

## Assessing Social Support: The Social Support Questionnaire

Irwin G. Sarason, Henry M. Levine, Robert B. Basham, and Barbara R. Sarason  
University of Washington

A measure of social support, the Social Support Questionnaire (SSQ), is described, and four empirical studies employing it are presented. The SSQ yields scores for (a) perceived number of social supports and (b) satisfaction with social support that is available. Three of the studies deal with the SSQ's psychometric properties, its correlations with measures of personality and adjustment, and the relation of the SSQ to positive and negative life changes. The fourth study is an experimental investigation of the relation between social support and persistence in working on a complex, frustrating task. The research reported suggests that the SSQ is a reliable instrument and that social support is (a) more strongly related to positive than negative life changes, (b) more related in a negative direction to psychological discomfort among women than men, and (c) an asset in enabling a person to persist at a task under frustrating conditions. Research and clinical implications are discussed.

Observations in a variety of settings have highlighted the positive roles played by social attachments in psychological adjustment and health. Psychotherapists try to provide their clients with the acceptance needed to pursue self-examination. Soldiers develop strong mutually reinforcing ties with each other that contribute to their success and survival. Physicians daily note the salutary effects of their attention and expressed concern on their patients' well-being and recovery from illness. These types of observations have led to the idea that social support (a) contributes to positive adjustment and personal development and (b) provides a buffer against the effects of stress.

Social support is usually defined as the existence or availability of people on whom we can rely, people who let us know that they care about, value, and love us. Bowlby's theory of attachment (1969, 1973, 1980) relies heavily on this interpretation of social support. When social support, in the form of an attachment figure, is available early in life, Bowlby believes children become self-reliant, learn to function as supports for others, and have a decreased likelihood of psychopathology in later life. Bowlby has also concluded

that the availability of social support bolsters the capacity to withstand and overcome frustrations and problem-solving challenges.

A variety of types of evidence seems to support this concept of social support. For example, Miller and Lefcourt have recently obtained results consistent with this interpretation (Miller & Lefcourt, Note 1, Note 2), as did Hirsch (1980). Bronfenbrenner (1961) found that the rated leadership and responsibility of 16-year-old boys and girls was related to family interaction patterns. Those adolescents showing the greatest leadership and responsibility described their parents as being more affectionate and supportive than did adolescents low on these characteristics. Murphy and Moriarty (1976) found that the availability of family supports increased children's resilience in the face of stress. Sandler (1980) found significant relations between stress and social support, on the one hand, and children's maladjustments, on the other. In a 30-year longitudinal study of Harvard University male undergraduates, Vaillant (1974, 1977) found that a supportive early family environment was correlated with positive adult adjustment and lack of psychiatric disorder.

In addition to evidence that the availability of childhood social support is related to personality development and adult behavior patterns, there is also evidence of the detrimental effects of lack of support in adults. De Araujo

This research was supported by Office of Naval Research Contract No. N00014-80-C-0522, NR 170-908.

Requests for reprints should be sent to Irwin G. Sarason, Department of Psychology, NI-25, University of Washington, Seattle, Washington 98195.

and associates (De Araujo, Dudley, & Van Arsdel, 1972; De Araujo, Van Arsdel, Holmes, & Dudley, 1973) reported that asthmatic patients with good social supports required lower levels of medication to produce clinical improvement than did asthmatics with poor social supports. There is much evidence that medical and surgical patients benefit from attention and expressions of friendliness by physicians and nurses (Auerbach & Kilmann, 1977). Nuckolls, Cassel, and Kaplan (1972) studied lower-middle-class pregnant women living in an overseas military community. These authors studied two factors of special interest: recent stressful life events and psychosocial assets, a major component of which was defined as the availability of social supports. Neither life changes nor psychosocial assets alone correlated significantly with complications of pregnancy. However, women high in life changes and low in psychosocial assets had many more birth complications than any other group. Sosa, Kennell, Klaus, Robertson, and Urrutia (1980) found that the presence of a supportive person had a favorable effect on length of labor and on mother-infant interaction after delivery.

Eaton (1978) reported that the occurrence of stressful life events is associated with more psychiatric disorder among those living alone or unmarried than those living with others or married. Andrews, Tennant, Hewson, and Schonell (1978) found that the combination of recent stressful life events, low level of social support, and adverse childhood experiences successfully predicted the occurrence of maladjustment in adults. There is evidence that depressives tend to report the lack of availability of supportive others (Winefield, 1979). Henderson (1980) concluded that a deficiency in social bonds may, independent of other factors, be a cause of some forms of behavioral dysfunction.

Reasonable as an emphasis on the importance of social support appears to be, the task of empirically demonstrating the effects of social support has barely begun. One of the barriers to objective research has been the lack of a reliable, general, and convenient index of social support. Miller, Ingham, and Davidson (1976) and Miller and Ingham (1976) simply determined who their subjects' confidants and acquaintances were. Medalie

and Goldbourt (1976) focused their attention on the availability of helpful others in coping with certain work, family, and financial problems. Brim (1974) devised a 13-item scale intended to measure certain aspects of social support, particularly value similarity. Luborsky, Todd, and Katcher (1973) developed a self-administered Social Assets Scale intended to weigh both interpersonal assets and liabilities. Renne's Social Health Index (1974) was directed particularly toward the individual's level of functioning in the community and yields measures of employability, marital satisfaction, community involvement, and sociability. A measure devised by Barrera, Sandler, and Ramsay (1981) assessed the frequency with which people are recipients of supportive actions. A comprehensive but complex vehicle for measuring social support is one developed by Henderson (1980). His 50-question structured interview assesses (a) perceived availability and adequacy of people who can be counted on for assistance in problem solving and emotional support and (b) social integration, its availability and adequacy.

