This is to certify that the

dissertation entitled

RELATION OF SELF-EFFICACY AND SOCIAL SUPPORT
TO THE PSYCHOLOGICAL ADJUSTMENT
OF CRISIS RESIDENTIAL CLIENTS

presented by

GENE DAVID HARRIS

has been accepted towards fulfillment
of the requirements for

DOCTOR OF PHILOSOPHY degree in COUNSELING PSYCHOLOGY

Robert W. Frost
Major professor

Date NOVEMBER 11, 1991

RELATION OF SELF-EFFICACY AND SOCIAL SUPPORT TO THE PSYCHOLOGICAL ADJUSTMENT OF CRISIS RESIDENTIAL CLIENTS

By

Gene David Harris

A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

DOCTOR OF PHILOSOPHY

Department of Counseling, Educational Psychology
and Special Education

1991

ABSTRACT

RELATION OF SELF-EFFICACY AND SOCIAL SUPPORT TO THE PSYCHOLOGICAL ADJUSTMENT OF CRISIS RESIDENTIAL CLIENTS

By

Gene David Harris

Recent research has investigated the potential role of cognitive factors in mediating post-hospital adjustment behaviors associated with relapse and recovery in psychiatric patients. It was found that self-efficacy contributed significantly to the prediction of symptom distress, independently of demographics, past behavior, and outcome beliefs. Other studies have suggested that perceived social support plays a major role in the psychological adjustment (well-being) or maladjustment (distress) of individuals.

The purpose of this study was to address three primary research questions: (a) Are the internal consistencies and two-week test-retest reliabilities of a modified self-efficacy measure (PHASE2 Scale) and social support instrument (Social Provisions Scale) sufficient to warrant their use for further research purposes?, (b) What are the relations of self-efficacy and social support to subject demographics and various outcome criteria?, and (c) Are the relations of self-efficacy and social support to various outcome criteria moderated by subjects' reality-testing capacities?

A sample of 101 crisis residential clients completed the revised version of a previously developed self-efficacy measure, the Post-Hospital Adjustment Self-Efficacy Scale (PHASE2), a social support measure called the Social Provisions Scale (SPS), and a measure of symptom distress, the Brief Symptom Inventory, at the time of discharge and at a two-week follow-up ($\underline{N}$ = 51 at follow-up). Additionally, they completed at follow-up a brief Two-Weeks Post-Discharge Questionnaire which inquired, for example, whether the client had returned to work (if applicable).

Results provided support for the following statements: (1) Both the modified self-efficacy measure and the social support instrument were shown to be internally consistent and reliable over a two-week timespan; (2) the analysis of the relation of self-efficacy and social support to subject demographics and various outcome criteria yielded mixed outcomes--some of which may be understood in theoretically meaningful ways, and some of which suggest questions needing additional study; and (3) the relation of self-efficacy and social support to certain outcome criteria is, in fact, moderated by subjects' reality-testing capacities. However, heed must be given to the methodological limitations of this research.

to Shirley, Mark, and Jonathan

ACKNOWLEDGMENTS

My sincerest thanks go to my program and dissertation chairperson, Bob Lent, who was there for me through all stages of this project, as well as the years preceding it. As mentor, colleague, and advisor, his expertise, accessibility, and encouragement during this process are deeply appreciated.

Thanks and appreciation are also due to Gersh Kaufman, who not only served on my program and dissertation committees, but also was an early positive influence on me in his roles as practicum supervisor and seminar instructor. His humanness, gentleness, sincerity, and support over the years have contributed to my professional identity.

John Powell also served on both committees, and impressed me early on in his role as group practicum supervisor with his intelligence and compassion for others. His unwavering support and guidance throughout my program are gratefully acknowledged.

Dick Johnson also faithfully sat on both committees, and his expertise in research design as well as his good nature and optimism were valuable assets to me during my doctoral studies.

Special thanks are extended to the staff and clients of the crisis residential program who made this research possible with their willingness to give of their time and of themselves throughout the data collection period.

Finally, I want to acknowledge the long-suffering support of my wife, Shirley, whose love, patience, and belief in me outlasted that of other mere mortal spouses. My two children, Mark and Jonathan, who were born during this doctoral program, have been a source of great pride and motivation for me during these years. And Doug Miller has been a valued mentor, colleague, and friend among other roles, and has probably impacted me in more ways than either of us know.

TABLE OF CONTENTS

Chapter Page

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

Statement of the Problem

Nearly fifteen years ago, Albert Bandura (1977) proposed a social cognitive theory of human functioning in which the domains of behavior, environmental events, and cognitive and other personal factors function as interacting determinants of each other. Of particular interest are the mechanisms regulating the interrelationship between cognition and behavior. Specifically, Bandura suggests that the most fundamental and pervasive type of cognition influencing human behavior is that of personal efficacy. Personal efficacy, or self-efficacy, involves the effects of self-referent thought on psychosocial functioning. According to Bandura, an individual's beliefs about his or her capabilities to perform tasks specific to a given domain of functioning affect how he or she behaves, the level of motivation and extent of effort, thought patterns, and his or her affective responses in stressful circumstances. Thus, self-efficacy theory affords a common cognitive mechanism--what individuals believe they can do in particular situations--through which individuals affect their behaviors and motivation.

Self-efficacy has generated much research in various areas of psychosocial functioning, including motivation, achievement behavior, career choice and development, and athletic attainments (Bandura, 1986), as well as health-related behaviors such as substance abuse, eating disorders, cardiac rehabilitation, anxiety reactions, and depression (O'Leary, 1985). Procedures devised to modify self-efficacy utilizing differing modes of influence have been demonstrated to predict change and rate of change in differing behaviors (Bandura, 1986).

Recent research has investigated the potential role of cognitive factors in mediating post-hospital adjustment behaviors associated with relapse and recovery in psychiatric patients (Lent, Lopez, Mikolaitis, Jones, & Bieschke, in press). It was found that self-efficacy contributed significantly to the prediction of symptom distress, independently of demographics, past behavior, and outcome beliefs. This research sample, however, tended to be restricted to a more severely disturbed psychiatric population, omitting other parts of the psychiatric continuum. Choosing a sample from a residential crisis unit (also known as respite care or night care) population, which has a wide range of psychiatric categories ranging from adjustment disorder to schizophrenia, would provide a broader base upon which to test self-efficacy theory's utility and applicability as a heuristic and clinical tool.

