

# Social Support and Undermining in Close Relationships: Their Independent Effects on the Mental Health of Unemployed Persons

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Structural equation analyses were used to examine the impact of social support vs. social undermining (conflict) on mental health in longitudinal data from 1,087 recently unemployed respondents. The results demonstrated that social support and social undermining were not the opposite poles of the same factor, each having some impact independent of the other. Social undermining had statistically significant and strong adverse impact at each concurrent level of mental health. It also predicted improvement (but not a high level) in mental health in subsequent time waves. In contrast, social support had a significant beneficial impact on mental health only at Time 1. Compared with the volatile and extreme effects of social undermining, those of social support appear weaker but more stable. These findings are consistent with literature on the impact of life events (S. E. Taylor, 1991) and on marital interactions and satisfaction (J. M. Gottman & L. J. Krokoff, 1989).

Social support research began over 20 years ago and has developed into a central research topic, as reflected in the current proliferation of articles, review chapters, and books (see House, Landis, & Umberson, 1988; Vaux, 1988). Whether social support is conceptualized and measured in terms of network relations, perceived available support, or received support from others, the typical finding demonstrates that social support has a beneficial effect on mental health (e.g., Antonucci & Akiyama, 1987; Krause, Liang, & Yatomi, 1989; LaRocco, House, & French, 1980; Williams, Ware, & Donald, 1981). In addition, it is often shown that social support has a buffering effect, that is, its beneficial protective effects on mental health are particularly pronounced under stressful situations or for those experiencing higher levels of stress (Cohen & Wills, 1985). With so much focus on social support, it is surprising that little attention has been paid to its opposite, social undermining. The latter is often referred to in the literature by various terms such as *social hindrance*, *negative social support*, and *social conflict*.

If social support is beneficial to mental health, it would seem reasonable to expect that social undermining must be harmful. In part, this expectation is based on the conceptualization of

social support and social undermining as positive and negative interpersonal transactions or events. More specifically, social support is most commonly theorized to consist of transactions with others that provide the target person (i.e., the recipient) with emotional support, affirmation of the self, appraisal of the situation, instrumental support, and information (House, 1981; Vaux, 1988). From the same transactional perspective, social undermining is theorized to consist of behaviors directed toward the target person that display (a) negative affect (anger or dislike), (b) negative evaluation of the person in terms of his or her attributes, actions, and efforts (criticism), and (c) behaviors that make difficult or hinder the attainment of instrumental goals. The socially supportive and undermining interpersonal transactions constitute pleasant and unpleasant experiences and can therefore be viewed as positive and negative events. There is substantial evidence that negative events produce a variety of more intense reactions than positive events and consequently result in stronger effects on mental health and well-being (see a review by Taylor, 1991). Therefore, we hypothesize that social undermining has a negative impact on mental health and well-being and that this impact is stronger than the beneficial impact of social support.

A number of empirical studies that incorporated measures of social conflict or undermining provide support for this hypothesis. Rook (1984) studied the supportive and problematic (conflictual) relationships of elderly widows. She found that whereas the number of social supports was unrelated to well-being, the number of social problems, that is, conflictual interactions, had a significant negative impact. The same results were borne out when the number of supportive and problematic (conflictual) persons was used instead of the number of supportive or problematic interactions. In a similar vein, Abbey, Abramis, and Caplan (1985) investigated the impact of social support and social undermining on measures of anxiety, depression, and quality of life in a sample of young students. They found that both social support and social undermining had opposite effects of about the same magnitude on anxiety,

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This article is based on research conducted under National Institute of Mental Health Grants MH39675 and 2P50MH38330, the latter to the Michigan Prevention Research Center. We thank David Ronis, Frank Andrews, and Laura Klem for help and advice regarding data analysis, Grant Marshall for conducting some of the preliminary analyses, and Robert Caplan, Richard Price, and Niall Bolger for comments on a draft of this article. We also thank anonymous reviewers for suggesting the longitudinal analyses and for providing helpful suggestions and comments.

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depression, and quality of life when the students reported on people in their personal lives. However, when asked about the person closest to them, only the socially undermining behaviors of that person had a significant adverse impact on levels of anxiety, depression, and quality of life. In addition, they found that measures of social support and social conflict were not significantly correlated when respondents reported on people in their life in general. In contrast, and as expected, the correlation between support and conflict measures from the person closest to the respondents was significant and substantial ( $r = -.50, p < .001$ ).

In close relationships, the same person who is in a position to provide social support is also in a position to engage in socially undermining behaviors. However, because of the inherent incompatibility of support and undermining in lasting close relationships, these responses may actually represent two poles of the same unidimensional scale. In their review of the literature on stress, social support, and coping processes, Coyne and Downey (1991) expressed the view that ". . . low support may signify the presence of a negative, conflictual relationship" (p. 412), and vice versa, that high support may signify the absence of conflicts in a close relationship. Abbey et al.'s (1985) finding of negative correlations between social support and social conflict for the person closest to the respondent is consistent with this view. However, despite the rather substantial negative correlation between support and undermining in close relationships, it may be that the two constructs are not merely the opposite poles of the same unidimensional scale. Instead, each construct may have some unique and independent impact on mental health and well-being.

Close relationships are often marked by a variety of supportive and undermining patterns. In addition to the typical or ideal close relationship that is characterized by high social support and low undermining, or the abusive relationship characterized by low support and high undermining, other patterns come to mind. High levels of both support and undermining are often experienced, and resented, by adolescents in their relationship with parents (Petersen, 1988). In contrast, in the marital relationship, a low level of provision of support as well as a near absence of undermining behaviors may in some cases be the type of a relationship characterized by neglect or apathy that precedes separation and divorce. Finally, these are not the only patterns possible between partners in close relationships, and they may also change over the course of a close relationship, depending on the nature of the relationship and the situation.