The diversity of measures of social support is matched by the diversity of conceptualizations concerning its ingredients. Weiss (1974) discussed six dimensions of social support: intimacy, social integration, nurturance, worth, alliance, and guidance. Convenient operationalization of these dimensions has not yet occurred. Kelly, Muñoz, and Snowden (1979) delineated three types of social support: personal, intraorganizational, and extraorganizational. According to Caplan's theory (1974), social support implies an enduring pattern of continuous or intermittent ties that play a significant part in maintaining the psychological and physical integrity of the individual over time. For Caplan, a social network provides a person with "psychosocial supplies" for the maintenance of mental and emotional health.

Much more empirically derived evidence is needed to provide a basis for theoretical advances in the area of social support (Heller, 1979). Regardless of how it is conceptualized, social support would seem to have two basic elements: (a) the perception that there is a sufficient number of available others to whom one can turn in times of need and (b) a degree

of satisfaction with the available support. These two factors in social support may vary in their relation to one another, depending on the individual's personality. Some people may think that only a large number of available helpers provides sufficient possibilities of social support. Others may consider that even one person is adequate. How gregarious people are and how comfortable they feel with others may determine the number of supports they believe necessary. In the same way, satisfaction with the support perceived to be available may be influenced by personality factors such as self-esteem and a feeling of control over the environment. Recent experiences may influence a person to regard the support available as satisfactory or not satisfactory.

In this article, we describe a new instrument intended to quantify the dimensions of perceived availability of and satisfaction with social support and present reliability and other psychometric data. We also report the results of a series of studies that provide information about the relations and correlates of dimensions of social support with other measures, including desirable and undesirable recent life events, perceived adequacy of childhood relationships, personality characteristics (such as depression, anxiety, hostility, extroversion, and self-esteem), and outlook about the future. Sex differences in these variables are also investigated. In addition, results of an experimental study are presented. The study dealt with the relations between social support and locus of control, on the one hand, and persistence and cognitive interference under frustrating conditions, on the other.

### Study 1

The instrument presented in this article is the product of a series of studies, involving several hundred subjects, that was concerned with the assessment of social support. These pilot investigations dealt with such issues as item development, reliability, and psychometric characteristics. Sixty-one items were written to sample the great variety of situations in which social support might be important to people. These items were administered to college students who were asked to

Table 1  
*Sample Social Support Questionnaire (SSQ) Items*

SSQ item
1. Whom can you really count on to listen to you when you need to talk?
2. Whom could you really count on to help you out in a crisis situation, even though they would have to go out of their way to do so?
3. Whom can you really count on to be dependable when you need help?
4. With whom can you totally be yourself?
5. Who do you feel really appreciates you as a person?
6. Whom can you count on to console you when you are very upset?

list for each item all of the individuals who provided them with support in the situation described. The subjects also rated their level of satisfaction with the support received. Items that showed low correlations with the other items were eliminated. In addition to preliminary item analyses, pilot investigations were conducted to explore possible scoring methods for availability of support. Among the methods investigated were computing the number of supportive people listed within each category of relationship (e.g., immediate family, friends, relatives), assessing frequency of contact and length of relationship with supportive persons, and counting the total number of different individuals listed throughout the questionnaire. The intercorrelations among the various indexes of availability or amount of support were generally high (most had correlations greater than .70). Because the simplest procedure was a count of supportive persons, the availability index selected was the number of persons listed divided by the number of items.

The Social Support Questionnaire that grew out of the pilot work consists of 27 items. Each one asks a question to which a two-part answer is requested. The items ask that subjects (a) list the people to whom they can turn and on whom they can rely in given sets of circumstances and (b) indicate how satisfied they are with these social supports.

Table 1 lists six items from the Social Support Questionnaire (SSQ). These are the instructions that introduce the SSQ:

The following questions ask about people in your environment who provide you with help or support. Each

question has two parts. For the first part, list all the people you know, excluding yourself, whom you can count on for help or support in the manner described. You may either give the person's initials or their relationship to you. *Do not list more than one person next to each of the letters beneath the question.*

For the second part, circle how *satisfied* you are with the overall support you have.

If you have no support for a question, check the word "No one," but still rate your level of satisfaction. Do not list more than nine persons per question.

Please answer all questions as best you can. All your responses will be kept confidential.

The number (N) score for each item of the SSQ is the number of support persons listed. The social support available to deal with a given problem is rated on a scale ranging from "very satisfied" to "very dissatisfied." This yields a satisfaction (S) score for each item that ranges between 1 and 6. The overall N and S scores are obtained by dividing the sum of N or S scores for all items by 27, the number of items.

### Method

*Subjects.* A sample of 602 University of Washington undergraduates was administered the Social Support Questionnaire.

*Procedure.* Mean number (N) and satisfaction (S) scores were computed for each of the SSQ's 27 items and for the entire scale. Interitem correlations and reliability indexes were also computed.

### Results

The number scores for the 27 items ranged from 2.92 to 5.46, with a mean of 4.25. The mean number of persons listed as supports for the entire SSQ was 114.75. The interitem correlations ranged from .35 to .71, with a mean interitem correlation of .54. The correlations of items with the total score (minus the item being correlated) ranged from .51 to .79. The alpha coefficient of internal reliability was .97.

The S scores for the 27 items ranged from 5.12 to 5.57, with a mean of 5.38. The mean S score for the entire SSQ was 145.26. The interitem correlations ranged from .21 to .74, with a mean interitem correlation of .37. The correlations of items with the total score (minus the item being correlated) ranged from .48 to .72. The alpha coefficient for S scores was .94.

