MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A
Assessed and Experimentally Provided Social Support

Irwin G. Sarason
Barbara R. Sarason
Karen C. Lindner

The University of Washington

October 18, 1983
Technical Report
Approved for Public Release

Prepared for:
OFFICE OF NAVAL RESEARCH
800 North Quincy Street
Arlington, Virginia 22217

This program was sponsored by the Organizational Effectiveness Research Program, Office of Naval Research (Code 442).
Under Contract Number N00014-80-C-0522, NR 170-908

Reproduction whole or in part is permitted for any purpose of the United States Government.
Two studies were performed in which subjects differing in assessed social support were either given experimentally-provided support or control or comparison conditions. For measures of both performance and cognitive interference, significant interactions were obtained between assessed and experimentally provided social support. The findings were consistent with the idea that a low level of social support in a person's life is a vulnerability factor. However, they also suggested that it is possible to devise interventions that facilitate task-relevant thinking and performance.
Abstract

Two studies were performed in which subjects differing in assessed social support were either given experimentally-provided support or control or comparison conditions. For measures of both performance and cognitive interference, significant interactions were obtained between assessed and experimentally provided social support. The findings were consistent with the idea that a low level of social support in a person's life is a vulnerability factor. However, they also suggested that it is possible to devise interventions that facilitate task-relevant thinking and performance.
Assessed and Experimentally Provided Social Support

The literature on social support has proliferated dramatically in recent years because of a variety of informal observations and theoretical-research advances. Supervisors recognize the motivational value for workers of supervisory interest and involvement. Health professionals note the salutary effects of their attention and expressed concern on patient's well-being in recovery from illness. Psychotherapists try to provide their clients with the acceptance needed to pursue self-examination. Members of military organizations develop strong, mutually reinforcing ties with each other that contribute to their success and survival.

In addition to this type of generally informal observational data, the United States' military experience in Viet Nam produced provocative evidence concerning the relationship of social support under stress to later well-being. The readjustment problems among Viet Nam veterans have been unusually high, recent estimates placing it anywhere from 20 to 60 percent (Friedman, 1981). Several causes for this high rate of post-stress syndrome have been suggested. The war was a controversial one and many members of the military felt that the public failed to display sympathy and backing for their efforts and sacrifices. Perhaps even more important was the change in military procedure in which, unlike the practice of previous wars, soldiers entered and left the Viet Nam combat area as individuals, not as cohesive groups.

Several hundred articles have been published in the past few years that deal with social support (Gottlieb, 1983). Developmental and social psychological theories have stimulated much of this work. One of the most
influential theorists has been John Bowlby, whose ideas concerning attachment have encouraged research into the supportive role of social relationships among both adults and children (Bowlby 1969, 1980). Spurred on by both formal and informal theories, researchers have begun to investigate in a systematic fashion a variety of aspects of social support, including how it contributes to performance, positive adjustment and personal development and also the way it might provide a buffer against the effects of stress.

Despite the growth of interest in the topic, the tasks of empirically demonstrating social support's effects and specifying the mechanisms involved in these effects have barely begun. One of the barriers to objective research has been the lack of a reliable, general, and convenient index of social support. Some researchers have simply gathered information about subjects' confidants and acquaintances; others have focused their attention on the availability of helpful others in coping with certain work, family, and financial problems; and still others have devised questionnaires and other techniques to assess social support. These devices range from simple paper and pencil tests to detailed interview schedules.

The diversity of measures of social support is matched by the diversity of conceptualizations concerning its ingredients. However, regardless of how it is conceptualized, social support would seem to have two basic elements: 1) the number of available others to whom one can turn in time of need and 2) the degree of satisfaction with the available support. Sarason, Levine, Basham and Sarason (1983) have constructed an instrument, the Social Support Questionnaire, that assesses these dimensions of social support. The Social Support Questionnaire (SSQ) seems to be a reliable, psychometrically satisfactory instrument. Scores on the SSQ seem more strongly related to
positive than negative life changes and have an inverse relationship to psychological discomfort, although this last relationship is stronger among women than men. As measured by the SSQ, social support seems to be an asset in enabling a person to persist in a task under frustrating conditions.

