, a number of person factors, such as self-esteem and values, were assessed in interviews as possible predictors of the stress and support processes involved in these encounters. The selection of variables is guided by a cognitive theory of stress processes that was described at length in Lazarus and Folkman (1984). Although we hypothesized that these three sets of factors (person predisposition, appraisals of stress, and coping behavior) would act as causal determinants of social support received, we acknowledge from the outset that the data analyses presented are cross-sectional and do not permit causal inference.

Method

Sample

The sample consisted of 75 married couples living in Contra Costa County, California. They were randomly selected from this community by random-digit dialing. A couple was eligible if the woman was between 35 and 45 years of age and if the pair had at least one child living at home. Husbands' age was not a criteria for eligibility. All measures contained in this report were based on individual-level observation, and there were very few significant correlations among husband and wife reports on these measures. Therefore, the sample is treated as 150 individuals.

The geographic area sampled is generally populated by individuals who are White, Protestant or Catholic, and fairly affluent. The sample was intentionally chosen to be homogeneous on these characteristics in order to control variance due to sociodemographic variables and to provide comparability with a previous study (Folkman & Lazarus, 1980; Schaefer, Coyne, & Lazarus, 1981), although age was systematically shifted to extend previous findings to a younger cohort. The mean age of the women in this study was 39.6 years, and of the men it was 41.4. In addition, 84% of the men and 57% of the women were employed for pay. Mean amount of education for the sample was 15.5 years, and median family income was \$45,000.

Procedures

After initial screening for eligibility by the Survey Research Center at the University of California, Berkeley, all prospective subjects received first a letter explaining the study and then a telephone call from a project interviewer who answered questions and requested a home interview. Both members of the couple were required to participate for 6 months. Of those contacted, 85 (46%) agreed to participate, and of these, 10 couples dropped out (11.8% attrition). People who refused to participate did not differ sociodemographically from participants, except that on average they had 1 year less education. Husbands and wives were interviewed separately once a month for 6 months in their homes by different interviewers, usually on the same day. Interviews were conducted in two 6-month waves from September 1981 to August 1982.

Measures

All interviews were structured, containing standardized instruments, closed-ended items, and a few open-ended items with standard probes. Some measures were repeated each month, whereas others were administered on one occasion only. For the analyses reported in this article, the following subset of measures was used.

Stress interview. Five of the six interviews contained a procedure designed to reconstruct a recent stressful encounter. This questionnaire began as follows:

Take a few moments and think about the situation that has been most stressful for you during the last week. By "stressful" we mean a situation that was difficult or troubling to you, either because it upset you or because it took considerable effort to deal with it. It might have been a discussion or confrontation with someone close to you, a problem at work, a medical problem, a separation from someone you care about, a problem with your car, etc. With this situation in mind, please answer the following questions.

Subsequent questions were designed to assess many aspects of the stressful encounter, including primary and secondary appraisal, emotions experienced, ways of coping used, and social support received. By repeating this procedure each month for 5 months, each time regarding a different stressful episode, an indication of cross-situational variability and stability of stress processes was made possible.

Social support. For each stressful encounter reported, subjects were asked whether or not each of 15 individuals or groups helped in that situation. The categories included spouse, mother, father, children, in-laws, brother(s), sister(s), other relatives, three close friends, neighbors, employer, work associates, and professionals. Subjects also listed up to three most helpful persons and rated the extent to which each of three types of support were received from each person on a scale from 1 (*not at all*) to 5 (*extremely*). The three types are information or advice, tangible assistance or aid, and emotional support. The questions were worded as follows: (a) How much did this person give you information, suggestions and guidance? (b) How much did this person give you tangible assistance? (c) How much did this person make you feel he or she cared?

Four primary indices of support were derived for these analyses: *number of sources* of support (a count of up to 15 persons) and amounts of *information, aid, and emotional support* (each averaged over up to three sources). (For further information on the approach to measurement and psychometric data, see Dunkel-Schetter, Lazarus, & Folkman, 1987).

Perceived stress rating. Subjects were asked about the magnitude of the stress experienced in each episode as follows: "How stressful was this situation compared to other situations you have experienced during your lifetime?" The rating scale ranged from 1 (*among the least stressful ever experienced*) to 5 (*among the most stressful ever experienced*). The mean on this item was 2.63 and the standard deviation was 1.18. Seventy-one percent of the stressful experiences concerned family, work, or health problems. For example, one episode dealt with a family therapy session focused on a 23-year-old son who had been kicked out of the house. Others involved conflicts with employers, work pressures, and the illnesses or disabilities of respondents' elderly parents.