Separate factor analyses were performed for the N and S scores. Each of these analyses showed a very strong first (unrotated) factor. The first factor accounted for 82% of the common variance for the N score. The comparable figure for the S score was 72%. All factor loadings exceeded .60 for the N score and .30 for the S score. There is good evidence that one strong factor underlies each of the two SSQ scores and that they thus represent different dimensions of the general concept. The correlation between the SSQ N and S scores was .34. It was possible to readminister the SSQ to 105 subjects. The test-retest correlations for N and S were .90 and .83, respectively (4-week interval).

### Discussion

The SSQ seems to have a number of desirable psychometric properties. It was found to have (a) stability over a 4-week period of time and (b) high internal consistency among items.

The modest correlation of .34 between SSQ-N and SSQ-S provides a strong basis for analyzing social support into its components. Certainly, if social support were a unitary concept, the SSQ-N/SSQ-S correlation should have been higher. The perceived availability of support, reflected by the SSQ-N score, and the satisfaction with the support that is available, reflected by the SSQ-S score, each appear to be worthy of study and analysis.

### Study 2

Having shown that the SSQ had favorable psychometric properties, we decided that the next step should be to inquire into the relations between the SSQ and the personality measures to which it might be related. We felt that the relations uncovered might be helpful in charting the construct of social support. A review of the literature had led to predictions that those high in social support might also be extroverted, have memories of supportive relationships in childhood, show less emotional discomfort, and have a more optimistic outlook about the future. It also seemed wise to assess social desirability because, if this factor is important, it might

Table 2

*Correlations of Social Support Questionnaire (SSQ) With Three Multiple Adjective Affect Check List (MAACL) Scales, The Lack of Protection Scale (LP), the Eysenck Personality Inventory (EPI) Scales, and the Marlowe-Crowne Scale*

SSQ	MAACL			Lack of Protection	EPI		Marlowe-Crowne
	Anxiety	Depression	Hostility		Extraversion	Neuroticism	
Males							
Number	-.14	-.24*	-.23*	-.02	.13	-.25	-.09
Satisfaction	-.17	-.22*	-.17	-.08	-.03	-.29	.24
<i>n</i>	100	100	100	100	28	28	28
Females							
Number	-.30**	-.31**	-.26**	-.32**	.35*	-.15	.03
Satisfaction	-.39**	-.43**	-.36**	-.22*	.09	-.37*	.16
<i>n</i>	127	127	127	127	38	38	38

\*  $p < .05$ . \*\*  $p < .001$ .

produce a distorting effect that would influence interpretation of the other results.

### Method

*Subjects.* The subjects were 100 male and 127 female introductory psychology students at the University of Washington.

*Procedure.* In addition to the SSQ, the subjects in a single session were administered the Multiple Adjective Affect Check List (MAACL; Zuckerman & Lubin, 1965) and the Lack of Protection (LP) Scale (Sarason, 1958). Four weeks after this assessment, it was possible to administer additional personality scales to a small group of subjects (28 men and 38 women). These measures were the Extraversion and Neuroticism scales of the Eysenck Personality Inventory (Eysenck & Eysenck, 1968) and the Marlowe-Crowne measure of social desirability (Crowne & Marlowe, 1964; Marlowe & Crowne, 1961). In addition, a specially constructed ladder rating questionnaire was administered. This instrument, based on Cantril's public opinion survey research (Cantril & Roll, 1971), asked subjects to respond to a series of questions using a 10-step "Ladder of Life." The steps ranged from "worst possible" to "best possible" life for the subject. Three items from Bradburn's Positive Affect Balance Scale (1969) were also administered.

### Results

The correlations between the number of social supports (SSQ-N) and satisfaction with social supports (SSQ-S) were .31 for men and .21 for women ( $p < .001$  in both cases). Table 2 presents the correlations between the SSQ,

the MAACL, the LP, the Eysenck Personality Inventory (EPI) Extraversion and Neuroticism scales, and the Marlowe-Crowne scale.

There were significant negative correlations for women between the SSQ-N and SSQ-S measures of social support and measures of emotional discomfort, such as the MAACL Anxiety, Depression, and Hostility scales. A similar result obtained for the Lack of Protection scale, whose items deal with recollections of separation anxiety in childhood. The EPI Extraversion measure for women was positively correlated with SSQ-N only, whereas the Neuroticism measure was negatively correlated only with SSQ-S in women. As a group, women with low social support appear to be significantly less happy and more introverted than those women with high social support. The results for men tend to be in the same direction as those for women; however, the relations are not as strong.

The Marlowe-Crowne scale of social desirability did not correlate significantly with either SSQ-N or SSQ-S for either sex.

There were several significant relations between both the number and satisfaction SSQ scores and where subjects placed themselves on the Ladder of Life. For an item inquiring into where on the Ladder of Life subjects felt they were at present, the SSQ-N correlation

was .34 ( $p < .01$ ), whereas the SSQ-S correlation was .57 ( $p < .001$ ). This suggests that people high in social support are more optimistic about their current life situation than those low in social support. For the item, "Where do you think you will stand about *five years from now*," the SSQ-N correlation was .21 ( $p < .05$ ) and the SSQ-S correlation was .41 ( $p < .001$ ).