Until recently, most of the literature on social support has been clinical, impressionistic and speculative. This literature has been valuable in directing attention to the relevance of social ties to personal adjustment. However, there has been insufficient research that uses the careful controls and manipulations characteristic of experiments (B. Sarason, in press). This report describes two experiments that deal with the behavioral and cognitive dimensions of social support. The research was stimulated by the need to specify mediational processes involved in producing the effects of social support. The time seems particularly ripe for well controlled studies of social support because of the availability of a reliable measuring instrument. In the research described in this report, social support was assessed as an individual difference variable using the SSQ. Subjects differing in assessed social support performed on tasks after either receiving experimentally provided social support or a neutral condition. It thus was possible to determine the joint effects of social support in one's life and experimental manipulations of support in particular situations.

A topic of special interest in this research was the possibility that, to some extent, specially provided support might compensate for lack of social support in the lives of some people. Demonstration of positive effects on performance of specially provided support might have significant implications for understanding how organizations function, the ability of groups of people to achieve their goals, and the process of personal development.
Study 1

The ability to develop appropriate problem-solving strategies is an important factor in many situations. This study investigated the relationships of assessed life changes, social support and experimentally provided social support to performance in a problem solving situation. Life changes were included in the research design because of the possibility that social support might interact with life changes in influencing performance. While many studies have provided correlational evidence about the relationships among life changes and social support, very few investigations have examined these variables simultaneously in an experimental framework.

Method

Design

The study was organized as a 2x2x3 experimental design with two levels of life change, two levels of assessed social support, and three levels of experimentally provided social support.

Subjects

The 113 subjects were undergraduate psychology students at the University of Washington who received credit for research participation in their psychology classes.

Their levels of life changes were assessed using the Life Experiences Survey (LES) (Sarason, Johnson & Siegel, 1978). Half of the subjects had high scores on the LES index of recent negative life changes; the remaining subjects had relatively low scores on this index. Prior to the experiment, a large group of undergraduates had been administered the LES and the SSQ.
Subjects were categorized as being either low (scores of 8 or below) or high (scores of 9 or above) on the LES negative events scale. For the SSQ Satisfaction scale (SSQS), individuals with scores of 1.80 or less were designated the high support group while those with SSQS scores of 1.81 or more were designated the low support group.

Subjects were selected so as to fill the 4 cells represented by high and low LES and high and low SSQS scores. Subjects in each of these four groups were contacted by telephone and randomly assigned to experimental and control conditions until at least 8 subjects were obtained for each cell of the 2x2x3 matrix.

Procedure

The experimental social support intervention was a part of the instructions for performance on the problem-solving task. The task was the Means-Ends Problem Solving test (MEPS) (Platt and Spivack, 1975) which taps the ability to define a problem, conceive of options available for action, and see the necessary means and potential obstacles that comprise a plan of action. Problems involving work situations, interpersonal relations, and emotional reactions relevant to an undergraduate population were chosen. All of the problems required subjects to write about problems involving a same-sex protagonist.

The subjects were presented with five MEPS-type problems and asked to write the middle of a story, whose beginning and end were provided. A sample problem was:

M was feeling pressured for time to meet her(his) responsibilities while both working and going to school. She(he) needed to continue
to both work and go to school... The story ends with M feeling better about how she(he) balanced her(his) responsibilities with the time she(he) had. You begin the story with M being pressured for time.

The stories were scored using the procedure described by Platt and Spivack (1975) to assess subjects' abilities to formulate the protagonist's problem, use thinking as a step toward problem resolution, and state specific means applicable to achieving the protagonist's goals. The subjects' stories were scored by three assistants who were trained until they reached a level of 80% agreement in scoring. Pairs of scorers scored all 113 stories written about a particular problem and any differences in scoring were discussed and resolved.

The 113 subjects were administered the MEPS in small groups with subjects seated around a large table. After consent forms had been completed, the experimenter handed out MEPS story packets and read the instructions.