Primary appraisal. The measures of primary appraisal are fully described in a previous article (Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986). Primary appraisal was assessed by ratings on 13 items regarding what was at stake in the particular situation. Six indices were derived, namely threats to own health, health of loved one, self-esteem, goal at work, finances, and threat of losing someone's affection.

Coping. The measures of coping are also fully described in Folkman, Lazarus, Dunkel-Schetter, DeLongis, and Gruen (1986). Briefly, subjects indicated on the revised 67-item Ways of Coping Scale the extent to which they used each strategy in the situation from 0 (*not used*) to 3 (*used a great deal*). Eight factors with satisfactory reliability were derived from the 750 encounters (see Table 1 for their labels, sample items, and reliability estimates).

For the purposes of this article, the factors were themselves factor analyzed with principal factoring and oblique rotation. Two factors emerged with eigenvalues greater than 1.0, together accounting for 51% of the variance. Factor eigenvalues, loadings, communalities, and the interfactor correlation appear in Table 2. The first factor contains *seeking support, problem solving, positive reappraisal, and confronting* the problem. The second factor includes *distancing, accepting responsibility, and escape avoidance*. The *self-control* index loaded similarly on both factors, so it is treated separately in presentation of results.

The two factors seem to correspond conceptually to *problem-focused* and *emotion-focused* coping, with two qualifications. First, although support seeking could serve either function, in this study most of the items on this subscale had to do with seeking information or aid. Second, although positive reappraisal is sometimes thought to be emotion focused, any coping behavior can serve multiple functions. Only within particular contexts can we attempt to untangle the exact nature of a particular act. In the data presented here, positive reappraisal probably involves reconceptualizing the problem cognitively in order to make it more solvable (see Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986, for further discussion of this point). Factor scores for problem- and emotion-focused coping were computed by use of the factor loadings for the individual subscales. The eight scales are used in

Table 1
Sample Items for Eight Coping Types Derived From
the Ways of Coping Scale

Factor	n of items	α	Example
Problem focused			
Seek social support	6	.76	I talked to someone to find out more about the situation. I talked to someone who could do something concrete about the situation. I talked to someone about how I was feeling.
Problem solving	6	.68	I knew what had to be done, so I doubled my efforts to make things work. I made a plan of action and followed it. I just concentrated on what I had to do next.
Positive reappraisal	7	.79	I changed or grew as a person in a good way. I came out of the experience better than I went into it. I found new faith. I rediscovered what is important in life.
Confrontive coping	6	.70	I stood my ground and fought for what I wanted. I tried to get the person responsible to change his or her mind. I expressed anger to the person who caused the problem.
Emotion focused			
Distancing	6	.61	I made light of the situation, or refused to get too serious about it. I went on as if nothing had happened.
Escape/avoidance	8	.72	I tried to forget the whole thing. I wished that the whole situation would go away or somehow be over with. I hoped a miracle would happen. I tried to make myself feel better by eating, drinking, smoking, or using drugs or medication. I avoided being with people in general.
Accept responsibility	4	.66	I criticized or lectured myself. I realized I brought the problem on myself. I made a promise to myself that things would be better next time.
Not in either factor			
Self-control	7	.70	I tried to keep things to myself. I tried not to act too hastily or follow my first hunch. I tried to keep my feelings from interfering with other things too much.

Table 2
Factor Pattern Matrix for Coping-Scale Factoring

Coping type	Factor 1	Factor 2	Communality
Seek social support	.59	-.12	.23
Problem solving	.57	-.01	.22
Positive reappraisal	.57	.07	.37
Confrontive coping	.47	.10	.21
Self-control	.44	.42	.22
Distancing	-.16	.62	.28
Accept responsibility	.11	.50	.25
Escape/avoidance	.19	.50	.26
Eigenvalue	2.73	1.33	—
Percent variance	34.2	16.6	—

Note. Pearson r (Factor 1 with Factor 2) = .35. Factor 1 contains the first four factors; Factor 2 contains the last three. Self-control was scored as a separate index from Factors 1 and 2.

analyses if the chances of committing a Type I error can be reduced through the use of multivariate tests. Whenever this could not be done or when further reduction of the number of variables was desired, the two factors derived from the eight subscales are used in data analyses.