The three yes-no items drawn from Bradburn's Positive Affect Balance Scale (1969) and relating to the optimism-pessimism dimension showed an interesting pattern of relations. These items dealt with how the subject felt during the past month. Seventy-three percent of high-SSQ-S subjects said that they had felt "on top of the world," whereas only 44% of low-SSQ-S subjects responded in this way. The difference between these percentages was significant at the .001 level ( $t = 3.51$ ). Another item asked subjects if during the past month they had felt "things were going your way." Eighty-three percent of high-SSQ-N subjects said they had felt things were going their way, whereas 68% of low-SSQ-N subjects responded similarly ( $t = 2.24$ ). The difference between the two percentages was significant at the .02 level. The third item asked subjects if they had, during the past month, been "upset because someone criticized you." Fifty-three percent of low-SSQ-S subjects described themselves as having been upset over criticism; the comparable high-SSQ-S subjects figure was 35% ( $t = 2.02$ ,  $p < .05$ ). These results suggest that people with high SSQ scores either have more positive experiences or take a more optimistic view of their experiences, or both.

A short questionnaire dealing with wishes and hopes for the future was also administered. Subjects were asked, "All of us want certain things out of life. In terms of what really matters in your own life, think about your wishes and hopes for the future. Then indicate the five hopes from the following list which are closest to your own." The list included a diversity of areas but was particularly oriented to material and interpersonal hopes and wishes. Low-SSQ-N subjects more often than high-SSQ-N subjects hoped for "a better or decent standard of living" (high SSQ-N, 16%; low SSQ-N, 32%;  $p < .02$ ); "leisure time, recreation, travel" (high SSQ-N,

10%; low SSQ-N, 30%;  $p < .001$ ); and "wealth" (high SSQ-S, 15%; low SSQ-S, 30%;  $p < .02$ ). For all comparisons on attitudinal items (and Ladder of Life scales as well), the results for SSQ-N and SSQ-S subjects were in the same direction and suggested that low-SSQ scorers were more concerned about achieving material success than were high-SSQ scorers.

The results were quite different for items dealing with interpersonal relationships. High-SSQ-S scorers were significantly more desirous than low-SSQ-S scorers of achieving a happy family life ( $p < .03$ ), educational success and happiness for their children ( $p < .02$ ), acceptance by others ( $p < .02$ ), and a happy old age ( $p < .01$ ). It would appear that people high in social support are more involved in present and future social relationships, whereas those low in social support are more involved in present and future material concerns.

### Discussion

Correlations of the SSQ with a diversity of measures can help sketch the personalities of subjects differing in social support. For women, but not men, low social support was associated with relatively unpleasant memories of early parent-child relationships. For both men and women, both SSQ-N and SSQ-S correlated significantly and negatively with anxiety and depression as measured by the MAACL. Women's hostility scores were also significantly and negatively correlated, but the men's only approached significance. In every case, these negative correlations were greater for women than for men, as were the correlations between SSQ and the Lack of Protection scale. The predicted relation between these variables made on the basis of the attachment literature was generally upheld. Sex differences may relate to the finding that women tend to report more symptomatology than men over a whole spectrum of disorders, especially those related to affect (Weissman & Klerman, 1977). Whether, and in what way, these concerns and the insecurities related to childhood separation and rejection are causes of failure to attain desired social relationships in adult life is a question that merits further study. In any case, the

MAACL results suggest that, particularly for women, social support is related inversely to states of psychological discomfort.

The prediction that high social support and extroversion are positively related was borne out only by the number scores. The EPI correlations indicate that the number of social supports (SSQ-N), but not satisfaction with social support (SSQ-S), is positively correlated with extroversion. This result makes intuitive sense. The extrovert has more social involvements than the introvert, and SSQ-N would appear to reflect the number of these involvements. The negative correlations between the EPI Neuroticism scale and both SSQ-N and SSQ-S are consistent with the MAACL results. They suggest that people who have fewer social supports and are dissatisfied with that state of affairs are more likely than others to be anxious and to experience periods of emotional arousal.

The prediction that high-social-support individuals might have a more optimistic view of the future was also supported. The Ladder of Life and attitude data suggest not only that people low in social support are more emotionally labile but that they tend to be more pessimistic about the present and future than are people high in social support. The pessimism and emotional tone of the lives of people low in social support may inhibit their social involvements and lead to preoccupations with material concerns, such as the need for money and success. These material concerns may lead to preoccupations with security that inhibit the spontaneity necessary for an active social life. These findings are consistent with the literature on the outlooks of depressed persons and their social relationships (Coyne, 1976; Lewinsohn & Talkington, 1979).

### Study 3

This study inquired into the relations between social support, the preceding year's positive and negative life events, internal-external locus of control, and self-esteem. We predicted, both from the literature review and the findings of the previous study, that self-esteem would be positively related to high social support. Internal locus of control also was expected to be related positively to social

support, because those people high in social support should be more skilled at providing for their own psychological needs and, as part of this effort, would construct a better network of supportive relationships. Work on life events suggests that only negative events are related to psychological discomfort (Sarason, Sarason, & Johnson, in press). A positive relation between social support and positive events was anticipated, because a wider support network might be expected to lead to more incidents of reinforcement.

### Method

*Subjects.* The subjects were 295 introductory psychology students at the University of Washington.

*Procedure.* The SSQ and a special version of the Life Experiences Survey (LES) (Sarason, Johnson, & Siegel, 1978) were administered along with two additional instruments: Rosenberg's self-esteem measure (1965) and Nowicki and Duke's 40-item Locus of Control scale (1974).

The modified LES lists a number of life events, such as "new job," "death of spouse," and "major change in financial status." If the event occurred in the prior year, respondents rate the effect of the event, the degree to which the event was expected, and their sense of control over the event's occurrence. The Rosenberg Self-Esteem Scale consists of 10 true-false items, such as "I wish I could have more respect for myself." The Locus of Control measure reflects the tendency to see oneself as having a strong influence over events (internal orientation) in contrast to seeing oneself as being strongly influenced by events that are out of one's control (external orientation).