Lent et al. (in press) also did not specifically assess the role of social support in the psychiatric patient's post-hospitalization adjustment. A number of researchers (e.g., Billings & Moos, 1985; Holahan & Holahan, 1987; Walker & Greene, 1987) have recently affirmed that perceived social support plays a major role in the psychological adjustment (well-being) or maladjustment (distress) of individuals. For instance, in a longitudinal study investigating the relationship of self-efficacy and social support to depression in aging, Holahan and Holahan (1987) found that both factors were significantly related to depression at a one-year follow-up. Other research suggests that social support may have direct benefits (related to one's degree of integration in a large social network), and also serve to "buffer" people against the potentially pathogenic influence of stressful events (Cohen & Wills, 1985; Walker & Greene, 1987).

In the event of an emotional crisis which precipitates an admission to a residential crisis unit, it is possible that people's self-efficacy beliefs regarding their ability to negotiate such a crisis, as well as important aspects of their social support system, represent variables that may affect level of adaptive functioning. Thus on an applied level, the present line of research could have major implications for the delivery of services in a residential crisis unit. For example, if it is found that people's self-efficacy beliefs predict their ability to cope with a

particular crisis, then the focus of treatment in a residential crisis unit might profit from enhancement of clients' self-efficacy beliefs. Should the results indicate that social support is a major predictor of clients' recovery, then treatment could focus upon developing and enhancing such support. Finally, if these two variables are found to interact with or complement one another, this may suggest an optimal differential treatment strategy for residential crisis clients.

Purpose of the Study

The proposed study extends Mikolaitis's (1989) and Lent et al.'s (in press) research examining the broad question of whether self-efficacy beliefs help mediate outcome among hospitalized psychiatric patients both before and after discharge. In particular, the present study investigates the relation of self-efficacy beliefs to psychological recovery (as assessed, for example, by clients' symptom distress levels) among a broad range of clients in crisis residential setting upon discharge and at a two-week follow-up. Additionally, this study examines the role that social support plays in the psychological adjustment of these clients at the same data collection points.

One of the instruments developed by Lent and his colleagues to assess patients' beliefs about their capacity to execute tasks associated with post-hospital adjustment (the Post-Hospital Adjustment Self-Efficacy Scale; PHASE)

was adapted for use with this population. The present study also employed a previously developed measure of social support, the Social Provisions Scale (Russell & Cutrona, 1985).

Research Questions

The following basic research questions functioned as a guide for the present study:

1. What is the internal consistency and two-week test-retest reliability of the modified self-efficacy (PHASE2) measure? Are these reliabilities sufficient to warrant its use for further research purposes?

2. What is the internal consistency and two-week test-retest reliability of the Social Provisions Scale? Are these reliabilities sufficient to warrant its use for further research purposes?

3. What are the relations of self-efficacy and social support <u>at point of discharge</u> to subject demographics (e.g., age, gender, marital status, ethnicity) and measures of psychological functioning (e.g., psychotic vs. non-psychotic status, number of previous crisis residential admissions, number of previous psychiatric hospitalizations, length of current stay in the crisis residential unit)?

4. To what extent do self-efficacy and social support <u>at point of discharge</u> predict <u>concurrent</u> symptom distress (BSI), independently of subject demographics and psychological functioning variables?

5. To what extent do self-efficacy and social support at point of discharge, independently of subject demographics and psychological functioning variables, predict the following criteria at two-weeks post-discharge:

   a. symptom distress (BSI)

   b. self-reported crisis resolution

   c. speed of return to work/school

   d. incidence of readmission

6. Is the relation of self-efficacy and social support to the various outcome criteria moderated by (dependent upon) subjects' reality-testing capacities (i.e, psychotic vs. non-psychotic status)?

CHAPTER II

REVIEW OF LITERATURE

In the following review, three major areas of the literature are examined. First, self-efficacy theory is briefly outlined and research investigating the relationship between self-efficacy and psychological functioning is presented. This is followed by an overview of the literature on the role of social support in the psychological adjustment process. Finally, a discussion regarding residential crisis services is included. Unless otherwise noted, an alpha level of $\leq .05$ is used in citing significant findings.

Self-Efficacy Theory

Bandura (1977) originally developed the concept of self-efficacy as a mechanism that mediates the relationship between thought and action. The theory speaks to how people judge their abilities and how their self-percepts of efficacy influence their motivation and behavior. Coping with one's environment requires more than just knowledge about what to do; it demands both skills and accurate self-appraisal of one's abilities to utilize those skills effectively. Bandura (1986) defines perceived self-efficacy as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (p. 391). High self-efficacy results

from strong beliefs in one's abilities to mobilize the motivation, cognitive resources, and plans of action necessary to meet certain environmental demands. Low self-efficacy is reflected by self-doubts regarding one's capabilities. Self-efficacy beliefs are specific to certain areas of psychosocial functioning, and may differ extensively across various areas and different environmental circumstances for the same individual. Additionally, different individuals with similar skills may achieve diverging levels of success because their behavior is partly controlled by differing estimates of their operative capabilities (Bandura, 1986).

There is a critical differentiation made in self-efficacy theory between self-efficacy beliefs and outcome expectations. According to Bandura (1986), "perceived self-efficacy is a judgment of one's capability to accomplish a certain level of performance, whereas an outcome expectation is a judgment of the likely consequence such behavior will produce" (p. 391). Because individuals rely on their self-efficacy beliefs to determine which action to take and typically view outcomes as dependent on the sufficiency of their actions, the theory considers outcome expectations as partially determined by the individual's performance judgments.

Individuals' self-efficacy beliefs influence what they decide to undertake, how much energy they use in what they have started, their thought patterns, and the affective

responses they have in burdensome circumstances. People are inclined to eschew situations and endeavors they consider as surpassing their abilities, but they select and take on activities they judge themselves proficient to manage. The greater the self-efficacy beliefs, the greater the outlay of energy and perseverence in these activities. Perceived self-inefficacy induces individuals to resign early and restricts their capacity to augment their positive self-percepts through mastery experiences. Likewise, individuals with high self-efficacy direct their cognitions into considering the exigencies of the situation, whereas individuals with low self-efficacy tend to ruminate about their considered personal inadequacies and likely adversities in a particular situation. On the affective level, efficacious persons perceive minimal strain and apprehension in stressful circumstances; those who consider themselves as inefficacious, however, view the tasks before them with substantial apprehension and anguish (Bandura, 1986).

Several considerations that may affect the strength of the relationship between self-efficacy and action have been suggested by Bandura (1986): (a) higher self-efficacy tends to promote the formation of essential subskills needed for more complex performance, while lower self-efficacy impedes the growth of such skills; (b) efficacious people who have the necessary skills for task performance may be hampered either by disincentives, such as shortage of apparatus or

other assets, or by outer restrictions of a social or physical nature; (c) temporal differences may moderate the association between self-efficacy beliefs and behavior, although the most important element is the salience of the interceding events; (d) inaccurate judgments of efficacy or performance may manifest differences in the correlation between self-efficacy beliefs and behavior; (e) incongruity between self-efficacy beliefs and behavior may ensue when either the tasks or the conditions under which they are executed are unclear; and (f) self-efficacy may be inaccurately assessed if erroneous self-knowledge skews self-assessment.