Person variables. Many person variables were assessed in this study that might influence the stress process. Those measured with standardized instruments are *self-esteem*, assessed with Rosenberg's (1965) 10-item scale; *mastery*, assessed with 7 items used by Pearlin and Schooler (1978); and *interpersonal trust*, which was assessed with 10 items of the Rotter (1980) scale. In addition, 17 new items were created to assess *religious beliefs*, and 70 items assessed *values and commitments*. Information on these instruments may be found in Folkman, Lazarus, Gruen, and DeLongis (1986). Finally, a 14-item exploratory instrument on *attitudes toward help* was developed by generating items that might reflect personal dispositions toward seeking and receiving help from others. These were factor analyzed, using common factoring and varimax rotation. Three factors emerged, only one of which was theoretically meaningful. It was labeled *discomfort with help* and contains four items.

For the purposes of these analyses, a subset of eight of these person factors was selected on the basis of whether each index had adequate internal consistency and was reasonably independent of the others. The final set consists of self-esteem ($\alpha = .78$), interpersonal trust ($\alpha = .70$), discomfort with help ($\alpha = .67$), religiosity ($\alpha = .94$), and four values subscales: valuing self-actualization ($\alpha = .84$), success ($\alpha = .87$), authority ($\alpha = .76$), and family life ($\alpha = .76$). These indices are generally independent of one another, with the exception that religiosity and valuing family life were significantly correlated ($r = .63, p < .001$), but both are used in analyses because they are conceptually quite distinct.

Results

Both between-subjects and within-subjects analyses were conducted to examine the relation between the three sets of variables and support received. Four sets of indices were used in the analyses: (a) the four support indices (sources of support, information, aid, emotional support), (b) the eight person factors, (c) seven appraisal variables (perceived stress and six stakes), and (d) the two coping factors and their eight subscales, as described. Because person variables were assessed on only one of the six occasions, analyses of the relation between person variables and support were conducted between subjects, by ne-

cessity. The appraisal, coping, and social support variables, however, were assessed for every person on five different occasions, making within-subjects analyses on these also possible. Such analyses were more consistent than were between-subjects analyses with our interest in the variations in support from occasion to occasion (Dunkel-Schetter et al., 1987). Within-subjects analyses also took advantage of the repeated assessments in our design, which is a unique feature among studies of social support. In general, however, the results of the between-subjects and within-subjects analyses in this study were very similar.

The between-subjects analyses were bivariate correlations and regression analyses. The within-subjects analyses were univariate and multivariate analyses of variance in which the independent variable is one of the seven appraisal variables (or one of the eight coping variables), and the dependent measures were the four social support indices. For a single test of this type, the five stress encounters for a subject were divided into those above or below the mean on the independent variable. We used the subject's own mean as the criterion because we wanted to group types of episodes, not types of people, as would the sample mean.¹ For example, the five episodes for a particular subject were divided into two groups on the basis of the amount of problem-solving coping used (i.e., those low versus those high for that subject). Then the mean amount of support provided to that subject was calculated separately for low versus high problem-solving episodes, and a test of the difference between the means was conducted. In other words, this procedure compared the support received in episodes in which the person coped by problem solving with those episodes in which problem solving was used little or not at all. This procedure was followed for each of the four support measures (number of sources of support, amounts of information, aid, and emotional support), calculating univariate F s for each and a multivariate F for the set.

Person Variables and Support Received

Pearson product-moment correlations, calculated among the eight person variables and four support indices, are presented in Table 3. In general, the relation between the two sets of variables were not strong, although quite a few were statistically significant. The strongest relation occurred for the indices of emotional support receipt. Receipt of emotional support over the course of the study was significantly related to discomfort with help, self-esteem, religiosity, valuing self-actualization, authority, and family life. The more subjects were comfortable receiving help, were high in self-esteem, were religious, and valued these aspects of life, the more emotional support they reported receiving. Receipt of aid was significantly associated most strongly with valuing authority. Receipt of information was as-

¹ Comparable analyses using the sample mean (which increase between-subjects variation) were also computed, but they are discussed only as they differ from the ones reported with subjects' own mean. These analyses (with the sample mean) are conducted on a smaller portion of the sample in general, because scores on the independent variable for some subjects fell only above or only below the sample mean, requiring that they be dropped from the analysis. For this reason, multivariate analyses of variance with the sample mean are of lower power.