All subjects were told:

We are interested in investigating how people generate solutions to problems. Today we will ask you to make up some stories. For each story you will be given the beginning of the story and how the story ends. Your job is to make up a story which connects the beginning that is given you with the ending given you. In other words, you make up the middle of the story. Do you have any questions?

Individuals who got only these instructions comprised a control condition.
The experimental social support (ESS) intervention was included as part of the instructions for the task. Subjects who received this condition were told:

Some of you will feel uneasy about writing stories. Remember you are not the only person who feels this way. Just relax and do your best. Do you have any questions? I'll be available to you throughout your work to answer any more questions that you have. After you are done, please take your stories next door and there will be someone to debrief you and give you any more information that you should want or need.

These instructions were designed to provide subjects with reassurance and encouragement and to let them know that help was available at any point during the experimental session.

In the third experimental condition, subjects were told:

Writing stories does not bother most people. We expect you to have no trouble with the task. Just get busy and do your best. You have the instructions now. I will not be able to answer any more questions for you. After you are done, please take your stories next door and there will be someone to debrief you.

These instructions were regarded as a restricted social support condition in that subjects were not given encouragement and were not given the opportunity to seek help during the session should they feel they needed it.

Following the problem-solving task, the Cognitive Interference Questionnaire (Sarason and Stoops, 1978), was administered. It asks subjects to indicate specific kinds of task-irrelevant thoughts which
might have occurred while working on a particular task. In addition, subjects filled out a brief questionnaire which asked them to rate the experimenter. They also completed rating scales describing how they felt they had performed on the MEPS.

Results

Ratings of subjects' stories were analyzed using analysis of variance for the following measures:

1. Formulation score. The degree to which the subject formulated the problem presented to the subject in the first part of the story.
2. Thinking score. The degree to which a subject described the protagonist as thinking about a problem before initiating action.
3. Initiative score. The degree to which the protagonist initiated the solution, followed up on another character's action, or passively accepted a solution, or did not solve a problem.
4. Relevance score. The degree to which the protagonist's problem-solving steps were relevant to goal attainment.

For each measure, subjects' scores were summed over all stories.

As a manipulation check, subjects were asked to rate their experimenter on several dimensions. Subjects who were given social support rated their experimenters as significantly more supportive ($F (2,102)=4.038$, $p<.02$) and pleasant ($F (2,102)=3.662$, $p<.03$) than did subjects in other groups.

Each analysis of variance included four factors: life changes (LES-N), social support (SSQS), sex, and experimental social support (ESS). The only significant result in the Formulation analysis was for the LESN-SSQS interaction ($F (1,88)=7.272$, $p<.01$). This interaction
was caused by the fact that low LESN—high SSQS subjects emphasized problem formulation to a greater degree than did high LESN—high SSQS subjects. For low LESN subjects, high SSQS scores were also associated with higher Formulation scores than was the case for low LESN—low SSQS subjects. However, this difference was not statistically different.

The only significant result in the Use of Thinking analysis was the main effect for assessed Social Support ($F(1,88)=3.847, p<.05$). The low SSQS group emphasized thinking as a step toward problem resolution more often than did high SSQS subjects.

There were two significant $F$s in the Initiative analysis. One was for SSQS x ESS ($F(2,88)=4.913, p<.01$) and the other was for the four-way interaction ($F(12,88)=6.128, p<.01$). Comparisons of the means involved in the SSQSxESS interaction showed that for the control group, those with higher assessed social support had significantly higher Initiative scores ($p<.05$) than subjects with lower assessed social support. Experimentally provided social support was associated with significantly lower Initiative scores ($p<.01$) for high than low SSQS subjects. For low SSQS subjects, the experimental support condition was associated with the highest initiative, while for high SSQS subjects, the control condition was associated with the highest Initiative scores. Table I presents the means for the SSQS X ESS interaction.