Sources of Self-Efficacy Information

Bandura (1977) theorized that self-efficacy is founded on four primary sources of knowledge or modes of influence. Enactive attainment is considered as affording the most influential source of efficacy information because it is founded upon previous achievement experiences. Personal accomplishments raise efficacy expectations, and recurrent failures lower them (Bandura, 1986). Vicarious experience also can raise or lower judgments of self-efficacy, particularly under certain conditions. Observing or imagining similar people performing tasks successfully can bolster the observer's self-efficacy judgments that he or she has the abilities to master comparable activities (Bandura, Adams, Hardy, & Howells, 1980). Conversely,

observing similar individuals failing in spite of high effort lowers observers' appraisals of their own abilities (Brown & Inouye, 1978). Verbal persuasion additionally can contribute to people's perception of their abilities to perform tasks successfully, and encourage them to try harder. However, unrealistic attributions of personal competence can undermine self-efficacy if they lead to failure experiences. Finally, one's physiological state can affect one's self-efficacy appraisals. Perceiving physiological arousal or uncomfortable symptomatology can be construed as an indication of susceptibility to dysfunction. People are more likely to expect success when they are not experiencing aversive physiological arousal.

These four experiential sources impart efficacy information, but their impact on one's self-efficacy beliefs hinges on the evaluative operations of the person. A myriad of influences, including personal, social, situational, and temporal conditions under which phenomena occur, modify how this information will be cognitively appraised by each person (Bandura, 1986). For example, some of the factors cited by Bandura (1984) as affecting individuals' appraisals of self-efficacy from enactive attainments involve how challenging the task is, the quantity of energy used, their physical and psychological state, the extent of outside assistance obtained, the circumstances around their actions,

the temporal configurations of their achievements and failures, and the sufficiency with which they observe and recollect their actions.

Self-Efficacy and Psychological Functioning

Several studies (e.g., Davis-Berman, 1988; Flannery, 1986; Holahan & Holahan, 1987; Holahan, Holahan, & Belk, 1984; Mahalik & Kivlighan, 1988; Olioff, Bryson, & Wadden, 1989; Rosenbaum & Hadari, 1985; Salovey & Birnbaum, 1989; Stanley & Maddux, 1986) have investigated the relationship between self-efficacy and depression. With the exception of one study that suggested the self-efficacy measure may have been inadequate (Flannery, 1986), self-efficacy was shown to have an inverse relationship to depression; that is, the higher one's sense of self-efficacy, the lower one's level of depression. Stanley and Maddux (1986) looked at the causal relationships between self-efficacy beliefs regarding social skills and depressed mood in two experiments. In one experiment, induced self-efficacy expectancies for an expected interpersonal encounter significantly affected mood. Low self-efficacy expectancies resulted in increased depression. In another experiment, induced mood (depressed or elated) had no impact on self-efficacy expectancies for the expected social encounter. The authors suggested that stronger mood inductions may be required to effect changes in certain self-efficacy expectancies.

Rosenbaum and Hadari (1985) tested the hypothesis that different combinations of judgments of personal efficacy and outcome expectancies (i.e, locus of control) would distinguish the cognitive organizations of normal subjects and of psychiatric patients having dissimilar conditions. Normal subjects, depressed subjects, and paranoid subjects filled out instruments which assessed beliefs in personal efficacy and beliefs that results are governed either by happenstance or by potent others, as well as an instrument which measured perceived contingency of parental reinforcement. The authors found: (a) normals considered themselves to be more efficacious than did psychiatric subjects; (b) while depressives anticipated results to be governed by chance, paranoids presumed results to be under the dominion of potent others; (c) among the normals, outcome expectancies were clearly related to personal efficacy, but among the psychiatric patients, these expectancies were unrelated; (d) depressives and paranoids equally described more noncontingent parental reinforcement than did normals; and (e) perceived contingency of parental reinforcement was predictive of outcome expectancies but not of personal efficacy. The authors concluded their data suggest that "low personal efficacy may be a distinguishing characteristic of all psychiatric patients, whereas outcome expectancies may determine the specific nature of the psychiatric disorder" (p. 539).

An interesting recent investigation by Salovey and Birnbaum (1989) explored the effects of induced moods (happy, sad, and neutral) on symptom reporting, health behavior self-efficacy, outcome expectations, and perceptions of vulnerability. In Experiments 1 and 2, participants were acutely ill, while those in Experiment 3 were healthy. Participants in Experiment 1 who felt sad described more physical discomfort than those who felt happy. Also, sad participants stated they felt less efficacious to perform illness-alleviating activities. Experiments 2 and 3 showed that the effect of mood on vulnerability perceptions (outcome expectations) is moderated by health status. Mood had little influence on vulnerability perceptions among ill participants, while healthy ones showed mood-sensitive probability estimates regarding future negative health-relevant events. That is, "(s)eeing oneself as invulnerable to future negative events was accentuated among happy Ss and attenuated among sad Ss" (Salovey & Birnbaum, 1989, p. 539). The authors concluded that their studies "provide evidence for the influence of mood on perceptions of physical symptoms, on beliefs about one's ability to carry out activities that might alleviate these symptoms, and, when feeling well, on perceptions of vulnerability to future risks" (Salovey & Birnbaum, 1989, p. 548).

Other studies (e.g., Kaplan & Brown, 1987; Kent & Gibbons, 1987; Lan & Gill, 1984; Leary, Atherton, Hill, &

Hur, 1986; Robins, 1986) have looked at the relationship between self-efficacy and anxiety. Again, overall findings suggest that self-efficacy is negatively correlated with anxious mood. Lan and Gill (1984) conducted an interesting study which, in one phase, investigated the influence of self-efficacy on physiological arousal and self-reported anxiety. Subjects reported lower cognitive and somatic anxiety and higher self-confidence, and had lower heart-rate increases when performing an easy (high-efficacious) task. After subjects finished both the easy and difficult tasks, half of them were given a cognitive feedback manipulation implying that elevated arousal levels were usual responses of good competitors under pressure. Counter to expectations, the manipulation did not produce higher self-efficacy, and the manipulation group did not vary from the no-manipulation group on self-reported anxiety scores or heart rates. The authors concluded that the results "support Bandura's contention that self-efficacy mediates arousal changes and demonstrate the influence of self-efficacy on multidimensional anxiety measures, but fail to demonstrate any influence of a cognitive feedback manipulation on self-efficacy or subsequent stress responses" (Lan & Gill, 1984, p. 227).