If social support and undermining are not poles of the same unidimensional scale, their relative and independent beneficial or adverse effects on mental health need to be examined. Furthermore, any examination of the relative impact of social support and undermining on mental health needs to include the possibility that their relative impact depends on the nature of the social relationship and the situation. Whereas social support provides coping resources (Thoits, 1986) capable of reducing the threat embedded in a stressful situation, social undermining constitutes a direct form of threat and is not merely the absence or withdrawal of coping resources. For this reason, Shinn, Lehmann, & Wong (1984) have already suggested the conceptualization of negative interpersonal interactions as stressors. Social undermining as a stressor is hypothesized to have even greater impact than social support, especially in

stressful situations in which the coping resources of the individual are already in short supply. Similarly, for lower status or lower power partners in a relationship whose lack of status and power is a consequence of paucity of resources, social undermining constitutes an even greater threat. And finally, in closely interdependent relationships, partners' most valued outcomes are affected by each other's behavior. As a result of the potential damage to valued outcomes, social undermining in these relationships becomes a more threatening stressor or demands more coping resources to deal with the threatening behavior. Thus, it is hypothesized that gender differences in status and power relationships (Eagly, 1983; Marini, 1980; Menaghan, 1991) exacerbate the negative influence of undermining for women compared with men. In a similar vein, it is possible that the effects of social undermining are exacerbated in the close interdependent relationship of marriage and also in stressful circumstances.

A number of studies have already tested the hypotheses regarding the independent and negative effect of negative social ties or social undermining on mental health as well as the greater impact of social undermining in comparison with that of social support. These studies include demographically diverse samples of respondents including college undergraduates (Ruehlman & Wolchik, 1988), recently bereaved or disabled older adults with matched control groups (Finch, Okun, Barrera, Zautra, & Reich, 1989; Okun, Melichar, & Hill, 1990), caregivers of Alzheimer's disease patients (Kiecolt-Glaser, Dyer, & Shuttleworth, 1988), and a representative community sample (Schuster, Kessler, & Aseltine, 1990). The results of these studies provide consistent support for the hypotheses. However, with only partial exception (Finch, et al., 1989), all of these studies are based on regression analyses in cross-sectional designs.

The main purpose of the research reported in this article was to extend the testing of these hypotheses in a longitudinal design of a sample of individuals experiencing a high level of stress due to a job loss. The longitudinal design allowed us to test the hypotheses while controlling for baseline levels of social support, social undermining, and mental health and thereby observe changes in mental health as a function of preceding and concurrent levels of social support and undermining. Compared with regression analyses used to test these hypotheses in earlier studies, our statistical analyses relied on structural equation modeling. Structural equation modeling provides more accurate estimates of the relative impact of independent variables (support and undermining), because it makes adjustments for the unreliability of the measures when multiple indicators are used for each construct. In addition, our analyses broaden the dependent variable to include anxiety and depression and also to model and control for the effects of major stressors on mental health. Furthermore, using structural equation modeling, we provide a formal test of whether social support and social undermining constitute a unidimensional bipolar scale, or alternatively, whether they constitute separate factors, each having an independent impact on mental health. If the latter is the case, we will proceed to examine the relative impact of these constructs on mental health in various circumstances and relationships.

Our hypotheses will be examined using data from a longitudinal field study of unemployed persons. These data are rele-

vant for examining hypotheses on social support and undermining because unemployment has been shown to be a stressful condition that results in deterioration in mental health (Kessler, Turner, & House, 1988, 1989; Vinokur, Caplan, & Williams, 1987; see reviews by Barling, 1990; Fryer & Payne, 1986). In addition, the longitudinal data cover three time periods. In the first period, the entire sample was unemployed. In the second and third periods, 2 and 4 months later, about 28% and 54% of the respondents, respectively, had become reemployed. We are able to examine the hypotheses in time periods and for employed and unemployed subsamples that represent different levels of stress and mental health, because reemployment reduces financial strain and results in the restoration of mental health to previous levels (Kessler, Turner, & House, 1988, 1989; Vinokur et al., 1987). The longitudinal data provide an opportunity to observe variations in patterns of support and undermining across time and among subsamples with diminishing levels of stress and with the improvement in mental health that accompanies reemployment.

Finally, it is important to assess the impact of social support and undermining on mental health unconfounded by the contribution of "third variable" factors that could possibly influence both mental health and social support or undermining. Conger et al. (1990) have shown that economic hardship and strain affect spousal hostility, characterized by social undermining behaviors. In addition, a number of investigations have found that economic hardship or financial strain is a major contributor to the deterioration in the mental health of unemployed persons (Broman, Hamilton, & Hoffman, 1990; Kessler, Turner, & House, 1988; Price, van Ryn, & Vinokur, 1992). Thus, to assess the impact of social support and undermining on mental health unconfounded by the contribution of economic hardship, we included an investigation of the influence of economic hardship on mental health along with the influence of social support and undermining.

## Method

### *Overview of Sample and Design*

This study is based on data collected in a field study that tested an intervention for unemployed persons. Detailed information about the sample recruitment and characteristics and about the intervention process and its assessment are reported by Caplan, Vinokur, Price, and van Ryn (1989) and by Vinokur, Price, and Caplan (1991). The analyses reported here were derived from data that a panel of 1,087 respondents provided at three time periods about themselves and their significant others (spouses, close friends, or family members). All of the respondents had recently lost their jobs and were unemployed at the first wave of data collection. The first wave of data was collected during the winter and spring of 1986. The second and third waves took place 2 months and 4 months after the first one.

### *Respondents, Design, and Procedure*

*Sample and data collection.* The sample included unemployed respondents who were recruited from six state unemployment offices in Southeast Michigan to participate in a study on stress, health, work, and unemployment. Eligible unemployed respondents were those who had lost their jobs within the last 4 months and were still seeking reemployment. Embedded in the design of the study was a randomized field experiment. The experimental condition included 606 respon-

dents who were invited to participate in eight 4-hour sessions of a job search seminar that was focused on enhancing job search skills, job search self-efficacy, and the motivation to seek a job. The control condition included 322 respondents who received a short self-instructional brochure that described the job search strategies taught in the seminar. To provide a complete representation of unemployed respondents in the sample, we also recruited 159 respondents who did not want to participate in the seminar or to receive the self-instructional brochure but who agreed to complete the initial and follow-up questionnaires. Data from the respondents were collected through self-administered questionnaires that were mailed to them with a \$5 payment.