### Results

In order to compare subjects in various segments of the SSQ score distribution, the subjects were divided into quintiles. Statistical comparisons were made among the quintiles.

Using analysis of variance, comparisons among the five SSQ-N groups showed a significant effect for the number of positive life events in the past year reported on the LES,  $F(4, 290) = 3.24, p < .01$ , but not for either the LES negative-events score or the LES total-events score. The means for number of positive events for the five SSQ-N groups are presented in Table 3.

The special version of the LES used in this study asked subjects to rate how much each event affected their lives. These ratings extended from 1 (no effect) to 4 (great effect). Groups differing in SSQ-N showed signifi-

Table 3  
*Mean Scores on the Life Experiences Survey (LES) as a Function of Quintiles of Social Support Questionnaire-Number (SSQ-N) Distribution*

SSQ-N quintiles	n	Positive events			
		No.	Effect	Expectancy	Control
1	54	3.90	11.66	11.36	12.42
2	55	3.96	12.40	12.18	13.42
3	64	4.07	14.23	14.47	15.64
4	58	4.88	15.57	14.79	16.12
5	64	5.27	17.59	16.94	18.16

Note. Quintiles 1-5 go from lowest to highest.

cant differences,  $F(4, 290) = 4.81, p < .001$ , when these ratings were examined over the number of positive events listed by the subject (checked by the subject as "Good" events during the past year). Ratings were summed for the events checked.

Another special LES score was subjects' ratings of the extent to which they had expected the events checked to occur ("How much did you expect the event would happen?"). This rating extended from 1 (not at all) to 4 (completely). Table 3 shows the means for this score for the SSQ-N quintiles,  $F(4, 290) = 4.38, p < .002$ . The third special LES rating concerned "To what extent did you have control over the event's occurrence?" which was rated from 1 (not at all) to 4 (completely). The means for this rating of positive events for the SSQ-N quintiles are presented in Table 3. An analysis of variance for these five groups was statistically significant,  $F(4, 290) = 4.01, p < .004$ .

It was possible to administer the locus of control and self-esteem measures to 148 of the subjects who had taken the SSQ. Comparisons of the five SSQ-N groups (defined by the distribution of scores for the original 295 subjects) on the Locus of Control and Rosenberg Self-Esteem scales yielded statistically significant results. The Locus of Control results,  $F(4, 144) = 2.45, p < .05$ , were due to a significantly higher externality mean for the lowest SSQ-N quintile than for the other SSQ-N quintiles. The Rosenberg result,  $F(4, 144) = 2.96, p < .02$ , was due to a higher self-esteem mean for the highest SSQ-N quintile than for the other quintiles.

Analyses for SSQ-S quintiles failed to show significant differences for the number of positive events checked on the LES. Unlike the SSQ-N comparisons, the SSQ-S quintiles differed significantly in the number of negative events checked,  $F(4, 290) = 4.18, p < .003$ . The highest SSQ-S quintile checked a mean of 2.72 negative events, whereas the lowest SSQ-S quintile's mean was 4.56 negative events. The SSQ-S quintiles did show significant differences on the rated effects of positive events,  $F(4, 290) = 2.42, p < .05$ . These differences were similar to, but weaker than, the comparable SSQ-N quintile comparisons. Significant in the SSQ-S, but not the SSQ-N, comparisons were quintile differences in the degree to which reported negative events had been expected,  $F(4, 290) = 2.92, p < .02$ . The lowest SSQ-S quintiles had a mean expectancy rating for negative events of 10.93; the comparable mean for the highest SSQ-S quintile was 7.62. The SSQ-S quintiles also differed in rated control over negative life changes,  $F(4, 290) = 4.54, p < .002$ , with lower quintiles indicating a feeling of more control over negative changes than higher scoring quintiles (lowest SSQ-S quintile mean = 11.88; highest SSQ-S quintile mean = 7.56). The SSQ-S results for the Rosenberg self-esteem measure paralleled those for SSQ-N,  $F(4, 290) = 4.98, p < .001$ , with higher quintile groups reporting more self-esteem than lower ones.

#### Discussion

Research on life events has focused increasingly on the different implications of



positive and negative events (Sarason et al., in press). High frequency of both negative and positive events combined may be associated with increased probability of physical illness, but only the high frequency of negative events appears to be related to psychological distress. The findings in this study bear out this prediction of differential relations with the classes of life events. They suggest that positive events may be related to the number of social supports, a likely moderator of stressful life events. People high in the number of social supports report not only the occurrence of more positive events than do people who are low in number of social supports but they also report that the positive events are more expectable and exert a greater impact on their lives. In addition, they believe they have more control over the positive events. Our findings in this regard are consistent with evidence reported by Lefcourt, Miller, Ware, and Sherk (1981) and Sandler and Lakey (1982). People high in number of social supports may experience more rewarding interpersonal relationships than do those who are low in social support.

Although the significant SSQ-N differences on the LES occurred only for positive events, there were a number of significant SSQ-S differences on negative events. This difference in relation between SSQ-N and SSQ-S quintiles and the two classes of life events also indicates that the number and satisfaction scores of the SSQ are tapping two different aspects of social support and justifies further comparisons between them.

The expectation that internality would be positively related to social support was borne out by the locus of control measure. However, the question on the LES dealing with the control indicates that a more complex relation may exist. SSQ-N scores were positively related to belief in control over positive events. For SSQ-S scores, there was a negative relation with belief in control over negative events. Thus, both the class-of-event and the type-of-social-support measures may be important in the relation that occurs.