Two recent studies (Kinney & Williams, 1988; Williams, Kinney, & Falbo, 1989) have investigated the relationship between self-efficacy and agoraphobia. In a study by Kinney and Williams (1988), 37 agoraphobics were asked to complete

two standard fear inventories and a set of agoraphobia-related self-efficacy scales. The researchers found that the self-efficacy scales were highly predictive of agoraphobic dysfunction, whereas the fear inventories proved to be only modestly predictive. Williams et al. (1989) looked at the magnitude and mechanisms of therapeutic generalization across discrete realms of agoraphobic dysfunction. Twenty-seven severe agoraphobics were given performance-based therapy for some phobias while leaving other phobias untreated. They found that "(a) the treated phobias improved significantly more than the untreated (transfer) phobias, (b) the transfer phobias improved significantly more than control phobias, and (c) the transfer benefits were highly variable within and between subjects" (p. 436). Possible cognitive mechanisms were analyzed and showed that perceived self-efficacy reliably predicted treatment and transfer effects even when competing considerations such as prior functioning, expected anxiety, expected panic, perceived threat, and subjective anxiety were held constant. However, these competing influences lost most or all predictive value when self-efficacy was held constant. The authors concluded that agoraphobia seems to be "neither a unitary entity nor a mere collection of independent phobias, but a complexly patterned problem governed largely by self-perceptions of coping efficacy" (p. 436).

A study by Abler and Fretz (1988) examined the hypothesis that self-efficacy would contribute significantly to health as a predictor of competence in independent living among the very elderly (aged 85 and older). Sixty-seven persons (15% males, 85% females) were given measures of health, self-efficacy, psychosocial competence, and competence in activities of daily living. It was found that self-efficacy added, beyond the effects of health, to the prediction of psychosocial competence, but not to competence in activities of daily living. Status of health significantly predicted competence in activities of daily living, but not in psychosocial competence.

A study by Tran, Wright, and Chatters (1991) investigated the structural relationship among sociodemographic variables, health status, stress, psychological resources, and subjective well-being among the black elderly. Results showed that "poor subjective health status was predictive of lower levels of personal efficacy and subjective well-being" (Tran et al., 1991, p. 100). Additionally, stressful life events had a tendency to decrease subjective assessments of health and negatively impacted self-esteem and subjective well-being. Finally, marital status and age had positive effects on subjective well-being, while chronic health conditions and other demographic factors had indirect effects on well-being.

The Role of Social Support in Psychological Adjustment

During recent years, the attention given to the role of social support in health maintenance and disease etiology has grown (Caplan, 1974; Cassel, 1976; Cobb, 1976; Dean & Lin, 1977; Gottlieb, 1981, 1983; Kaplan, Cassel, & Gore, 1977; Sarason & Sarason, 1985). Many studies suggest that individuals with spouses, friends, and family members who supply psychological and tangible resources are in better health than those with fewer supportive social contacts (Broadhead, Kaplan, James, Wagner, Schoenbach, Grimson, Heyden, Tibblin, & Gehlbach, 1983; Leavy, 1983; Mitchell, Billings, & Moos, 1982). A number of prospective inquiries employing mental health outcome measures have suggested a positive link between social support and mental health (Aneshensel & Frerichs, 1982; Billings & Moos, 1982; Henderson, Byrne, & Duncan-Jones, 1981; Holahan & Moos, 1981; Turner, 1981; Williams, Ware, & Donald, 1981).

The processes through which social support is connected to mental health outcomes (and to serious physical illness outcomes), however, still need to be elucidated. Generally, it can be suggested that a deficiency of constructive interpersonal relationships results in negative psychological conditions such as anxiety or depression (Cohen & Wills, 1985). Consequently, these psychological conditions may eventually impact physical well-being either through a direct influence on bodily mechanisms that affect

vulnerability to illness, or through actions that increase the probability for illness and/or death.

Walker and Greene (1987) examined contributions of personal, family, and peer resources in safeguarding teenagers from psychophysiological symptoms connected with negative life events. Subjects were 123 new clients at an adolescent outpatient medical clinic. Results indicated that perceived personal efficacy, peer support, and family cohesion have direct effects on the symptom levels of males and females. For males, the interaction between peer support and negative life events suggested that peer support was a cushion against stress. For females, elevated peer support did not buffer stress, and low peer support was connected with high symptom levels irrespective of frequency of negative life events. Minimal family connectedness was associated with substantial symptom levels for both males and females in the absence of negative life events, implying that a deficit of family cohesion may itself be a stressor.

Strauss and Carpenter (1977) have demonstrated that social relationships may predict outcome in the adjustment of psychiatric patients. In a five-year follow-up study involving 61 of 85 individuals diagnosed with schizophrenia in their original sample (Strauss & Carpenter, 1974), it was found that level of preadmission social contacts was a better predictor of five-year multidimensional results than any of the other prognostic variables, explaining 12% to 20% of the variance in each outcome variable. In an

investigation of rehospitalization of 119 schizophrenics, Caton, Showlong, Fleiss, Barrow, and Goldstein (1985) noted a nonsignificant trend for patients with good social support to persist longer in the community than patients in situations with poor social support.

Breier and Strauss (1984) researched facets of social relationships that may be beneficial for patients convalescing from psychotic episodes (schizophrenia, bipolar disorder, major depression, and schizoaffective disorder). Semistructured interviews with 20 patients (hospitalized for psychotic episodes) were carried out bimonthly over a one-year period following discharge from the hospital. Two stages of the recovery process and 12 helpful functions of social relationships were identified by the authors. One stage of recovery, convalescence, entails recuperating from the ordeal of the psychotic episode itself. Beneficial aspects of social relationships during this stage included ventilation, reality testing, social approval and integration, material support, problem solving, and constancy. The second stage of recovery, rebuilding, concerns putting one's life back together. Helpful facets of social relationships during this stage included functions from the first stage, plus motivation, reciprocal relating, symptom monitoring, empathic understanding, modeling, and insight.

Fiore, Coppel, Becker, and Cox (1986) correlated four frequently employed operationalizations of social support

(network contact frequency, satisfaction with support, perceived availability of support, and use of support) with two measures of psychological adjustment (Beck Depression Inventory and Symptom Checklist-90). Subjects were sixty-eight 45- to 85-year-old highly stressed caregivers to spouses with Alzheimer's disease. Outcomes showed that, of the four operationalizations, satisfaction with support was the only significant predictor of depression and general psychopathology. The group of four support variables evidenced the strongest relationship to depression level, next strongest to general psychopathology, and least to physical health.