The specific sampling design was intended to serve the purpose of the field experiment and does not concern the present study. However, we conducted several tests to assure ourselves that the experimental intervention did not confound the analyses and findings on the effects of social support and social undermining on mental health as reported in this article. First, we tested for mean differences of the global indexes and of all the subindexes of social support and social undermining between the experimental and the control conditions at each of the three waves of data collection. Second, we tested for differences in the structural models described below between the experimental and the control conditions. We did not find any statistically significant difference in the means of the indices or in any of the structural models of the two conditions.

*Response rate.* Of those who were found eligible and recruited to the study, 83% completed and returned the pretest (Time 1) mailed questionnaire. The response rates for Time 2 and Time 3 posttest questionnaires were 88% and 81%, respectively, of the preceding Time 1 pretest.

*Characteristics of the sample.* The obtained sample was similar in some ways to the U.S. unemployed population over 16 years of age (U.S. Bureau of Labor Statistics, 1986) and to representative community survey samples of the unemployed (e.g., Kessler et al., 1988). Men constituted 46% of the sample, compared with 60% in the community survey and 56% in the U.S. unemployed population. Blacks constituted 15% of our sample, compared with 20% in the community survey and 22% in the U.S. unemployed population. The average age was 35.9 years ( $SD = 10.6$ ) and the average education was about 12.9 years ( $SD = 1.9$  years). Similarly, the average age in the community survey was 35.0 years ( $SD = 10.5$ ) and the average education was about 12.0 years ( $SD = 2.4$  years), as it is in the U.S. population. Finally, 47% of our sample respondents included persons who were married. Of all the 1,041 respondents who provided data on the social support and undermining behaviors of a spouse or a significant other, 58% (606) reported on the spouse or on a person with whom they were living together as a couple. Of the remaining 42% (435), 38% (167) reported on a boyfriend or a girlfriend, 19% (84) on another close friend, 33% (142) on a relative, and 10% (42) on a roommate or housemate, neighbor, or other person.

### *Measures*

Most of the measures in this study were based on instruments used in earlier investigations of stress, unemployment, and social support. In most instances, the study used multiitem indexes to maximize the internal consistency of the measures. The Cronbach alpha coefficients of our measures ranged from .80 to .87. The respective index measures were constructed by averaging the ratings to items that made up the measures. Copies of the measures are available from us on request.

*Social support and social undermining.* These measures assessed perceived supportive and undermining behaviors of the significant other. The measures were developed by Abbey et al. (1985) and have been used in a number of investigations with samples of respondents and significant others in studies on the effects of stressful conditions (e.g., unemployment or breast cancer) on mental health. Two of these

studies provide validity information on these measures based on additional reports obtained from spouses and significant others about their own supportive and undermining behaviors (Vinokur, Schul, & Caplan, 1987; Vinokur & Vinokur-Kaplan, 1990). The social support items were chosen to represent the four functions of social support suggested by House (1981). These functions include emotional, appraisal, informational, and instrumental support. The social undermining items represent actions that directly undermine and diminish the sense of self-worth that supportive behaviors reinforce. Both support and undermining items require the respondents to rate the amount of supportive and undermining behavior that is directed toward them by their spouse, or if unmarried, by a person they see at least once a week and feel closest to (the significant other). The Cronbach alpha coefficients for the eight-item social support and the five-item undermining measure ranged from .89 to .92 and from .84 to .86, respectively, for the three waves of data collection. For the purpose of the structural analyses described below, the items for each of the constructs were combined into three subindexes. Each subindex was based on a single item or on the mean of 2 or 3 randomly chosen items from each set.

To measure social support, the respondents were asked to indicate on 5-point scales, which ranged from *not at all* (1) to *a great deal* (5), "how much does the spouse or significant other . . ." "provide you with encouragement," with "useful information," "say things that raise your self confidence," "listen to you when you need to talk," "show that he/she cares about you as a person," "understand the way you think and feel about things," "provide you with direct help, that is, do or give you things you need," and how much does the respondent "talk with him or her (the significant other) when you are upset, nervous, or depressed about something." Using the same response scale, social undermining was assessed by ratings of "how much does the spouse or significant other . . ." "act in an unpleasant or angry manner toward you," "make your life difficult," "show he or she dislikes you," "make you feel unwanted," and "criticize you."

**Financial strain.** Financial strain was measured with a three-item index (Kessler, Turner, & House, 1988; Vinokur & Caplan, 1987) based on answers to three questions with 5-point rating scales. The questions asked: "How difficult is it for you to live on your total household income right now?" "In the next two months, how much do you anticipate that you or your family will experience actual hardships such as inadequate housing, food, or medical attention?" and "In the next two months, how much do you anticipate having to reduce your standard of living to the bare necessities of life?" The alpha coefficients for the index ranged for the three data collection waves from .86 to .88.

**Poor mental health.** In this study, we measured poor mental health symptomatology using anxiety and depression subscales that were based on the Hopkins Symptom Checklist (Derogatis, Lipman, Rickels, Uhlenhuth, & Covi, 1974). The measures of anxiety and depression included 9 and 11 items each, with alphas ranging from .84 to .90 across the three time waves. The questions in these scales required respondents to go through a list of problems or complaints and indicate on 5-point scales "how much each has bothered or distressed you in the *last two weeks*, including today." Respondents then read symptoms such as "nervousness or shakiness inside," "worrying about things," "feeling blue," and "feeling depressed" and provided ratings on 5-point scales from *not at all* (1) to *extremely* (5).