The Relevance analysis yielded a significant four-way interaction ($F(1,88)=4.201, p<.05$). An analysis of variance was also performed on the Cognitive Interference Questionnaire, which was administered subsequent to MEPS performance. There were two significant results for
the SSQS (F (1,88)=8.79, p<.05) and Sex (F (1,88)=7.537, p<.05) variables. Low SSQS subjects reported being distracted significantly less often (22.74 vs. 24.14) than did high SSQS subjects. Women reported less distraction than did men (22.32 vs. 24.73).

Discussion

This research was designed to find out whether people differing in assessed social support respond differently to experimentally provided support. Our results suggest that there is a significant interaction between assessed and provided social support. Among subjects low in assessed social support, those provided with support in the experimental situation attained the highest level of problem-solving. Low SSQS subjects under the control condition had the lowest Initiative scores in the entire experiment. It had not been expected that the restricted support condition would have a salutary effect on performance, yet this seems to have been the case for low SSQS subjects. In contrast results for the high assessed social support subjects were quite clear in that the control condition was associated with the highest levels of problem solutions. Thus, support was not facilitative for subjects who report satisfaction with regard to their social support, but was facilitative for those low in satisfaction. Surprisingly, restricted support was also facilitative for low SSQ subjects. This may have happened because, even though this condition was not supportive in the usual sense of the term, the restricted support communication did serve to structure the situation by providing information concerning how subjects might react to the story completion.
task by stating that most people do not have trouble with the task. This can be interpreted as reassurance or a supportive element especially if the task does not appear too demanding. In addition, the direction "just get busy" may have served to focus attention on the task and reduce interfering thoughts.

The interaction between assessed and experimentally manipulated social support provides impetus for further investigation of experimentally manipulated support, particularly with regard to definition of the specific aspects of situations that have salutary effects on performance (Lindner, 1982). This interaction may have important implications for applied studies of human performance and organizational effectiveness, as well as theories of social support. Probably, the crucial ingredient in the experimental support condition used in this study was communication to the subject of empathy and the availability of help should it be needed. These two ingredients are at least potentially present in virtually every situation in which people perform tasks, for example, interactions among co-acting workers.

The experimental results related to cognitive processes are also of interest. Low SSQS subjects reported devoting more thought to their problem solutions than did high SSQS subjects. The meaning of this result is not clear because the quality of the stories produced was lower. There may be important differences in thinking styles between high and low social support subjects. It is possible that low social support subjects spend considerable time thinking about problems on which they are working, perhaps to the detriment of their actual performance. This may be have been particularly true for the control
condition in this experiment. Too much conscious preoccupation with
certain problems can have a negative effect. For example, the ability
to drive a car declines with increases in the driver's preoccupation
with the specific steps involved in the task. It may be that low social
support individuals perceive social situations as more difficult and
thus take a problem solving approach to them rather than an intuitive
approach. This idea also fits with the results discussed above in which
the restricted support improved the number of positive efforts described
in the stories for low SSQS, possibly by the emphasis on task
orientation and reassurance. More information is needed about the
relationship between social support and task-relevant and
task-irrelevant cognitive activity. It would be valuable to compare
individuals with different levels of assessed support in terms of their
movement from thinking about problems to action concerning them.

One surprising result of this study was that those subjects high
in SSQS reported more thoughts about task-irrelevant material than did
those low in SSQS. It may be that the task material had less motivating
quality for people who feel secure in their social relationships. They
may have allowed their minds to wander because the task appeared so easy
to them.

The results concerning the interaction between negative life events
and satisfaction with social support are intriguing. They suggest that
people low in negative life events and high in social support are more
likely to formulate problems posed to them than do people high in
negative life events and low in social support. One conjecture raised
by this finding is that individuals who have experienced many negative
life events may feel more helpless and less in control of their environment than do those whose life experiences have been relatively more positive. These results suggest the value of studying the joint effects of life changes and social support on problem-solving strategies (Miller and Lefcourt, in press).