A number of investigations have found that social support is a significant factor associated with the onset and maintenance of depressive disorders (Billings & Moos, 1985; Costello, 1982; Coyne, Aldwin, & Lazarus, 1981). One study (Billings & Moos, 1985) looked at the post-treatment (recovery) phase of unipolar depression by evaluating the personal and social-environmental attributes of improved, partially improved, and unimproved depressed patients (improvement was determined by changes on the Health and Daily Living Form between treatment intake and follow-up). A 12-month follow-up of 424 depressed inpatients and outpatients (N = 380 because of attrition) comprised the research sample, and a similar follow-up of demographically matched, nondepressed individuals in the community made up the control group. Social support was gauged by number of

friends, number of network contacts, number of close relationships, quality of significant relationships, family support, and work support. Significant group differences were discovered in the number and perceived supportiveness of their social resources, with improved patients describing more social resources than unimproved patients, and partially improved patients evidencing an intermediate level of social support. Improved patients demonstrated increases in all areas of support at follow-up compared to intake data, although these increases attained statistical significance for only two variables: quality of significant relationships, and family support. Analysis results, using an index of social functioning and activity, showed significant differences between improved and unimproved patients at a 12-month follow-up, with the unimproved group functioning less actively in family and social roles, being less likely to be employed, earning less money, and securing less social support than the improved group.

A more recent study (Major, Cozzarelli, Sciacchitano, Cooper, & Testa, 1990) also looked at the relation of perceived social support and self-efficacy to the adjustment to abortion. Specifically, these researchers assessed women's perceptions of social support from significant others and their self-efficacy for coping just prior to their first-trimester abortions; then they measured depression, mood, physical complaints, and anticipation of negative consequences after the 30-minute recovery period.

According to the authors, "(a)s predicted, perceived social support enhanced adjustment indirectly through its effects on self-efficacy" (Major et al., 1990, p. 452). That is, those women who felt high social support from their significant others had higher self-efficacy for coping. In addition, higher self-efficacy predicted better adjustment on the psychological measures but not on the physical complaint measure. The authors found no direct "path" between social support and adjustment. Finally, those women who disclosed their abortion to significant others who were less than completely supportive had poorer post-abortion psychological adjustment than those women who either did not disclose their abortion at all or who did and received complete support.

Residential Crisis Services

Crisis services for individuals with acute or long-term psychological problems are a crucial component of comprehensive community support systems (Stroul, 1988). Residential crisis programs, although still not broadly employed, have been instituted in some communities and seem to have increasing allure as alternatives to acute psychiatric hospitalization for a number of clients. Crisis services supply acute care in supportive, non-hospital environments, typically either private homes or small group settings, and substantial discharge planning to connect clients with community resources.

Residential crisis programs are attractive because they afford a less confining, more normative milieu in which to care for individuals undergoing acute psychological crises than do psychiatric units, the settings utilized most frequently to temporarily disengage clients from their natural environment (Stroul, 1988). Additionally, these normative settings offer less stigmatizing and less intrusive treatment. They also may meet the compelling demand for less costly options to the astronomically rising expenses of acute hospital treatment.

The primary features of a residential crisis program can be summarized by the five criteria established for an NIMH study (Stroul, 1987):

(1) they afford housing during a crisis;

(2) their services are short-term;

(3) they offer acute treatment and support services;

(4) they assist individuals or small groups of clients; and

(5) they are utilized to avert hospitalization.

Residential crisis programs serve the two-fold aim of resolving acute crises and of cultivating clients' support network to enable them to return to community living (Weisman, 1985). They do not endeavor to supply the services required for long-term maintenance and rehabilitation.

Most residential crisis programs offer some combination of the following services: physical assessment, psychiatric

services, development of a client treatment plan, crisis counseling, family and support system consultation, connecting with ongoing community resources, social and recreational activities, instruction in daily living skills, discharge planning, and follow-up care. Discharge planning, in particular, is initiated almost immediately in an attempt to hook up the client with local providers of housing, treatment, rehabilitation, financial assistance, work, and other resources that can be utilized as a continual community support system.

Often, individuals with acute psychiatric episodes can be kept in their own environs with significant amounts of support. Residential crisis services are utilized when it is essential to temporarily remove someone in crisis from his or her surroundings. The highest priority should be given to those undergoing the severest crises, who require intensive support, structure, and supervision during the recompensation phase (Polak & Kirby, 1976).

At times it may be helpful to temporarily remove persons in crisis from their families or significant others in order to allow the relatives a break from the daily responsibilities of taking care of them (Brook, 1980; Brook, Cortes, March, & Sundberg-Stirling, 1976; Polak, 1967). Also appropriate for admission to a residential crisis unit may be those whose mental health crisis is connected to insufficient or nonexistent shelter or to a detrimental housing arrangement. Thus, a time-limited stay in a

supportive milieu can be utilized to begin relevant mental health treatment as well as to deal with the person's housing difficulties.

Several studies have demonstrated the effectiveness of the residential crisis unit in averting the need for hospitalization. A random design study by Sheridan, Zuskar, Walsh, and O'Brien (1989) wherein clients who were appropriate for hospitalization were randomly assigned to either the hospital or residential crisis unit showed that two-thirds of clients considered to need hospitalization were successfully treated in a residential crisis unit and avoided hospitalization. In another investigation (cited in Stroul, 1988), two-thirds of extremely recidivistic clients referred during a crisis to either of two Chicago residential crisis programs were stabilized and diverted from hospitalization. Stein and Test (cited in Stroul, 1988) contend that given appropriate community programming, the hospital should be utilized only to safeguard suicidal or homicidal clients from themselves or others, or to minister to those individuals with severe or disruptive psychoses. Thus, the psychiatric hospital is a back-up to community services but should not be employed to deal with every psychiatric crisis (Polak & Kirby, 1976).

CHAPTER III

METHODOLOGY

The purpose of this section is to describe the design and procedures of the study. The following sections are included: research participants, measures, procedures for data collection, design, and procedures for data analysis.

Research Participants

The sample was drawn from the population of clients admitted to a residential crisis program in a medium-sized metropolitan community in the Midwest during a 12-month interval. Clients were asked to volunteer to participate in the research project if they met specified selection criteria. Specifically, clients were deemed eligible for participation if they (a) had come to the unit in crisis (vs. transitioning from some site to the community or other institution), (b) were scheduled for discharge the following day, and (c) were able to read, write, and comprehend written materials (which ruled out most developmentally disabled, non-sighted, or cognitively disorganized clients). A total of 101 clients agreed to participate and were asked to complete the following instruments upon discharge from the facility, and at a two-week post-discharge follow-up assessment: the Post-Hospital Adjustment Self-Efficacy Scale, Revised (PHASE2), the Social Provisions Scale (SPS), and the Brief Symptom Inventory (BSI).

Measures

Personal Data Sheet

A personal data form was used to obtain information descriptive of client characteristics, including age, gender, educational background, employment and/or school attendance status, marital/relationship status, number of previous crisis residential admissions, number of previous psychiatric hospitalizations, extent of previous outpatient psychotherapy, and DSM-III-R Axis I and Axis II diagnoses. The present author completed the form on each participant based upon the crisis residential unit's and other available records.