### Overview of the Analyses

The principal analyses consisted of confirmatory latent-variable structural modeling using the EQS program (Bentler, 1989). The structural modeling technique provides simultaneous estimation of the hypothesized regressions using the estimated covariance matrix generated based on the observed covariance matrix of the measured variables. The estimated matrix is also used for evaluating the goodness of

fit between the data and the model. In reporting goodness of fit, we follow Bollen's (1990) recommendation to report different fit indices, both normed and nonnormed. We therefore report the results using four goodness-of-fit measures: normed fit index (NFI), nonnormed fit index (NNFI), comparative fit index (CFI), and Hoelter's (1983) critical  $N$  (CN) index. NFIs, NNFI, and CFI that exceeded .90 and CNs that exceeded 200 were considered to provide acceptable fit. (For a detailed discussion of fit indices see Bentler, 1990, and Bollen, 1990.)

All of the analyses were performed separately on listwise and pairwise covariance matrices. The results were virtually the same. We therefore present the results from the pairwise matrices that generated slightly better goodness-of-fit indices and were based on a larger portion of the original sample. Overall missing data rates amounted to 18.6%, and therefore 81.4% ( $n = 885$ ) of the original sample size was used as the actual sample in the EQS procedure.

Finally, the analyses were performed separately for the entire sample as well as for subgroups of men and women, couples and noncouples, and respondents unemployed and reemployed at Time 3. The couple subgroup consisted of respondents whose significant other was a spouse or someone with whom they reported living together as a couple. The noncouple subgroup consisted of those whose significant other was not a spouse or a spouselike partner. The *reemployed* respondents were persons who reported working at least 20 hours per week and working enough to meet their needs. The *unemployed* respondents were those reporting working less than 20 hours per week and that they were not working enough.

## Results

### *Do Social Support and Social Undermining Represent Opposite Poles of the Same Factor?*

To examine the question of whether support and undermining represent the opposite poles of the same factor, or alternatively, whether they form independent factors, two confirmatory analyses were conducted using the EQS procedure. In these analyses, we compared two models with the social support and undermining subindexes loaded on separate factors. In the first model, the correlation between the two factors was set to  $-1.00$ . (This model is equivalent to testing a one-factor model with all subindexes loaded on the same factor.) In the second model, this correlation was freed to be estimated by the EQS procedure. Whereas the results did not fit the former model at all,  $\chi^2(9, N = 885) = 362.70, p < .001$ ,<sup>1</sup> those for the latter model showed very good fit,  $\chi^2(8, N = 885) = 12.33, p < .14$ . The difference between the models was statistically significant,  $\chi^2(1, N = 885) = 350.37, p < .001$ . Bentler's NFI and Hoelter's (1983) CN measures were .88 and 45.0, respectively, for the first model and .99 and 1,219.6 for the second model.

These estimation procedures were also conducted separately for the subgroups of men and women and for couples and noncouples. The results for all these subgroups were nearly identical to those based on the entire sample. In each of the sub-

<sup>1</sup> Because even minute differences in a large sample tend to produce a statistically significant chi-square value, other measures such as the NFI, the NNFI, and the CN are used as indicators of goodness of fit. For example, Hayduk (1987) suggested that the chi-squared statistic is instructive primarily for samples ranging from about 50 to 500 cases (p. 169). After adjusting for missing data, the size of the sample used for testing our model was 885, and therefore the statistical significance of the chi-squared statistic is ignored in favor of the other fit measures.

groups, the data failed to fit the first model, with NFIs ranging from .76 to .83 and CN fit measures ranging from 35.9 to 51.56. In contrast, the data provided very good fit to the second model for each of the subgroups, with NFIs from .999 to .992 and with CNs ranging from 346.3 to 777.0. For all the subgroups, the difference between the fit for the first and the second model was statistically significant,  $\chi^2(1, Ns = 494, 392, 403, 458) = 229.7, 125.46, 178.94, 170.00$ ; all  $ps < .001$ .

In the latter analyses, the correlations between the social support and undermining factors that were estimated by the structural equations procedure ranged from  $-.63$  to  $-.76$ . These results suggest that although the support and undermining are inversely and strongly correlated, they do not form the same factor but constitute empirically distinct constructs.

### *Independent Impact of Social Support and Undermining on Mental Health*

Our next series of analyses was designed to examine the independent contributions of support and undermining to mental health across the three data collection time periods. In each of the time periods, the structural model for the analyses included poor mental health as a latent dependent factor, with anxiety and depression scales as the measured indicators. The effects of financial strain, social support, and undermining on poor mental health were then estimated along with the effect of each of these latent factors on its counterpart in the subsequent time period. In addition, the longitudinal effects of social support and undermining on subsequent levels of poor mental health were also included in the model, as well as the effects of poor mental health on the subsequent levels of social support and social undermining. However, the latter effects, from poor mental health to social support and undermining, were not statistically significant. Furthermore, because the model that did not include these effects provided statistically significant better fit to the data, they were omitted from the model presented below.

Our estimated model also included the covariances between the measurement errors of the respective indicators across the three time periods as well as the covariances among financial strain, support, and undermining for the first period and the covariances among their residuals at Time 2 and Time 3. Factor loadings were constrained to be equal across the three time waves. The model with the resulting standardized path coefficients for the entire group is presented in Figure 1. Its measurement model showed a very good fit to the data with  $\chi^2(418, N = 885) = 851.11, p < .001$ , and with NFI = .97, NNFI = .98, CFI = .98, and CN = 494. The factor loadings of the indicators and the estimated correlations among the latent factors are presented in Tables 1 and 2. The results presented in Figure 1 are discussed in more detail after we report subgroup analyses and comparisons.