The prediction that self-esteem is positively related to social support is borne out by this study. This finding complements the findings of Study 2, because self-esteem and

measures of psychological discomfort should be inversely related.

#### Study 4

The idea that social support functions as a buffer against the stresses and strains of life has been expressed by many writers. Much clinical evidence and anecdotal data (Sarason et al., in press) seem to back up the idea that positive relationships with significant others foster self-reliance and the ability to persevere in the face of obstacles and distractions. Appealing as this concept is, there is a need for experimental research on the role played by social support when people must perform in demanding situations. This study was designed to help fill this need. In the previous studies, all the measures were self-report questionnaires. Study 4 deals with the relation of self-report measures to behavior in a laboratory situation.

The study related two individual-difference variables to persistence on a task made frustrating by virtue of the fact that some of the problems assigned to subjects were insoluble. The task involved solving mazes so complex that subjects could not be sure that the insoluble ones were, in fact, insoluble. Persistence in working on the maze task was used as a measure of ability to cope with frustration. In addition to persistence, cognitive interference was examined as a dependent variable.

The two individual-difference variables were the number score on the Social Support Questionnaire (SSQ-N) and the score on the Nowicki and Duke (1974) measure of Internal-External Locus of Control (I-E). It predicted that externally oriented subjects low in social support would be least able to withstand the frustration, uncertainty, and threat to self-esteem posed by the maze task.

#### Method

*Subjects.* The subjects were 40 undergraduates taking an introductory psychology course at the University of Washington. Serving in the experiment helped the students fulfill a course research-participation requirement. Prior to and independent of the maze experiment, subjects filled out the Social Support Questionnaire and Locus of Control questionnaire. On the basis of scores on these instruments, they were divided into four groups

Table 4  
Mean Time (in Minutes) Spent on First Insoluble Problem

Locus of control	SSQ number score	
	High	Low
External	12.58	9.77
Internal	12.26	13.23

Note. SSQ = Social Support Questionnaire.

that comprise a  $2 \times 2$  factorial design. The four groups consisted of subjects who were high scorers on SSQ-N who were internals, high scorers on SSQ-N who were externals, low scorers on SSQ-N who were internals, and low scorers on SSQ-N who were externals.

High and low scores on these instruments were defined by scores above and below the medians determined for the entire class ( $N = 410$ ), which filled out the questionnaires. The SSQ-N mean was 99.90; the Locus of Control mean was 9.75.

The 10 subjects in each of the four experimental groups were equally divided between men and women. Because there were no sex differences on the dependent measures, the results will be presented for men and women combined.

*Procedure.* The subjects, who were tested individually, were assigned the task of solving four maze problems. They were given 50 copies of each maze and were instructed to attempt to solve each problem, taking a new copy after deciding that a solution attempt had been unsuccessful. After going on to a new copy, subjects were instructed not to return to an earlier one. Two of the mazes were soluble and two were insoluble.

The subjects were told that there was no time limit and that they could terminate work on the mazes by indicating their desire to do so to the experimenter. Actually, the experimenter allowed the subjects no more than 30 minutes to work on the mazes.

After the maze task had been terminated, each subject completed the Cognitive Interference Questionnaire (CIQ; Sarason, 1978), which provides a measure of self-preoccupying thoughts that interfere with task performance. ("I thought about how poorly I was doing" is an example of the CIQ items.)

## Results

Only data for the first insoluble problem are presented, because several subjects' persistence on this problem was of such duration that they could not complete later portions of the task. Table 4 presents the lengths of time subjects in the four experimental groups devoted to the first insoluble problem. The only significant result of an analysis of variance that was performed was for the Social Support  $\times$  Locus of Control interaction,  $F(1, 36) = 4.93, p < .03$ . Table 5 presents the CIQ

scores for the four groups. Externals reported more cognitive interference than did internals,  $F(1, 36) = 6.60, p < .01$ , whereas the low-SSQ-N group reported more cognitive interference than did high-SSQ-N scorers,  $F(1, 36) = 4.87, p < .05$ . The interaction was also statistically significant,  $F(1, 36) = 5.95, p < .02$ . As Table 5 illustrates, the main effect differences were primarily attributable to the interaction effects, the group composed of externals who were low in social support showing more cognitive interference than the other three groups.

## Discussion

This study suggests that social support in interaction with locus of control is significantly related to both persistence and cognitive interference on a complex, challenging, and frustrating task. Persistence plays a positive role in adaptation to life. For example, in an academic environment, long periods of time may pass without students getting any feedback about their work. Students' confidence in their ability ultimately to achieve their goals and their personal security during periods of uncertainty help them persist. It reinforces the picture gained from the three studies reported earlier and from the theoretical work that led to the establishment of the concept as a basis for experimental study. People who are high in social support seem to have positive self-concepts, be low in anxiety as reflected by cognitive interference, and have a belief in their own ability to control aspects of their environment. The task in the present study was a challenging, somewhat stressful one for the subjects. The results suggest that a high level of social support, combined with an internal locus of control, may

Table 5  
Cognitive Interference Questionnaire (CIQ) Scores

Locus of control	Social support	
	High SSQ	Low SSQ
External	21.20	28.60
Internal	21.00	20.90

Note. SSQ = Social Support Questionnaire.

function as a buffer against the deleterious effects of stress.

This study suggests that the experimental manipulation of social support may be useful in providing a better understanding of the concept. People who differ in perceived support may respond in different ways to experimentally created support conditions. Sarason's recent study (1981) suggests two ways of experimentally manipulating social support.

### General Discussion

The discussion following each study comments on the relations found between social support and specific variables investigated. Those sections also explore the implications of the findings in terms of predictions made from earlier theoretical work and experiments on the topic. Therefore, this section will focus only on the more general implications of these studies.