Post-Hospital Adjustment Self-Efficacy Scale, Revised

The Post-Hospitalization Adjustment Self-Efficacy (PHASE) Scale (Lent et al., in press; Mikolaitis, 1989) was revised for the purposes of this study. The PHASE Scale originally was developed by a team consisting of two Ph.D. psychologists and a psychology doctoral candidate. The scale was developed on the basis of empirical research on the factors affecting post-hospital adjustment of psychiatric patients, and the clinical experience of the team. In addition, psychiatrists and clinicians knowledgeable in the area of psychiatric treatment and outcome were asked to review and provide feedback on the scale; their input was used to modify the scale. Lastly, Albert Bandura, originator of the theory of self-efficacy (Bandura, 1977) and the pioneer researcher in the field,

reviewed the scale and suggested modifications that were incorporated into the final version of the original PHASE Scale. In the current revision, the input of both crisis residential staff and crisis residential clients was utilized to make the PHASE Scale more appropriate for this population.

Specifically, two crisis residential staff and two crisis residential clients were asked independently what factors they thought were important in helping clients get through their crises. The suggested factors were then compared to those already contained in the original PHASE Scale. New items were generated for those factors not found in the PHASE Scale, namely assertiveness, flexibility, coping with major loss, avoidance of self-imposed social isolation, lack of apprehensive expectation, problem-solving perseverence, and crisis management. Utilizing the results of the factor analysis Mikolaitis (1989) conducted on the original PHASE Scale, the instrument was further revised by omitting those items shown to be "too easy" (i.e., mean $\geq$ 3). Of the remaining items which loaded heavily (12 of 18 items) on a "general self-efficacy" factor, some were rephrased to increase their level of difficulty.

The revised PHASE Scale, to be referred to here as the PHASE2 Scale, consists of 25 items which focus on fairly specific behaviors in the following areas: a) general post-hospital adjustment self-efficacy; b) interpersonal coping; c) self-control; d) symptom insight and help-seeking

behavior; and e) social resources and support. Self-efficacy is assessed by asking participants to indicate whether they believe they can successfully perform each of the specific behavioral tasks at the present time. Participants respond by indicating how confident they are that they can perform each task on a five-point scale ranging from "not at all sure" (0) to "completely sure" (4). Strength of self-efficacy is gauged by the participants' confidence ratings, with lower ratings evidencing weak expectations and higher ratings suggesting strong expectations regarding the task behavior.

The internal consistency of the original total scale was shown to be very good with a Cronbach's alpha coefficient of .96; alpha coefficients for the subscales ranged from .71 to .91, which is considered to be moderate to high internal consistency. Content validity of the original scale was inferred to be sufficient given its careful development, and initial data regarding construct validity indicated that the PHASE Scale related to perceived symptom severity and psychotic status, but not to various demographic and clinical-descriptive variables (Mikolaitis, 1989).

Social Provisions Scale

The Social Provisions Scale (Russell & Cutrona, 1985) is based on Weiss's (1974) theory of the provisions of social relationships (attachment, social integration,

reassurance of worth, reliable alliance, guidance, and opportunity for nurturance), and taps qualitative aspects of social support. The 24-item measure asks respondents to rate the degree to which their social relationships are currently supplying each of the provisions. Each provision is assessed by four items, two that describe the presence and two that describe the absence of the provision. For example, two of the statements used to assess attachment are, "I have close relationships that provide me with a sense of emotional security and well-being" and "I lack a feeling of intimacy with another person." Respondents indicate on 4-point scales (ranging from strongly agree to strongly disagree) the extent to which each statement describes their current social relationships. For scoring purposes, the negative items are reversed and summed together with the positive items to form a score for each social provision. A total social support score is also formed by summing the six individual provision scores.

Internal consistency for the total scale score is relatively high, with alpha coefficients ranging from .85 to .92 across a variety of populations. Alpha coefficients for the individual subscales range from .64 to .76. Factor analysis has confirmed a six-factor structure that corresponds to the six social provisions (Russell & Cutrona, 1985). Several studies support the validity of the Social Provisions Scale. Among first-year college students, the six social provisions in combination accounted for 66% of

the variance in scores on the UCLA Loneliness Scale (Cutrona, 1982). In an elderly sample (Cutrona, 1986), the Social Provisions Scale showed significant negative correlations with measures of depression and positive correlations with life satisfaction. Similar results were found using samples of nurses and public school teachers (Russell & Cutrona, 1985).

Brief Symptom Inventory

The Brief Symptom Inventory (BSI) is a short form of the Symptom Check List (SCL-90-R) (Derogatis, 1975). The SCL-90-R is a 90-item self-report symptom inventory constructed to reflect the psychological symptom patterns of psychiatric and medical patients. Derogatis and his colleagues derived the SCL-90-R from the earlier Hopkins Symptom Check List which was based on the 1948 Cornell Medical Index.

The BSI consists of 53 items from the SCL-90-R. Instructions request the examinee to indicate how much he or she has been distressed by various symptoms during the last seven days. Each item is briefly and simply stated (e.g., "Feeling fearful," "The idea that something is wrong with your mind," "Feelings of worthlessness"). Subjects are asked to rate each symptom according to the following descriptors: 0 (not at all), 1 (a little bit), 2 (moderately), 3 (quite a bit), and 4 (extremely).

The BSI may be scored in terms of nine primary symptom dimensions: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. There are three global indices of distress, each one indicating in a single score the level or depth of symptomatic distress. The Positive Symptom Total (PST) is a count of the symptoms reported regardless of intensity. The Positive Symptom Distress Index (PSDI) is a pure intensity measure of distress "corrected" for number of symptoms. The General Severity Index (GSI), formed by dividing summed item ratings by 53, is considered by Derogatis to be the single best indicator of current distress levels, and he advocates its usage in cases where a single summary measure is desired (Derogatis & Melisaratos, 1983). The GSI was used in this study to reflect symptom distress.

Published norms for the BSI are available for three groups: heterogeneous psychiatric outpatients, nonpatient normal subjects, and psychiatric inpatients.

Derogatis and Melisaratos (1983) reported highly acceptable internal consistency and test-retest reliability for the BSI, and excellent correlations with the longer SCL-90-R. Using Cronbach's coefficient alpha, they found internal consistency for all dimensions, ranging from a low of .71 to a high of .85. Test-retest reliability over a

two-week period ranged from a low of .68 to a high of .91 on the nine dimensions, and was .90 for the GSI, .87 for the PSDI, and .80 for the PST index.