As suggested above, the interaction between assessed and manipulated social support may be the most significant finding of this study. Whereas experimenter provided social support was a definite asset to the performance of low social support subjects, the opposite seemed to be the case for high SSQS subjects. Low SSQS subjects may think about tasks more than do high SSQS subjects. However, their thinking may not necessarily be followed by a high quality solution (this was true for example, of the control condition). It is possible that those low in social support think so much about what to do that the effectiveness of their performance is compromised. The possibility that under certain conditions people low in social support become "bogged down" in thinking is suggested also by Sarason, Levine, Basham, and Sarason's (1983) finding of a negative relationship between SSQ scores and the Neuroticism scale of the Eysenck Personality Inventory. The difference between emphasis on thinking about the problem and cognitive interference in the form of worries and distracting thoughts needs to be further clarified.

Study 2

The Social Support Questionnaire yields two scores, one for number
or availability of social supports in a person's life and one for satisfaction with the support that is available. Previous research has shown the correlation between these two scores to be in the range of +.30. In Study 1, the measure used was the Satisfaction score (SSQS). When the data for Study 1 were reorganized in terms of the SSQ Number score (SSQN), the results were essentially the same as those described above, except that the levels of statistical significance were lower. In Study 2 the subjects were selected on the basis of SSQN rather than SSQS.

Study 2, like the previous one, dealt with the interaction between assessed and experimentally provided social support. The major differences between the studies were that 1) the social support measure reflected number of available supports rather than satisfaction with the support available and 2) the task was a more traditional intellective problem-solving task, anagrams. Prior to working on the anagrams, the subjects were either provided with social support or given no special intervention. The anagrams task seemed particularly appropriate since previous research has shown a significant relationship between performance on difficult anagrams and cognitive interference (Sarason & Stoops, 1978).

**Method**

**Subjects**

The subjects were 80 students enrolled in undergraduate psychology classes. High and low SSQN subjects were divided on the basis of scores above and below the median for a large group of students from whom the
subjects were selected. High SSQN subjects had scores of 100 and above; low SSQN subjects had scores below 100.

Procedure

The study took the form of a 2x2x2 design, with the following variables: 1) high and low SSQN scores, 2) males and females and 3) experimental social support and a control condition.

The subjects were tested in small groups. The anagrams instructions were:

I will give you a series of disarranged words and your job will be to rearrange each group of letters so that they make a meaningful English word. Start when I give you the signal. I’ll let you know when the time is up.

The experimenter then said:

Ability to organize material such as the letters on the next page has been found to be an important component of intelligence. Most college students should be able to successfully complete all the anagrams.

The subjects were given 15 minutes to complete the 13 anagrams which were of high difficulty level (Sarason, 1961).

Previous research has shown that instructions such as the ones above are effective in arousing an achievement orientation in subjects. The aim of Study 2 was to determine the degree to which either assessed or experimentally manipulated social support might serve as a buffer with regard to the mild stress associated with performing a challenging task under time pressure.
Subjects in the control condition were given only the instructions above. Subjects in the experimental condition were told the following before they began working on the anagrams:

I'll be next door while you work on the anagrams. If you need me for any reason or if you have any questions don't hesitate to come in. I appreciate your participation in this experiment, and I'd like to be helpful if you should need any help.

Pilot work for both Study 1 and Study 2 had shown that subjects do not seek out the experimenter for help. In fact, no subject in either Study 1 or Study 2 sought help. This is not surprising since the tasks were presented quite clearly to the subjects. However, informal comments by subjects after Study 2 indicated that subjects in the experimental group had noted the offer of help and appreciated it.

After the anagrams task, the subjects completed the cognitive Interference Questionnaire, a measure of thought content during the task (Sarason & Stoops, 1978).

Results

A 2x2x2 analysis of variance was performed on the number of correct anagrams. There was a tendency for high SSQN subjects to solve more anagrams than low SSQN subjects (F(1,72)=3.10, p<.10). Subjects given the social support manipulation performed at a higher level than did subjects under the control condition (M=5.33 and 3.78, respectively), (F(1,72)=8.98, p<.01). The other significant result was the interaction between assessed and manipulated social support (F(1,72)=5.31, p<.025). This interaction was attributable to a significant difference between low SSQN subjects provided with social support and those not
provided with it (Ms=5.50 and 2.95, respectively). The comparable, but non-significant, experimental and control group means for high SSQN subjects were 5.15 and 4.61, respectively.