Using the above model, we searched for subgroup differences in our first series of analyses to determine whether analysis of the entire group was justified. First, we applied the structural modeling for the two separate subgroups of men and women in the same estimation procedure (with no constraints between the subgroups). This analysis attempted to fit the covariance matrices of the two subgroups simultaneously to the same model, and it produced a fairly good fit to the data with  $\chi^2(936,$

$N = 861) = 1813.48, p < .001$ , with NFI = .93, NNFI = .96, CFI = .96, and CN = 484. Similarly, the same analyses for the subgroups of couples and noncouples and for the reemployed and unemployed at Time 3 also produced acceptably good fits to the data. For the couples and noncouples, the  $\chi^2(936, N = 885) = 1796.75, p < .001$ , and the fit indexes were as follows: NFI = .93, NNFI = .96, CFI = .96, and CN = 503. For the reemployed and unemployed subgroups, the  $\chi^2(936, N = 684) = 1712.42, p < .001$ , and the fit indexes were as follows: NFI = .95, CFI = .96, and CN = 407.

To provide a more stringent and specific test of whether the impact of social support and undermining on mental health is different for these subgroups, we repeated the same analyses with constraints between the subgroups. The constraints consisted of setting the estimated factor loadings, factor variances, social support factor covariance, and undermining factor covariance at Time 1 and their residuals at Times 2 and 3 and path coefficients of each respective subgroup to be equal to their counterparts in the other subgroup (Bentler, 1989, p. 151). For all three pairs of subgroups, that is, for men and women, for the couples and noncouples, and for reemployed and unemployed subgroups, the analyses produced essentially the same goodness of fit values (respectively,  $\chi^2[970, N = 861, 885, \text{ and } 684] = 1904, 1873, \text{ and } 1790$  and with NFI, NNFI, and CFI ranging from .91 to .96, and CNs = 477, 499, and 403).

Although the goodness-of-fit measures of the constrained models were acceptable and very close to those of the unconstrained models, the differences in the chi-squared values between the unconstrained and constrained models were statistically significant. However, close examination of these differences revealed that the differences were produced by few constraints (about 6 per 34 constraints in each model) and involved slight differences in factor loadings, factor variances, and stabilities. These differences were not interpretable in terms of the nature of the subgroups and more likely appeared statistically significant because of the large size of the sample. Moreover, the pattern of impact of financial strain, social support, and undermining on poor mental health was essentially the same for all the subgroups.<sup>2</sup>

In the absence of evidence for a meaningful subgroup difference in the effects of financial strain, support, and undermining on mental health, and in view of the acceptable fit measures for all the constrained subgroup models, a structural equation analysis was conducted on the entire sample, using the same model that was applied to the subgroups. As expected, the structural modeling for the entire sample also provided a fairly good fit to the data with  $\chi^2(468, N = 885) = 1,067.93, p < .001$ , and

<sup>2</sup> The same type of analysis to test for subgroup differences was applied to the experimental and control subgroups of the field experiment study. The subgroups provided good fit to the model with  $\chi^2(936, N = 751) = 1,742.07, p < .001$ , and with NFI = .92, NNFI = .96, CFI = .96, and CN = 440. When all the above mentioned equality constraints were imposed for the two subgroups, the resulting fit was  $\chi^2(970, N = 751) = 1,796.32, p < .001$ , and with NFI = .92, NNFI = .96, CFI = .96, and CN = 441. The resulting difference in the chi-square values was 52.25 and statistically significant. However, again, with slight differences in factor loadings and stabilities, the pattern of impact of financial strain, social support, and undermining on poor mental health was the same for the two subgroups.

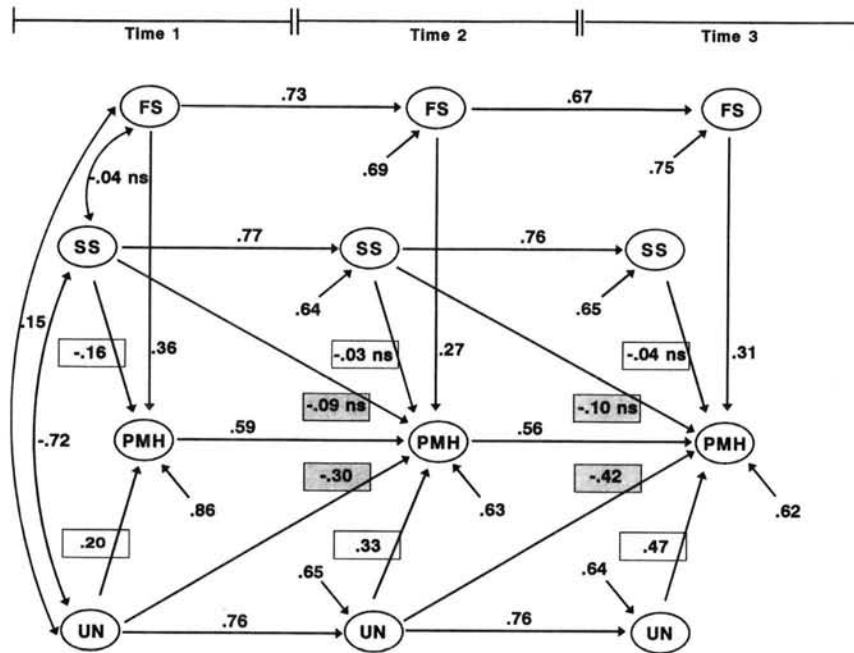


Figure 1. Structural equation model and standardized estimates of the effects of social support (SS), social undermining (UN), and financial strain (FS) on poor mental health (PMH) at three data collection periods. (Significance levels are based on critical ratios of unstandardized estimates. Except where indicated by *ns*, all the parameter estimates are significant at  $p < .05$ . ( $\chi^2[468, N = 885] = 1067.93, p < .001$ , and normed fit index = .96, nonnormed fit index = .97, comparative fit index = .98, and critical  $N = 438$ . Not shown are the correlations between residual determinants of FS and SS and UN at Time 2 [ $r_s = -.14$  and  $.21$ ] and at Time 3 [ $r_s = -.09$  and  $.12$ ] and those between SS and UN at Times 2 and 3 [ $r_s = -.67$  and  $-.73$ , respectively].)

with NFI = .96, NNFI = .97, CFI = .98, and CN = 438. The resulting standardized path coefficients of this structural equation analysis are presented in Figure 1.