Table 3
Zero-Order Correlations Between Person Variables
and Support Indices

Person variable	Mean support averaged over up to 5 episodes			
	Information	Aid	Emotional support	Sources
Self-esteem	.04	.10	.19	.09
Religiosity	.09	.04	.19	.05
Interpersonal trust	.03	.07	.03	.22
Discomfort with help	-.14	-.01	-.22	-.09
Values and commitments				
Self-actualization	.07	.17	.28	-.04
Success	.03	.09	.09	-.04
Authority	.13	.24	.23	-.06
Family life	.11	.06	.25	.14

Note. $N = 150$. Significance levels for this sample size are $r = .13, p < .05$; $r = .19, p < .01$; $r = .23, p < .001$.

sociated only weakly with the person variables. In addition, number of sources of support was associated with greater interpersonal trust; those who were trusting appeared to have more providers of support. There is no indication of relations between trust and particular types of support.

In the next stage of data analyses, the four support indices were regressed onto the eight person factors and sex of subject. These results appear in Table 4. Two of the four equations yielded significant F s, and one was marginally significant. The greatest amount of variance accounted for by the set of person factors was in emotional support (16%), although none of the regression coefficients were significant at the .05 level. Several coefficients as well as the overall F were significant in the equation predicting number of sources of support. Women had significantly more sources of support than men did. Individuals who valued family life and had higher interpersonal trust also had more sources of support. Individuals who valued self-actualization had significantly fewer sources of support.

Appraisals of Stressful Encounters and Support Received

Two types of appraisal variables were considered in conjunction with indices of support received: the perceived stressfulness of the encounter and the stakes involved. Within-subjects multivariate analyses of variance (MANOVAS) were conducted as described, with each of the appraisal variables as independent variables and the support indices as dependent measures. The multivariate F s for the single item of stressfulness of encounter and for three of the six stakes were significant. Results for these analyses are presented in Table 5.

Highly stressful encounters were characterized by support from significantly more people and by greater amounts of informational and emotional support than were encounters low in rated stress. With respect to stakes, the univariate tests showed that more aid was provided if one's own health was threatened than if it was not; less aid was provided when a loved one's well-being was at stake or when one's self-esteem was threatened. More sources of support were also reported if own or loved one's health was at stake than if this was not the case.

Coping and Support Received

To test the relation of coping to social support received, we performed two within-subjects MANOVAS in which the two coping factors (problem- and emotion-focused coping) were the independent variables and the social support indices were the dependent measures. The multivariate F was highly significant for the problem-focused factor, $F(4, 146) = 30.78, p < .001$, as were the univariate tests for all four individual dependent measures. Use of problem-focused coping in stressful episodes was associated with significantly more informational support, $F(1, 146) = 33.18, p < .001$; assistance, $F(1, 146) = 19.83, p < .001$; and emotional support, $F(1, 146) = 17.58, p < .001$, and significantly more sources of help, $F(1, 146) = 23.21, p < .001$. The multivariate F for the emotion-focused factor was not significant when computed with the individual's mean. However, it was marginally significant when computed with the sample mean. Use of emotion-focused coping was associated with significantly less informational support, $F(1, 146) = 5.05, p < .05$; marginally less aid, $F(1, 146) = 2.83, p < .10$; and marginally less emotional support, $F(1, 146) = 3.06, p < .10$.

Next, a series of eight further MANOVAS was performed in which each coping scale was the independent variable and the support indices were the dependent measures. Four of the eight multivariate F s were significant and one was marginally significant. The results for these five indices appear in Table 6.