We have described a new instrument designed to measure social support. The reliability of the instrument is quite high and its correlations with other measures contribute steps to understanding the relation of social support to personality indexes of well-being and self-esteem. The SSQ does not seem to be highly biased by the social desirability response set. The SSQ investigates two aspects of social support: (a) the number of perceived social supports in a person's life and (b) the degree to which they are personally satisfying. The variables—perceived number of supports and satisfaction with supports—were demonstrated to be two rather separate aspects of the general concept. The studies reported here show that both these factors need to be considered separately in future research.

SSQ scores are related to the experience of anxiety, depression, and hostility. However, it is also clear (Study 2) that men and women show different relations between their SSQ scores and these personality variables. This finding may be a function of women's tendency to admit to more symptomatology than do men (Weissman & Klerman, 1977).

People high in social support seem to experience more positive (desirable) events in their lives, have higher self-esteem, and take

a more optimistic view of life than do people low in social support. In general, low social support seems related to an external locus of control, relative dissatisfaction with life, and difficulty in persisting on a task that does not yield a ready solution.

Although the studies reported here are only beginning steps in mapping the social support construct, they do suggest that the SSQ may be a useful instrument in quantifying the perceived availability of and satisfaction with social supports. Baseline measures of these variables can be used to assess changes that take place in a person's life. For example, Are there changes in perceived social support as a function of experiences like psychotherapy and illness? Social support measures could also play roles in experimentation in the areas of personality and social psychology. For example, Do people differing in social support differ in helping behavior and their response to attitude-change manipulations? How can supportive relationships within complex organizations (for example, the military, schools, clinics) be enhanced so as to maximize performance and minimize unwanted stress?

One of the most important questions about social support concerns the relations between social support and social skills. Do people have many or few social supports because of their levels of social skill? To what degree can social skills be regarded as outcomes of socially supportive experiences earlier in one's life? Social support and social skills may be related in complex ways. Clinical, developmental, and experimental studies are needed to provide information about these relations.

Of equal importance, perhaps, is the question of whether, and if so how, social support functions as a buffer against stress. In Sarason's investigation (1981), mentioned earlier, social support was studied as a manipulated rather than as an assessed characteristic. He showed that performance and self-preoccupation (as measured by the Cognitive Interference Questionnaire) were affected by specially created opportunities for social association and acceptance by others. Performance increased and self-preoccupation decreased as a function of social support manipulations. The time now seems ripe for

studies that investigate social support simultaneously from assessment and experimental standpoints.

Recent discussions on the role of social support have greatly proliferated in the clinical literature. More often than not, they have been presented on conceptual and conjectural bases. Empirical approaches to social support research are now necessary in order to disentangle the relative contributions of perceived support, satisfaction with support perceived to be available, actual support available in the environment, and personality moderator variables to both the acquisition and the effectiveness of social support. The work reported here presents a potentially useful tool for such research and suggests possibly fruitful avenues of approach for social support investigation.

### Reference Notes

1. Miller, R. S., & Lefcourt, H. M. *Social intimacy: An important moderator of stressful life events*. Unpublished manuscript, University of Waterloo, 1980.
2. Miller, R. S., & Lefcourt, H. M. *The assessment of social intimacy*. Unpublished manuscript, University of Waterloo, 1980.