Across the three time waves, the major contributors to poor mental health were the preceding levels of mental health ( $\beta_s = .59$  and  $.56$ , both  $p_s < .001$ ) and financial strain ( $\beta_s = .36, .27, .31$ , all  $p_s < .001$ ). At Time 1, both social support and social undermining had significant but opposite effects on poor men-

tal health ( $\beta_s = -.16$  and  $.20$ , respectively, both  $p_s < .01$ ). It is important to note that because the analyses for Times 2 and 3 included the preceding level of poor mental health, the paths from the independent variables to poor mental health represent effects on changes in mental health. In both Time 2 and Time 3, social support did not have either a longitudinal or a concurrent effect on changes in poor mental health. In contrast, social undermining had significant effects on changes in mental

Table 1  
Factor Loadings of Indicators of Social Support, Social Undermining, Financial Strain, and Poor Mental Health at Three Follow-Up Time Periods

Assessment	Social support indicators <sup>a</sup>			Social undermining indicators <sup>b</sup>			Economic hardship indicators <sup>c</sup>			Poor mental health indicators <sup>d</sup>	
	1	2	3	1	2	3	1	2	3	1	2
Time 1	.90 <sup>e</sup>	.90	.83	.86	.78	.67	.75	.85	.88	.88	.97
Time 2	.91	.91	.84	.85	.77	.67	.74	.85	.88	.87	.97
Time 3	.91	.91	.84	.85	.77	.66	.74	.85	.88	.86	.97

<sup>a</sup> 1, 2, and 3 = means of two 3-item indexes and one 2-item index, respectively. The items of the indexes are described consecutively in the Method section. <sup>b</sup> 1, 2, and 3 = means of two 2-item indexes and one 1-item index, respectively. The items of the indexes are described consecutively in the Method section. <sup>c</sup> 1 through 3 are the three items of the Financial Strain Scale that are described consecutively in the Method section. <sup>d</sup> 1 = 9-item anxiety scale; 2 = 11-item depression scale. <sup>e</sup> All of the factor loadings in this table are statistically significant at the .001 level.

Table 2  
*Estimated Correlations Among Social Support (SS), Social Undermining (UN), Financial Strain (FS), and Poor Mental Health (PMH) Latent Factors at Three Follow-Up Time Periods (T1, T2, and T3)*

Construct	1	2	3	4	5	6	7	8	9	10	11
1. SS at T1											
2. SS at T2	.76										
3. SS at T3	.69	.75									
4. UN at T1	-.71	-.56	-.49								
5. UN at T2	-.55	-.71	-.55	.74							
6. UN at T3	-.49	-.54	-.72	.66	.76						
7. FS at T1	-.04	-.02	-.05	.15	.08	.12					
8. FS at T2	-.07	-.11	-.09	.12	.17	.12	.72				
9. FS at T3	-.11	-.08	-.11	.14	.12	.14	.58	.65			
10. PMH at T1	-.31	-.23	-.24	.35	.29	.29	.39	.33	.34		
11. PMH at T2	-.28	-.32	-.30	.27	.38	.31	.33	.51	.39	.69	
12. PMH at T3	-.24	-.22	-.33	.19	.25	.38	.31	.43	.54	.61	.67

health at both Time 2 and Time 3. As hypothesized, social undermining at Times 2 and 3 had a statistically strong adverse effect on the changes in mental health in comparison with the preceding time periods ( $\beta_s = .33$  and  $.47$ , respectively, both  $ps < .001$ ).

In addition, it appears that social undermining measured at Time 1 and Time 2 predicted to improvement in mental health at the subsequent respective periods, that is, Time 2 and Time 3 ( $\beta_s = -.30$  and  $-.42$ , respectively, both  $ps < .001$ ). The path coefficients indicate that a preceding high level of social undermining, which is detrimental to mental health when it occurs, predicts to an improvement in mental health at a future time. This pattern may be due to a sharp decrease in the level of undermining by those who had experienced an exceptionally high level of undermining at the preceding time period, possibly as a result of a short-lived interpersonal conflict with the significant other. In other words, the restoration of the relationship to a normal baseline level of undermining may account for the improvement in mental health. A more detailed examination of these findings is provided in the Discussion section.

To determine more accurately the contributions of social support and undermining to mental health, we computed the unique and shared variance that is accounted for by these factors. At Time 1, almost all of the variance in mental health that is accounted for by these factors (total variance = 8.3%) was shared by the two factors (shared variance = 7.3%), with only social undermining accounting for an additional 1.0% of unique variance. At Times 2 and 3, a larger proportion of the variance in mental health accounted for by these factors (totals of 5.8% and 11.1%, respectively) was accounted for by the unique effects of social undermining (1.8% and 3.8%, respectively). Only 0.6% and 1.1% of unique variance in poor mental health was accounted for by social support at Times 2 and 3. Thus, whereas the effects of social support and undermining on the overall level of mental health may be equal, the effects of social undermining on changes in mental health are clearly much more pronounced than those of social support. Overall, the effect of these factors on poor mental health in terms of variance accounted for is small. They nevertheless represent statistically significant effects that are worthy of consideration in the light of the other confounding variables such as financial

distress and preceding levels of poor mental health having been controlled for.