More sources of support were reported in situations in which subjects coped by seeking support and positive reappraisal than in situations in which these were not used. In addition, some coping strategies were associated with more of all three types of support, whereas others were associated with only a subset of these. For example, the use of problem-solving and support-seeking coping was associated with receiving more of all types of support, compared with situations in which these were not used. Use of positive-reappraisal strategies was associated with receiving more information and more emotional support but not a differential amount of assistance. Coping by confronting the problem and by self-control was associated only with receiving more informational support.²

Relative Effects of Appraisal and Coping on Support Received

In regression analyses, a subset of appraisal and coping factors was entered into equations predicting the four support indices. These were sex, perceived stress, threat to self-esteem, threat to own health, threat to loved one's health, problem-focused coping, and emotion-focused coping. The correlation

² Use of the sample mean as the criterion to divide episodes yielded significant multivariate F s for two of the three coping measures that were not significant with subjects' own mean. This was due to the following univariate effects: Coping by distancing oneself from the problem was associated with receiving significantly less informational support, $F(1, 87) = 4.91, p < .05$, and coping by accepting responsibility for what had happened was associated with marginally less emotional support, $F(1, 91) = 3.41, p = .067$. There were no effects of coping by escape avoidance on types of support provided, whether analyzed by using subject or sample mean.

Table 4
Regression Analyses of Support and Person Variables

Person variable	Informational support		Aid		Emotional support		Number of support sources	
	Beta	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>
Sex	-.03	-.02	.03	.02	.06	.05	1.22	.20**
Self-esteem	-.01	-.03	.02	.10	.02	.13*	.05	.07
Religiosity	.00	.02	.01	.04	.01	.09	-.02	-.05
Interpersonal trust	.01	.02	-.01	-.01	.01	.02	.12	.17**
Discomfort with help	-.03	-.17*	.01	.05	-.02	-.13	-.05	-.06
Value self-actualization	-.01	-.04	.02	.16*	.01	.13	-.10	-.22**
Value success	.01	.02	.01	.01	.01	.06	.03	.07
Value authority	.02	.12	.05	.28***	.01	.10	-.08	-.12
Value family life	.01	.06	-.04	-.19	.01	.07	.20	.25**
Constant		3.04		0.54		1.49		4.77
R^2		.05		.10		.16		.13
Adjusted R^2		-.02		.04		.11		.07
F		0.74		1.68*		2.96****		2.31**

* $p < .10$, two-tailed. ** $p < .05$, two-tailed. *** $p < .01$, two-tailed. **** $p < .001$, two-tailed.

matrix for this subset of variables appears in Table 7, and the results of the regression analyses appear in Table 8. Three of the four F s for the regression equations were significant, and the fourth, aid, was marginally significant. The most variance was accounted for in informational support (21% of the variance), whereas the least variance accounted for was in assistance or aid (8%) and emotional support (10%). An intermediate degree of variance in the number of sources of support was accounted for (13%) by the entire set of variables.

Table 5
Appraisals as Predictors of Support Received

Appraisal variable	Information	Aid	Emotional support	Sources
Perceived stress				
Low	2.89	2.81	3.92	2.02
High	3.33	2.99	4.16	2.28
F	16.53	1.88	9.72	6.65
p	.001	.173	.002	.011
Threat to own health				
Low	3.13	2.72	4.00	1.66
High	3.03	3.03	3.97	1.99
F	1.04	6.13	0.16	9.07
p	.310	.015	.690	.003
Threat to loved one's health				
Low	3.01	2.92	3.95	1.65
High	3.15	2.62	4.04	1.92
F	1.94	5.50	1.48	6.15
p	.166	.021	.235	.014
Threat to self-esteem				
Low	3.09	2.89	4.00	1.79
High	3.05	2.58	3.94	1.64
F	0.20	7.44	0.52	2.42
p	.657	.007	.471	.122

Note. For perceived stress, multivariate $F(4, 114) = 6.65$, $p < .001$. For threat to own health, multivariate $F(4, 105) = 4.11$, $p < .004$. For threat to loved one's health, multivariate $F(4, 123) = 3.64$, $p < .008$. For threat to self-esteem, multivariate $F(4, 118) = 3.35$, $p = .012$.

The significant correlates of informational support were problem-focused coping, emotion-focused coping, and threat to self-esteem. Use of problem-focused coping was associated with more informational support, whereas emotion-focused