The analysis of variance performed on the Cognitive Interference Questionnaire scores of subjects yielded significant results for both assessed and experimentally manipulated social support. The mean CIQ score was 19.90 for high SSQN subjects; the comparable low SSQN mean was 22.65 (F,1,72)=7.71, p <.05. The mean CIQ score for subjects in the control condition was 22.55; the comparable mean for the experimental group was 20.00 (F,1,72)=6.69, p <.025). The interaction between assessed and manipulated social support was also significant (F (1,72)=9.08, p<.01). This result was caused by a significant difference between low SSQN subjects given social support (M =20.20) and those not given support (M =25.10). The comparable high SSQN means were 19.81 and 20.00 respectively.

Discussion

In addition to the main effects, this experiment showed significant interactions between assessed and manipulated social support both for performance and for post-performance reports of cognitive interference. The basis for the interaction was the facilitative effect of manipulated social support for low SSQN subjects. This result is interesting in light of Sarason, Levine, Basham, and Sarason's (1983) finding that low SSQN external locus of control subjects persisted less on a difficult task than did other subjects. These researchers also found that low SSQN externals report more cognitive interference while engaged in
problem solving. The literature on locus of control suggests that externals have relatively low confidence in their ability to get things done on their own.

The present study suggests that the experimental manipulation may have reduced the personal insecurity that often accompanies chronically low levels of social support. With this increase in self-confidence, low SSQN subjects may be able to focus their attention more completely on the task at hand rather than self-preoccupying thoughts, such as worry over their ability to accomplish assigned tasks. In this sense, manipulated social support may function as a buffer against stress for people who are low in social support.

The differences in cognitive interference levels found for high and low support subjects in Study 1 and Study 2 might be due to their different indices of social support (Satisfaction vs. Number scores of the SSQ) and the type of task employed. The task in Study 1 required subjects to solve interpersonal and cognitive-social problems whereas the anagrams of Study 2 are a more traditional cognitive challenge. Despite these differences, the studies are consistent in suggesting that, for people who report relatively low levels of social support, specially provided supportive manipulations have a facilitative effect. In addition, the results suggest that supportive manipulations are not facilitative for those who are already high in perceived support.

The time seems ripe for intensive investigation of interactions between specific dimensions of assessed social support (such as availability of and satisfaction with social support) and specific types of experimental manipulations (Sarason, 1981). In the studies reported
here the manipulations included references to the availability of help should it be needed. However, particularly in Study 1, they also included expressions of empathy for and interest in the subjects. In order to identify the most active ingredients of social support, future research should examine definitions of manipulated support that are as pure as possible without losing ecological validity.

**Conclusions**

Two important questions concerning social support are: (1) what are its causes and correlates and (2) can negative effects of social support be countered by means of special interventions (Heller, 1979). The studies reported here suggest an affirmative answer to the second question. With regard to the first question, the findings are consistent with the idea that beliefs in and expectations of self-efficacy may be related to social support. High levels of cognitive interference in low social support subjects suggest that these people may be self-preoccupied concerning their perceived low levels of ability and feelings of insecurity in social interactions and evaluative situations.

Supportive manipulations such as those used in the studies reported here may exert their influence by reducing feelings of impersonality and concerns about the unavailability of people on whom the individual can rely. People with low levels of social support and/or dissatisfaction with the support available to them may have relatively low levels of belief in the interest other people might have in them. The socially isolated individual is, in a sense, more on the spot than the individual
who has ties with others (Jones and Hobbs, 1982). Social support manipulations may reduce perceptions of social isolation.