Our final analysis was designed to address the question of whether the impact of support and undermining on mental health changes over time with increases in reemployment and decreases in stress. Evidence for the decrease in stress levels across the three assessment periods is directly indicated by a statistically significant decrease in financial strain from Time 1 to Time 2 and again from Time 2 to Time 3 ( $M_s = 2.84, 2.49$ , and  $2.31$ , respectively,  $p < .001$  for each difference). Similarly, statistically significant decreases in mean score of depression and anxiety were also found between Time 1 and Time 2, after which they decreased only slightly (combined depression anxiety mean score = 1.98, 1.86, 1.84,  $p < .001$  between Time 1 and Time 2 and between Time 1 and Time 3). However, our analysis had to be limited to examine possible changes only between Time 2 and Time 3, where poor mental health was modeled in the same way, using the influence of its preceding level. Thus, we reanalyzed the original model (i.e., Figure 1) with nine additional constraints. The nine constraints consisted of setting the longitudinal and concurrent paths from social support and undermining and from financial strain to poor mental health at Times 2 and 3 to be equal. The structural modeling for this analysis provided the same good fit to the data as the original model,  $\chi^2(477, N = 885) = 1077.23$ ,  $p < .001$ , and with  $NFI = .96$ ,  $NNFI = .96$ ,  $CFI = .97$ , and  $CN = 442$ . Thus, despite an increase in the reemployment rate from about 28% to 54%, the underlying pattern of impact on mental health remains the same.

## Discussion and Conclusion

Before drawing conclusions and implications from our findings, it is important to examine them in the light of the specifications and assumptions of our model and to comment on alternative models that have been tested. In accordance with our hypotheses, we modeled the concurrent levels of social support and social undermining as determinants of poor mental health. However, because we measured perceived support and undermining, it is quite possible that mental health affected these perceptions and is therefore the main determinant of our mea-



sured constructs. To examine the extent to which the data are consistent with this possibility, we retested the model (cf. Figure 1), reversing the direction of influence to go from poor mental health to support and undermining. Whereas the fit of the data to the model was quite good,  $\chi^2(468, N = 885) = 1,140, p < .001$ , and with NFI = .95, NNFI = .97, and CFI = .97, it was to a statistically significant degree worse than that of the original model,  $\chi^2(468, N = 885) = 1067$ . To circumvent the issue of the concurrent direction of influence between poor mental health and social support and undermining, we then proceeded to examine two additional structural models. The first model was the same as the original model but with all the concurrent relationships between mental health and undermining modeled as associations rather than as paths of influence. The second model included two additional longitudinal paths from social support and social undermining at Time 1 to poor mental health at Time 3. Once again, the analyses revealed good fits to the models,  $\chi^2(468 \text{ and } 466) = 1,084 \text{ and } 1,081$ , respectively, both with NFI = .95, NNFI = .97, and CFI = .97, but a statistically significant worse fit than to the original model. In addition, these alternative models also produce lower and inconsistent estimates of the longitudinal paths from social support and undermining to mental health.<sup>3</sup> Thus, the underlying assumption regarding the direction of influence in our model is supported by the data, which provide a better fit to the original model than to the alternative ones that were examined.

Earlier demonstrations of the importance of social conflict by Rook (1984) and by Abbey et al. (1985) were focused on specific populations of elderly women and young students, respectively. They also documented the effects of support and undermining from different sources or relationships. More recent work demonstrated these effects in samples of undergraduates (Ruehlman & Wolchik, 1988), caregivers of Alzheimer's patients (Kiecolt-Glaser, Dyer, & Shuttlesworth, 1988), elderly people (Finch et al., 1989; Okun, Melichar, & Hill, 1990), and in a community-representative sample, including spouses (Schuster, Kessler, & Aseltine, 1990). Using the analyses that were applied by Finch et al. (1989), we also demonstrated that social support and social undermining are not the opposite poles of the same factor, but actually belong to two separate factors.

The results of our structural analyses extend the importance of those found in the earlier studies in three ways. First, using structural equation modeling that adjusts for the reliability of the measures, social undermining was shown to have a significant impact on mental health independent of any antecedent or concurrent effect of social support and the strain of financial hardship. The independent effects of support and undermining were shown in a longitudinal design even when prior levels of mental health and the contribution of another critical stressful factor (i.e., financial strain) were controlled for.

Second, the analyses, which included both the antecedents and the concurrent effects of social support and undermining, revealed a differential dynamic pattern of influence of these factors on mental health. The results suggest that whereas the effects of social support are weak and stable, the effects of social undermining are more volatile. On the one hand, concurrent high levels of social undermining had a strong impact on poor mental health. On the other hand, when these high levels of undermining diminished, they resulted in predicted improvement in mental health in subsequent time periods. A similar

pattern of results was reported in a study by Gottman and Krokoff (1989) examining the concurrent and longitudinal effects of marital interactions on marital satisfaction. They found that although disagreement and anger exchanges had a concurrent negative influence on marital satisfaction, they were predictive of improvement in marital satisfaction at subsequent time periods. The positive behaviors in Gottman and Krokoff's study had a weaker effect overall on marital satisfaction than the negative behaviors.

The above pattern of results suggests that at each follow-up period, some respondents experience a flare-up of an interpersonal conflict that results in a high degree of undermining behavior, and as a consequence, they suffer a marked concurrent deterioration in mental health. However, because these conflicts are between persons in close relationships, most of them are likely to last for a short time period, perhaps a few days or a week or two. At any event, 2 months later, when the subsequent follow-up takes place, the interaction pattern between these respondents and their significant others is likely to have been restored to the normal level or baseline for those involved,<sup>4</sup> and consequently, their mental health shows an improvement. Note that this improvement in mental health is only with respect to the preceding period; it does not produce a higher level of mental health compared with that of others in the group. As indicated by the stability coefficients, the level of social undermining among significant others is a stable characteristic of the relationship. Consequently, for those who had experienced a high level of social undermining, the subsequent return to their normal pattern of interaction is still a return to a relatively high level of undermining, with its concurrent strong negative impact on mental health. Despite some improvement in mental health, these individuals are predicted to have a very poor level of mental health, compared with the rest of the group. Additional analyses examined this dynamic in greater detail. First, we classified the respondents into three subgroups according to