Table 6
Coping as Predictors of Support Received

Coping type	Information	Aid	Emotional support	Sources
Seek social support				
Low	2.66	2.60	3.81	1.87
High	3.44	2.90	4.11	2.36
F	71.85	8.83	13.88	33.79
p	<.001	.004	<.001	<.001
Problem solving				
Low	2.96	2.54	3.90	2.10
High	3.27	3.03	4.11	2.19
F	9.90	23.89	8.73	0.86
p	.002	<.001	.004	.348
Positive reappraisal				
Low	2.95	2.81	3.87	2.00
High	3.24	2.73	4.04	2.28
F	10.73	0.56	4.70	9.63
p	<.001	.455	.032	.002
Confrontive coping				
Low	3.00	2.85	4.01	2.14
High	3.24	2.73	4.00	2.07
F	6.29	1.09	0.01	0.82
p	.013	.297	.907	.367
Self-control				
Low	2.93	2.90	3.90	2.07
High	3.21	2.74	4.03	2.18
F	8.91	1.92	3.29	1.48
p	.003	.168	.072	.225

Note. For seek social support, multivariate $F(4, 127) = 28.13$, $p < .001$. For problem solving, multivariate $F(4, 128) = 7.68$, $p < .001$. For positive reappraisal, multivariate $F(4, 134) = 4.88$, $p < .001$. For confrontive coping, multivariate $F(4, 133) = 2.30$, $p = .062$. For self-control, multivariate $F(4, 132) = 3.55$, $p = .009$.

Table 7
Correlation Matrix on Variables in Regression Analyses

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Sex	—										
2. Perceived stress	.02	—									
3. Threat to self-esteem	.03	.39	—								
4. Threat to loved one	.24	.15	-.02	—							
5. Threat to own health	.14	.33	.18	.43	—						
6. Problem-focused coping	-.02	.40	.40	.04	.14	—					
7. Emotion-focused coping	.01	.32	.49	.01	.18	.40	—				
8. Informational support	.01	.14	-.08	.11	.05	.32	-.11	—			
9. Aid	.04	.02	-.09	.03	.20	.11	-.02	.36	—		
10. Emotional support	.15	.08	-.04	.05	.08	.19	-.02	.41	.32	—	
11. Sources of support	.16	.11	-.01	.21	.07	.22	.01	.05	-.01	.06	—

coping and threats to self-esteem were associated with less informational support. The only significant predictor of aid was threat to own health; the more one's own health was threatened, the more aid was provided. Problem-focused coping was the only factor significantly associated with emotional support received; the more subjects used problem-focused coping, the more emotional support they received. Number of sources of support was predicted by problem-focused coping and threat to the health of loved ones and, marginally, by threats to own self-esteem. The greater the use of problem-focused coping and the more a stress threatened loved ones, the more sources of help individuals reported.

Discussion

What are the correlates of support received in stressful situations? Our results suggest two conclusions: (a) Of the factors considered, coping is the strongest correlate of social support received, and (b) different factors are associated with each of the different types of support. Each of these conclusions is considered in turn, as well as the alternative explanations for and limitations of the findings.

Comparison of the Three Sets of Correlates of Support Received

Although they were weak predictors of support received overall, person factors accounted for the most variance in emotional support. In contrast, appraisals of the characteristics of stressful situations were most strongly associated with assistance or aid. Finally, coping was linked most strongly with informational support.

Of the eight person factors, attitudes toward help, self-esteem, religiosity, and values were most strongly correlated with emotional support. High self-esteem, for example, was associated with more emotional support received, perhaps because individuals with strong self-esteem sought emotional support more than did individuals weaker in self-esteem. Or perhaps emotional support was volunteered more often to individuals who had high self-esteem. Further analyses provided evidence consistent with both of these explanations. An item (not included in this report) on the extent to which support received was volunteered was associated with self-esteem ($r = .22, p < .01$). Self-esteem was also related significantly and positively to coping by seeking support (Folkman, Lazarus, Gruen, & DeLongis,

Table 8
Regression Analyses of Support, Appraisal, and Coping

Predictor variable	Informational support		Aid		Emotional support		Number of support sources	
	Beta	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>	Beta	<i>b</i>
Sex	-.02	-.01	.02	.01	.14	.11	.66	.11
Perceived stressfulness	.07	.08	-.06	-.06	.01	.01	.10	.02
Problem-focused coping	.07	.42****	.03	.17*	.04	.23**	.19	.23***
Emotion-focused coping	-.06	-.23***	-.01	-.03	-.02	-.07	-.06	-.05
Threat to own health	-.01	-.01	.20	.22**	-.01	-.01	-.19	-.05
Threat to loved one	.04	.13	.01	.04	.05	.15	.40	.24**
Threat to self-esteem	-.04	-.20**	-.04	-.17*	-.03	-.16*	-.16	-.17*
Constant		2.63		2.57		3.57		5.44
R^2		.21		.08		.10		.13
Adjusted R^2		.17		.04		.05		.09
F		5.26****		1.78*		2.17**		2.98***

* $p < .10$, two-tailed. ** $p < .05$, two-tailed, *** $p < .01$, two-tailed. **** $p < .001$, two-tailed.