As evidence for the validity of the BSI, Derogatis and Melisaratos (1983) cited correlations between the BSI symptom dimensions and MMPI clinical, Wiggins, and Tryon scores as ranging from .30 to .72. In a factor analysis, nine interpretable factors were derived from a normal varimax rotation of the principal components which accounted for 44% of the variance in the matrix. According to Derogatis and Melisaratos (1983), these results regarding the internal structure of the BSI lend strong additional weight to construct validation. They also cited two reports (Amenson & Lewensohn, 1981; Marshal & Bougsty, 1981) suggesting that the BSI is highly sensitive to changes in symptomatic distress.

Procedures for Data Collection

Clients who were admitted to the residential crisis unit in a state of crisis (versus as a transition between hospital and community) constituted the pool from which research participants for this study were drawn. Clients were approached by an on-duty staffperson who asked him or her to read a brief description of the study which included the expected level of participation. If the client was interested, the investigator took over the role of data collector. Clients were then provided with a more detailed

general statement of the purpose of the project as an examination of factors involved with adjusting to their life crisis. Consent and participation forms were executed in accordance with the Ethical Principles in the Conduct of Research with Human Participants (American Psychological Association, 1981), and the relevant human research committee standards of Michigan State University and the Ingham Community Mental Health Board.

Those clients consenting to participate (N = 101) were given the PHASE2 Scale, the Social Provisions Scale, and the Brief Symptom Inventory upon discharge from the crisis residential unit. At a two-week mail follow-up, clients were requested to complete these measures once again, along with a brief self-report measure of work/school status, crisis resolution, and rehospitalization status. Crisis resolution was assessed using a 5-point Likert-type scale ranging from 0 ("not at all resolved") to 4 ("completely resolved"). Those clients who did not return their follow-up questionnaires were contacted either by phone or via postcard to encourage their compliance.

The other data collected on each participant were obtained from crisis residential (and other CMH) records by the present researcher. Specifically, a Personal Data Sheet was used to gather the following information from clients' clinical records: age, gender, employment and/or school attendance status, marital/relationship status, number of previous crisis residential admissions, number of previous

psychiatric hospitalizations, extent of previous outpatient psychotherapy, DSM-III-R Axis I and Axis II diagnoses (which included evidence of psychotic features), and length of current crisis residential stay.

Design and Data Analyses

The design of the study was essentially correlational. Borg and Gall (1971) state that correlational studies include those research projects in which an attempt is made to discover or clarify relationships through the use of correlation coefficients. Following previous research on the application of self-efficacy theory to post-hospital adjustment of psychiatric patients (Lent et al., in press; Mikolaitis, 1989), the purpose of this study was to investigate the relation of self-efficacy beliefs and social support to psychological recovery (as assessed by clients' symptom distress levels, length of hospital stay, and other indices of coping) among a broad range of clients in a residential crisis unit upon discharge and at a two-week follow-up. A correlational design was selected because it "is especially useful for exploratory studies in areas where little or no previous research is available" (Borg & Gall, 1971, p. 321).

Descriptive statistics were first calculated to describe both the sample characteristics and the psychometric properties of the PHASE2 and the Social Provisions scales, including their internal consistencies

and test-retest reliabilities. An intercorrelation matrix was then calculated to assess the bivariate relationships among the various dependent and independent measures.

To explore the prediction of outcome from the independent variables, hierarchical regression analyses were performed. Hierarchical regression allows for choosing the order in which the variables are entered into the data analysis, based upon some rationale. "(T)he coefficient of interest is the proportion of variance accounted for at a particular step over and above that accounted for by the independent variables entered previously" (Wampold & Freund, 1987, p. 377). In the present study, subject demographics and psychological functioning variables were entered first, then the independent variables of self-efficacy and social support were added to the prediction of the various outcomes (e.g., length of stay in the crisis residential unit) over and above that contributed by demographic and psychological functioning variables.

Correlational analyses were undertaken to explore whether subjects' reality-testing capacities (i.e., psychotic vs. non-psychotic status) moderate the relation of self-efficacy and social support to various outcome criteria.

CHAPTER IV

RESULTS

Chapter IV contains the results of the data analysis based on the procedures delineated in Chapter III.

Description of the Sample

Approximately 250 individuals were available as potential research participants during the 17-month data collection period. Excluded from consideration at any given time were those subjects who had previously participated in this study (i.e., subjects who were readmitted to the crisis residential unit during the data collection period) and those individuals who were discharged prior to their planned discharge date (i.e., they left the unit before they could be solicited to participate in the study). Of the 149 clients who did not participate, 91 or 61%, refused to take part, and the remaining 58 clients were eliminated from consideration for several reasons: 28, or 19%, did not enter the crisis residential unit in crisis, but rather were being transitioned between a psychiatric hospital unit and the community; 27, or 18%, were too cognitively impaired to participate either because of their psychosis or developmental disability; and 3, or 2%, were illiterate (could not read).

A total of 101 subjects, 54 males and 47 females, took part in the initial phase of the study. Demographic

features of the subject sample are outlined in Table 4.1. Ages of these subjects ranged from 18 to 61, with a mean age of 35.2. Of these 101 subjects, 51 (or 50%) participated in the two-week follow-up data collection (that is, 50 subjects did not return their two-week mail follow-up measures). Efforts to increase compliance at the two-week follow-up using telephone or postcard contact resulted in no additional returns. Most of the subject sample were of Caucasian ethnic origin. Marital status for the majority of subjects was non-married; that is, they fell into the categories of single, separated, divorced, or widowed. Most of the subject sample depended upon government assistance for their financial support; however, 19 subjects were working or volunteering prior to their admission to the crisis residential unit, and 17 returned to work within two-weeks post-discharge. Seven subjects were attending school prior to their crisis residential admission, and 4 of them had returned to classes within two weeks after their discharge.

The clinical characteristics of the subject sample are provided in Table 4.2. Using the diagnostic classification system of the Diagnostic and Statistical Manual of Mental Disorders (Third Edition--Revised; DSM-III-R), approximately 87% of the subjects were given diagnoses on Axis I categories of Schizophrenia (36%), Adjustment Disorders (19%), Mood Disorders (17%), other Psychotic Disorders (13%), Substance Abuse/Dependence (7%), Anxiety Disorders

Table 4.1. Demographic statistics of the subject sample.

Variable	N	%
Gender		
Male	54	53.5
Female	47	46.5
Ethnic Group		
Caucasian	84	83.2
Other	17	16.8
Marital Status		
Single	64	63.4
Married	8	7.9
Separated/Divorced/Widowed	29	28.7
Income		
Government assistance	88	87.1
Employment	12	11.9
Family (spouse)	1	1.0

	Mean	Range	SD
Age	35.2	18-61	9.7

Table 4.2. Clinical descriptive data of the subject sample.