An important question about social support concerns whether its absence is, in a sense, inflicted upon the individual or is a function of personal attributes or lack of social skills, characteristics that either drive other people away or fail to attract them. In particular, if skills are important factors and if these can be identified rather specifically, then training strategies to help individuals alter their social interaction patterns may be a useful way of increasing social support (Sarason, Sarason, Hacker and Basham, 1983). Social skills of those differing in social support (SSQN) were recently studied in an experiment in which pairs of subjects differing in assessed social support were videotaped, first while they spent five minutes getting acquainted and then in another five minute period discussing how to solve a hypothetical problem about a troublesome roommate. Each subject's social skills were then rated by the experimenter on the basis of his initial contact with the subject after the role plays. Ratings were also made by both the subject and the subject's partner. Finally independent raters who viewed the videotape also made ratings of subjects' social behavior. The physical attractiveness of the subjects based on color snapshots was also rated. Each subject completed a social competence questionnaire and several problem-solving stories designed to measure social skills. These stories resembled the ones used in Study 1.

Sarason, Sarason, Hacker and Basham found that subjects high in self-described social support scored higher than those low in social support on several measures of social skills. Those low in social
support were described by raters as less likeable and less effective than subjects with high social support scores. Of special interest were the high correlations among the subject’s appraisal of his or her own social competence, appraisals made by others, and the subject’s competence as measured by knowledge of appropriate behavior in problem situations. These results clearly indicate that individuals’ perceptions of their own social skills are similar to the opinions of others about their skill level. Not only did those high and low in social support elicit different responses from others, and have different opinions about their own skills but they also seemed to have different cognitions while actually in social situations. Those low in social support described themselves as uncomfortable in looking at others directly, having problems in getting people to notice them, and lacking confidence in their ability to make friends.

Greater physical attractiveness was associated with greater satisfaction with perceived social support. This relationship was not significant for number of supports, although those high in perceived number of supports tended to be more attractive than those low in number score. Apparently, at least for same-sex interactions, physical appearance is a less important factor than social skills in promoting positive feelings about an individual. The findings of Sarason, Sarason, Hacker and Basham together with the results of the present studies suggest that assessed and manipulated social support are related to social and cognitive problem solving, on the one hand, and social behavior, on the other. Low social support would seem to be a vulnerability factor in situations perceived by individuals as posing
demands on them. Two important questions are: Where do these vulnerabilities come from? What can be done to reduce them?

The findings of the present study suggest that some social vulnerabilities can be reduced or eliminated by especially planned interventions (Rook, 1983). There would seem to be considerable value in studying the roles of assessed and manipulated social support in situations more complex than those in the studies reported here (Argyle, 1981; Janis, 1983). For example, for certain kinds of stressful jobs, low social support people might have vulnerabilities that would suggest poor prognosis in carrying out assigned tasks. However, it may be possible to arrange situations so as to reduce the vulnerabilities. If social support is a vulnerability factor it is at least a vulnerability factor about which something can be done. Further studies involving social support assessments and manipulations could be important, both theoretically and practically.
Table 1  Initiative Score Means for Groups Differing in Social Support Questionnaire Satisfaction (SSQS) Scores and Experimental Social Support (ESS) (N's in parentheses)

<table>
<thead>
<tr>
<th>ESS</th>
<th>SSQS</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>9.78 (19)</td>
<td>12.80 (19)</td>
<td></td>
</tr>
<tr>
<td>Restricted</td>
<td>9.74 (21)</td>
<td>10.64 (17)</td>
<td></td>
</tr>
<tr>
<td>Support</td>
<td>11.63 (16)</td>
<td>8.70 (20)</td>
<td></td>
</tr>
</tbody>
</table>
Acknowledgements

This research was supported by a U.S. Office of Naval Research contract (N00014-80-C-0522.) We are indebted to Amy Culbertson, Linda Cunningham, Cathy Gilbert-Jost, William Hodge, Tim Nelson, Lillian Southwick, Brian Stapp, and Sandy Wendelin for their assistance at various stages of this research.
References


Gottlieb, B.H. Social Support as a focus for integrative research in Psychology. American Psychologist. 38, 278-287.


Rook, K.S. Promoting social bonding: Strategies for helping the lonely and socially isolated. Unpublished manuscript, University of California, 1983.