1986). Discomfort about receiving help (or one's degree of religiosity) may operate in a similar manner as self-esteem by influencing the tendency to seek or refrain from seeking emotional support and by influencing the likelihood of others volunteering or not volunteering it.

Appraisals of the characteristics of stressful situations were most strongly associated with receipt of assistance or aid; specifically, more aid was given if the stressful experience posed a threat to one's health, and less aid was given if it posed a threat to a loved one's health or to one's self-esteem. However, with the exception of appraisals of a threat to self-esteem (which were consistently and inversely related to all indices of support received), appraisal variables were not strongly associated with support received. The self-esteem effects are consistent with earlier work showing that receipt of aid sometimes threatens self-esteem (Fisher & Nadler, 1982; Fisher, Nadler, & Whitcher-Alagna, 1983; Nadler & Fisher, in press). Although others have argued that emotional support is especially needed when self-esteem is threatened (e.g., Cohen & McKay, 1984; Wills, 1982), our results supply no evidence that it is provided more frequently under these conditions.

Our explanation for the appraisal results draws on a general perspective on the meaning of primary appraisals. We argue that they reflect the varying demands of specific stressful situations. Support providers are aware of these demands, either because the person experiencing the stress communicates them or because often stressful situations have normative or culturally derived meanings. Some situations have implicit norms that support is appropriate and needed (e.g., death of a family member), whereas others are characterized by greater respect for privacy (e.g., job loss or rape). When a person's health is in jeopardy, providing tangible assistance (e.g., preparing meals) is felt to be appropriate, even obligatory. In contrast, when a person is providing support to a loved one who is ill or injured, tangible assistance for the support provider is not normatively expected. Situations that threaten self-esteem are typically ones in which a person has failed somehow, for example, on a task or in a relationship. Under these circumstances, assistance from others can be inappropriate or intrusive and might be rejected, or accepted from only a few close network members. Thus, our finding that threat to self-esteem is associated with less support and fewer providers of support may be explained speculatively, within a social-contextual perspective on the role of appraisals in social support processes.

The Role of Coping in Social Support Receipt

Compared with person factors and appraisals, coping was a much stronger correlate of support receipt. It was particularly strongly associated with the receipt of informational support, although some coping patterns were also associated with the other two types of support. Of the eight forms of coping, problem solving, seeking support, and positive reappraisal were most consistently associated with receipt of the three types of support. The cross-sectional design of this study does not allow us to determine whether coping elicits social support or vice versa. Both causal directions are theoretically possible and worth exploring, especially in light of recent attempts to inte-

grate our understanding of these two stress processes (e.g., Thoits, 1986).

When coping is viewed as a determinant of social support receipt, the results of this study suggest an interpersonal function of coping. The way an individual copes in a particular stressful encounter may provide cues to members of his or her social network regarding the person's needs and desires for support. Some such cues may be nonspecific, indicating that support in general is useful, whereas others are highly specific, sending the message that particular types of support are needed. Our evidence suggests, for example, that coping through problem solving and support seeking may act as a strong elicitor of all types of support, whereas confronting the problem may be a signal that information, not emotional support or aid, is desired. Distancing oneself from the problem is also selective; it may signal that the person does not want information or advice. Thus, the relation obtained between coping and social support could indicate an interplay of these two stress-related processes that is based on explicit or implicit communication between donor and recipient.

Coping strategies adopted by people in times of stress may not only communicate that support is needed and the types that are appropriate, but they also make it easy or difficult in subtle ways for others to provide support. For example, positive reappraisal, which involves seeing the situation in a favorable light (e.g., looking on the bright side) is a coping technique that makes it easier for family and friends to extend help. In general, it is considerably less threatening to offer help to someone who does not seem too distressed or who appears to be coping well (Coates, Wortman, & Abbey, 1979). A related interpersonal function of coping may be actively to invite or drive away support. With cancer patients, for example, it has been argued that a positive attitude can be a conscious strategy used to elicit support (Dunkel-Schetter & Wortman, 1982); confrontive coping (which is characterized by angry, impulsive actions), on the other hand, might deter others from providing help. Although our results are not clear enough to infer all of these possibilities, they are consistent with the conclusion that members of an individual's social network are responsive to the ways an individual copes.