### References

- Andrews, G., Tennant, C., Hewson, D., & Schonell, M. The relation of social factors to physical and psychiatric illness. *American Journal of Epidemiology*, 1978, 108, 27-35.
- Auerbach, S. M., & Kilmann, P. R. Crisis intervention: A review of outcome research. *Psychological Bulletin*, 1977, 84, 1189-1217.
- Barrera, M., Jr., Sandler, I. N., & Ramsay, T. B. Preliminary development of a scale of social support: Studies on college students. *American Journal of Community Psychology*, 1981, 9, 435-447.
- Bowlby, J. *Attachment and loss: Vol. 1. Attachment*. London: Hogarth Press, 1969.
- Bowlby, J. *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. London: Hogarth Press, 1973.
- Bowlby, J. *Attachment and loss: Vol. 3. Loss*. New York: Basic Books, 1980.
- Bradburn, N. M. *The structure of psychological well-being*. Chicago, Ill.: Aldine, 1969.
- Brim, J. A. Social network correlates of avowed happiness. *Journal of Nervous and Mental Disease*, 1974, 58, 432-439.
- Bronfenbrenner, U. Some familial antecedents of responsibility and leadership. In L. Petruccio & B. M. Bass (Eds.), *Leadership and interpersonal behavior*. New York: Holt, Rinehart & Winston, 1961.
- Cantril, A. H., & Roll, C. W. *Hopes and fears of the American people*. New York: Universe Books, 1971.
- Caplan, G. *Support systems and community mental health*. New York: Behavioral Publications, 1974.
- Coyne, J. C. Depression and the responses of others. *Journal of Abnormal Psychology*, 1976, 85, 186-193.
- Crowne, D., & Marlowe, D. *The approval motive*. New York: Wiley, 1964.
- De Araujo, G., Dudley, D. L., & Van Arsdell, P. P., Jr. Psychosocial assets and severity of chronic asthma. *Journal of Allergy and Clinical Immunology*, 1972, 50, 257-263.
- De Araujo, G., Van Arsdell, P. P., Jr., Holmes, T. H., & Dudley, D. L. Life change, coping ability, and chronic intrinsic asthma. *Journal of Psychosomatic Research*, 1973, 17, 359-363.
- Eaton, W. W. Life events, social supports, and psychiatric symptoms: A re-analysis of the New Haven data. *Journal of Health and Social Behavior*, 1978, 19, 230-234.
- Eysenck, H. J., & Eysenck, S. B. *Manual: Eysenck Personality Inventory*. San Diego, Calif.: Educational and Industrial Testing Service, 1968.
- Heller, K. The effects of social support: Prevention and treatment implications. In A. P. Goldstein & F. H. Kanfer (Eds.), *Maximizing treatment gains: Transfer enhancement in psychotherapy*. New York: Academic Press, 1979.
- Henderson, S. A development in social psychiatry: The systematic study of social bonds. *Journal of Nervous and Mental Disease*, 1980, 168, 63-69.
- Hirsch, B. J. Natural support systems and coping with major life changes. *American Journal of Community Psychology*, 1980, 8, 159-172.
- Kelly, J. G., Muñoz, R. F., & Snowden, L. R. Characteristics of community research projects and the implementation process. In R. F. Muñoz, L. R. Snowden, & J. G. Kelly (Eds.), *Social and psychological research in community settings*. San Francisco: Jossey-Bass, 1979.
- Lefcourt, H. M., Miller, R. S., Ware, E. E., & Sherk, D. Locus of control as a modifier of the relationship between stressors and moods. *Journal of Personality and Social Psychology*, 1981, 41, 357-369.
- Lewinsohn, P. M., & Talkington, J. Studies on the measurement of unpleasant events and relations with depression. *Applied Psychological Measurement*, 1979, 3, 83-101.
- Luborsky, L., Todd, T. C., & Katcher, A. H. A self-administered social assets scale for predicting physical and psychological illness and health. *Journal of Psychosomatic Research*, 1973, 17, 109-120.
- Marlowe, D., & Crowne, D. P. Social desirability and response to perceived situational demands. *Journal of Consulting Psychology*, 1961, 25, 109-115.
- Medalie, J. H., & Goldbourt, U. Angina pectoris among 10,000 men: II. Psychosocial and other risk factors as evidenced by a multivariate analysis of a five-year incidence study. *American Journal of Medicine*, 1976, 60, 910-921.
- Miller, P., & Ingham, J. G. Friends, confidants, and symptoms. *Social Psychiatry*, 1976, 11, 51-58.
- Miller, P., Ingham, J. G., & Davidson, S. Life events, symptoms, and social support. *Journal of Psychosomatic Research*, 1976, 20, 515-522.
- Murphy, L. B., & Moriarty, A. E. *Vulnerability, coping, and growth from infancy to adolescence*. New Haven: Yale University Press, 1976.
- Nowicki, S., & Duke, M. P. A locus of control scale for

- non-college as well as college students. *Journal of Personality Assessment*, 1974, 38, 136-137.
- Nuckolls, K. B., Cassel, J., & Kaplan, B. H. Psychosocial assets, life crises, and the prognosis of pregnancy. *American Journal of Epidemiology*, 1972, 95, 431-441.
- Renne, K. S. Measurement of social health in a general population survey. *Social Science Research*, 1974, 3, 25-44.
- Rosenberg, M. *Society and the adolescent self-image*. Princeton, N.J.: Princeton University Press, 1965.
- Sandler, I. N. Social support resources, stress, and maladjustment of poor children. *American Journal of Community Psychology*, 1980, 8, 41-52.
- Sandler, I. N., & Lakey, B. Locus of control as a stress moderator: The role of control, perceptions, and social support. *American Journal of Community Psychology*, 1982, 10, 65-80.
- Sarason, I. G. Interrelationships among individual difference variables, behavior in psychotherapy, and verbal conditioning. *Journal of Abnormal and Social Psychology*, 1958, 56, 339-344.
- Sarason, I. G. The Test Anxiety Scale: Concept and research. In C. D. Spielberger & I. G. Sarason (Eds.), *Stress and anxiety* (Vol. 5). Washington, D.C.: Hemisphere, 1978.
- Sarason, I. G. Test anxiety, stress, social support. *Journal of Personality*, 1981, 49, 101-114.
- Sarason, I. G., Johnson, J. H., & Siegel, J. M. Assessing the impact of life changes: Development of the Life Experiences Survey. *Journal of Consulting and Clinical Psychology*, 1978, 46, 932-946.
- Sarason, I. G., Sarason, B. R., & Johnson, J. H. Stressful life events: Measurement, moderators, and adaptation. In S. R. Burchfield (Ed.), *Stress: Psychological and physiological interactions*. Washington, D.C.: Hemisphere, in press.
- Sosa, R., Kennell, J., Klaus, M., Robertson, S., & Urrutia, J. The effect of a supportive companion on perinatal problems, length of labor, and mother-infant interaction. *New England Journal of Medicine*, 1980, 303, 597-600.
- Vaillant, G. E. Natural history of male psychological health: II. Some antecedents of healthy adult adjustment. *Archives of General Psychiatry*, 1974, 31, 15-22.
- Vaillant, G. E. *Adaptation to life*. Boston: Little, Brown, 1977.
- Weiss, R. S. The provisions of social relations. In Z. Rubin (Ed.), *Doing unto others*. Englewood Cliffs, N.J.: Prentice-Hall, 1974.
- Weissman, M. M., & Klerman, G. L. Sex differences and the epidemiology of depression. *Archives of General Psychiatry*, 1977, 34, 98-111.
- Winefield, H. R. Social support and the social environment of depressed and normal women. *Australian and New Zealand Journal of Psychiatry*, 1979, 13, 335-339.
- Zuckerman, M., & Lubin, B. *Manual for the Multiple Affect Adjective Check List*. San Diego, Calif.: Educational and Industrial Testing Service, 1965.

Received January 4, 1982 ■