<sup>3</sup> It therefore becomes clear that in our original model, the large longitudinal path coefficients indicating the influence of social undermining on mental health are dependent on simultaneously modeling the respective concurrent effects of these variables on poor mental health. And because both are modeled simultaneously, the effect of each is controlled for the effect of the other. In other words, the path coefficients indicate that a change in undermining produces a change in poor mental health. More specifically, the concurrent path coefficients indicate how much a change in social undermining from the preceding period (e.g., increase) will influence a change (e.g., increase) in poor mental health. In a similar vein, the longitudinal path indicates how much future change (e.g., future decrease) in undermining is predictive of a change (also an increase) in poor mental health. As the results of the model show, those who will experience a decrease in social undermining in the future, for example, at Time 2, will also experience a decrease in poor mental health at Time 2 (path coefficient =  $-.30$ ). When the changes in one direction are about equal, those in the other direction (e.g., an equal number experiences increases as experiences decreases, and the same level for both groups), the longitudinal and the concurrent paths will be of opposite signs and about equal size.

<sup>4</sup> The normal level of reported social undermining for the group as a whole is characterized by little or no social undermining (on a 1- to 5-point rating scale, the means for Times 1, 2, and 3 were 1.72, 1.68, and 1.72, respectively).



the level of social undermining they had experienced at Time 1 and again, separately, at Time 2. The subgroups included respondents who scored below the 21st percentile (low), between the 21st and 80th percentile (moderate), and above the 80th percentile (high) on social undermining. Second, we computed the mean of the anxiety and depression indexes to serve as a global indicator of poor mental health. Finally, for each subgroup, we calculated the improvement in mental health from each time wave to the subsequent one by subtracting the score for poor mental health of the later period from the earlier one (i.e., positive scores indicate improvement). The degree of improvement in mental health between Time 1 and Time 2 of the respondents in the low, moderate, and high perceived social undermining subgroups was .09, .12, and .20, respectively; and their mean score of poor mental health at Time 2 was 1.73, 1.84, and 2.12. Similarly, the degree of improvement in mental health between Time 2 and Time 3 of the respondents in the low, moderate, and high perceived social undermining subgroups of Time 2 was  $-.07$ ,  $.00$ , and  $.15$ , respectively, and their mean score of poor mental health at Time 3 was 1.75, 1.81, and 2.19. As can readily be seen, whereas the mental health of those experiencing the highest prior level of social undermining improved most, their level of mental health remained the poorest!<sup>5</sup> The results suggest that a higher level of social undermining only predicts to improvement in mental health in subsequent periods; it does not produce a higher level of mental health in the future.

Third, our findings appear to be generalizable to several demographically distinct subgroups of a heterogeneous population under varying levels of stress. The same pattern of results was found for men and women, couples and noncouples, and for unemployed and reemployed subgroups.

Other analyses examined whether the impact of support and undermining changed with time as levels of reemployment increased with corresponding improvement in mental health. There was no statistically significant change in the impact of these factors on mental health between Time 2 and Time 3. The impact of support and undermining on mental health at Time 2 and Time 3 represents the impact on change in mental health. In contrast, because of the absence of longitudinal effects on Time 1 poor mental health, the impact of support and undermining at Time 1 represents impact on level of mental health and could not reliably be compared with the impact on change at Times 2 and 3.

An additional indication that variations in stress levels did not produce statistically significant differences in the impact of support and undermining is provided by the failure to find such differences between the sample of those who were reemployed and those who were unemployed at Time 3. Obviously, those who remained unemployed at Time 3 were under greater financial strains and experienced higher levels of depression and anxiety than those who became reemployed (see Caplan et al., 1989); yet, it appears that these differences in level of stress did not alter the pattern of contribution of social support and undermining to mental health. The findings of other studies regarding the stability of the impact of social support and undermining on mental health across variation of stress levels is inconsistent. For example, using samples of older adults with different levels of stress, Finch et al. (1989) did not find a significant interaction between positive or negative support and dis-

ability status and mental health. In contrast, in a study that compared stressed Alzheimer's patients' caregivers with less stressed noncaregivers, Kiecolt-Glaser et al. (1988) found that upsetting relationships accounted for significant variance of the depressive symptoms of the caregivers but not of the non-caregivers. There is the possibility that in our study as well as in Finch et al.'s study, the variations in the level of stress across the time periods or subgroups may have been too small to produce the expected interactive effects with social support and undermining.

The results of this study add to those from earlier studies in suggesting that in close interpersonal relationships such as marriage, the effects of the interpersonal transactions on the mental health of the partners are not adequately accounted for by socially supportive behaviors alone. Interpersonal conflicts that are expressed in undermining behaviors appear to have a stronger concurrent impact on mental health than supportive behaviors. Thus, both supportive and undermining behaviors need to be measured and examined in future studies to better account for variance in mental health. The finding regarding the independent adverse effects of undermining on concurrent mental health should lead to testing its interaction with stress levels in predicting mental health. As social support is often found to interact and buffer the effects of stress on mental health, so social undermining may have an interactive exacerbating effect on mental health.

Finally, a simultaneous examination of supportive as well as undermining transactions could also provide a more complete understanding of the dynamics of interpersonal relationships and their effects on phenomena that are related to mental health such as marital satisfaction, separation, and divorce. It is usually the case that research that is focused on mental health includes social support as a key explanatory variable. Similarly, research on marital interactions, separation, and divorce are usually focused on conflict and social undermining. Both research focuses may be enriched by expanding explanatory models to include the pattern of both support and undermining behaviors.

<sup>5</sup> Because of a correlation of .35 between social undermining and poor mental health, this finding may reflect a simple regression toward the mean. However, about the same correlation of  $-.31$  between social support and poor mental health did not produce a symmetric pattern of results but did produce a pattern in the opposite direction to what would be expected by an explanation based on a simple regression toward the mean.

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Received November 28, 1991

Revision received January 20, 1993

Accepted January 28, 1993 ■