Supportive acts are usually thought to be well-intentioned and altruistic. Therefore, coping patterns may generally elicit sincere attempts on the part of others to provide what is perceived as needed. However, support behaviors may also be motivated by self-interest or self-protection, for example, by the desire to alleviate personal discomfort or distress caused by the person experiencing stress. His or her coping strategies, if annoying or aggravating for network members, may then elicit efforts to alter them rather than altruistic attempts at support. Confrontive coping, for example, which was linked to more informational support, is generally an unpleasant, even abrasive, pattern. Network members providing information in these instances may actually be attempting to influence the person to cope differently. Although such speculation cannot be verified in this investigation, these issues deserve further consideration in future research.

An alternative interpretation to this idea that coping affects social support received is that social support influences the way a person copes (Wilcox & Vernberg, 1985). For example, infor-

mation and advice may increase a person's ability to confront and solve a problem (Thoits, 1986). This reverse causality is not only a reasonable possibility but a likely one (Cohen & Syme, 1985). The obtained relations between coping and support are probably indicative of a dynamic and recursive process that unfolds over time. Coping behaviors elicit and direct support efforts; supportive actions, in turn, influence and modify the way an individual copes. Such causal processes seem more realistic as models of stress, coping, and social support than do the alternatives, and they are consistent with the person-environment transaction theory of stress that guided this research (Lazarus & Folkman, 1984). However, future studies should assess both support and coping over time to untangle the issues involving causality (Cohen & Syme, 1985). A concern with causality also applies to relations obtained between person factors, appraisal variables, and support received. Clearly, there is no certain way to determine from these results (even with the use of path analysis or structural equation modeling) that the factors examined were determining support, only that they were related in a consistent manner to our hypothesis.

A limitation of this study is that the actual behaviors and intentions of support providers are not known. Actual support behaviors may not be accurately relayed by subjects' reports of the support they received. Estimates of support received are likely to be unreliable, reflecting individual differences such as personal needs, self-esteem, social desirability, coping, and so forth instead of veridical behaviors of social network members (Sarason & Sarason, 1985). However, the weak relations of person variables to support indices in this study as well as to stress, appraisal, and coping variables (Folkman, Lazarus, Gruen, & DeLongis, 1986) suggest that some of these concerns can be ruled out. In addition, support measures were only weakly associated with the Marlowe-Crowne index of social desirability.³ Nonetheless, future investigations on the determinants of provision of social support to individuals under stress would be well advised to consider the actual transactions that occur as well as the assessment of them by the recipient of support (see Wortman & Dunkel-Schetter, 1987, for further discussion of this issue). In addition, it would be useful to have some indication of the quality or adequacy of support in addition to knowing the amounts provided and the number of providers.

The focus of this study was on support received during stress, not on predictors of access to support providers, seeking of support, or providers' abilities to provide support. In past research, sociodemographic factors have been shown to affect substantially people's access to support and the effects of it (Riley & Eckenrode, 1986; Turner & Noh, 1983), but because the sample in this study was intentionally homogeneous with respect to sociodemographic variables (except sex), it was not possible to evaluate the role they played. Future research would do well to examine the relative roles of sociodemographic and psychological factors in actual support receipt.

These results offer some insight into receipt of support during stressful experiences within a general framework in which stress and support are viewed as complex interacting processes. In general, different psychological factors appear to be associated with different types of support. In addition, the ways people coped were found to be strongly related to the support they received in stressful encounters, implying that stressful experi-

ences involve complex interpersonal processes about which very little is known as yet (cf. Coates & Wortman, 1980; Coyne, 1976; Dunkel-Schetter & Wortman, 1982; Lazarus, 1984). Perhaps with further research, we may begin to understand the conditions that promote the provision of appropriate and effective support to those under stress and to distinguish these from conditions that are characterized by a lack of support or the presence of negative reactions on the part of others.

³ The bivariate correlations between the 30-item Marlowe-Crowne index (Crowne & Marlowe, 1964) and the four support indices were $-.03$ (number of sources of help), $.18$ (information), $.19$ (aid), and $.17$ (emotional support).

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