Variable	N	%
Psychotic vs. Non-Psychotic Status		
Psychotic	49	48.5
Non-Psychotic	52	51.5
DSM-III-R Diagnosis		
Schizophrenia	32	31.7
Other Psychotic Disorder	11	10.9
Mood Disorder	15	14.8
Adjustment Disorder	17	16.8
Anxiety Disorder	4	4.0
Substance Abuse/Dependence	6	5.9
Dissociative Disorder	2	2.0
V Code	1	1.0
Personality disorder only (Axis II)	13	12.9
Total	101	100.0
Both Axis I and II diagnoses	14	13.9
Secondary Substance Abuse/Dependence	7	6.9

(5%), Dissociative Disorders (2%), and V Codes (1%). Approximately 13% of participants carried only Axis II diagnoses (i.e., Personality Disorders), 14% of subjects had diagnoses on both Axes I and II, and 7% had secondary diagnoses of Substance Abuse/Dependence. Roughly 49% displayed some degree of psychotic symptoms (based on staff observation), which included participants with diagnoses of Schizophrenia, Other Psychotic Disorder, or Mood Disorder. Finally, descriptive data regarding subjects' psychiatric history, length of current crisis residential stay, and aftercare plans are given in Table 4.3.

Table 4.3. Additional descriptive data of the subject sample.

Variable	Mean	Range	SD
Number of prior hospitalizations	5.6	0-37	5.8
Number of prior crisis residential stays	6.0	0-45	8.9
Length of current crisis residential stay (in days)	9.8	2-72	8.4
Aftercare treatment		**N**	**%**
Psychotherapy/case management		62	61.4
Psychother./case mgt. + day treatment		27	26.7
None		12	11.9
Aftercare living situation			
Supervised[a]		41	40.6
Nonsupervised[b]		60	59.4

[a] Supervised living with family or in group home

[b] Independent living alone or with others

Reliability of PHASE2 and SPS

Research question 1: What is the internal consistency and two-week test-retest reliability of the modified self-efficacy (PHASE2) measure? Are these reliabilities sufficient to warrant its use for further research purposes?

To determine the degree of reliability for the PHASE2 Scale, Cronbach's alpha was computed on the full sample (N = 101) at time 1 and on follow-up subjects at time 2 (N = 51). The coefficient alpha statistic gauges the amount of instrument variance due to all common factors among the items. That is, it suggests the extent to which a score depends upon general and group factors, rather than item-specific factors (Cronbach, 1951). Should an instrument have a high alpha coefficient, it is considered to have considerable internal consistency or homogeneity, which suggests that the items concern the same construct. Tables 4.4 and 4.5 contain the results of the reliability analysis on the PHASE2 Scale items at time 1 and 2, respectively.

The Cronbach's alpha coefficient for the total measure at time 1 was .94, while at time 2 it was .95. These data compare favorably with the alpha coefficient of .96 which was obtained for the earlier version of this instrument (Mikolaitis, 1989); they also indicate that there is good internal consistency for the total PHASE2 Scale. That is, all of the alpha coefficients are higher than the standard

Table 4.4. Reliability analysis of PHASE2 Scale items--Time 1

Statistics for Scale

	Mean	Min	Max
Item Means	1.93	1.45	2.45
Item Variances	1.49	1.17	2.03
Inter-Item Covariances	.60	.12	1.12
Inter-Item Correlations	.41	.07	.70

Reliability Coefficients

Alpha = .94 Standardized Item Alpha = .95

Mean	1.93	Std Err	.08	Median	1.84
Mode	1.68	Std Dev	.80	Variance	.64
Kurtosis	-.13	S E Kurt	.49	Skewness	.27
S E Skew	.25	Range	0.12-4.00	Minimum	.12
Maximum	4.00	Sum	183.20		

Table 4.5. Reliability analysis of PHASE2 Scale items--Time 2

Statistics for Scale

	Mean	Min	Max
Item Means	2.00	1.55	2.43
Item Variances	1.33	.74	1.64
Inter-Item Covariances	.59	-.13	1.22
Inter-Item Correlations	.45	-.10	.82

Reliability Coefficients

Alpha = .95 Standardized Item Alpha = .95

Mean	2.00	Std Err	.12	Median	2.04
Mode	1.04	Std Dev	.79	Variance	.62
Kurtosis	-.38	S E Kurt	.68	Skewness	-.21
S E Skew	.35	Range	0.20-3.60	Minimum	.20
Maximum	3.60	Sum	94.00		

minimum of .70 for early phases of inquiry regarding hypothesized measures of a construct (Nunnally, 1978). Therefore, it can be inferred that the PHASE2 Scale is measuring a homogeneous construct.

The score distribution of the PHASE2 Scale at times 1 and 2 are given in Tables 4.6 and 4.7; Figures 4.1 and 4.2 display the distributions graphically. As can be seen, PHASE2 Scale scores at time 1 ranged from .12 to 4.00, with a mean of 1.93 (SD = .80). At time 2, the Scale scores ranged from .20 to 3.60, with a mean of 2.00 (SD = .79).

To assess the two-week test-retest reliability of the modified self-efficacy measure, PHASE2, a correlational analysis was performed (N = 51). The resulting test-retest correlation of .60 suggests that the PHASE2 instrument is only moderately stable over a two-week period, and is consistent with how the self-efficacy construct is conceptualized. According to Bandura, self-efficacy is relatively situation- and domain-specific--i.e., responsive to situational factors and specific to a given domain of behavior. For example, disconfirmatory information about one's coping capacity mandates a reassessment of one's personal efficacy in a given domain. (See Appendix A for PHASE2 item means and standard deviations at time 1 and time 2.)

Table 4.6. Score distribution of PHASE2 Scale--Time 1

Score	N	Cum. %	Score	N	Cum. %	Score	N	Cum. %
.12	1	1.1	1.52	1	32.6	2.44	2	77.9
.16	1	2.1	1.60	1	33.7	2.48	1	78.9
.68	1	3.2	1.64	2	35.8	2.52	1	80.0
.76	1	4.2	1.68	4	40.0	2.56	3	83.2
.80	2	6.3	1.72	2	42.1	2.64	1	84.2
.84	2	8.4	1.76	2	44.2	2.72	1	85.3
.92	2	10.5	1.80	3	47.4	2.80	1	86.3
.96	1	11.6	1.84	3	50.5	2.84	1	87.4
1.00	1	12.6	1.92	2	52.6	3.00	2	89.5
1.04	2	14.7	1.96	2	54.7	3.08	1	90.5
1.08	2	16.8	2.08	3	57.9	3.12	1	91.6
1.16	1	17.9	2.12	4	62.1	3.16	1	92.6
1.20	3	21.1	2.16	1	63.2	3.28	1	93.7
1.24	2	23.2	2.20	1	64.2	3.32	1	94.7
1.28	2	25.3	2.24	3	67.4	3.40	1	95.8
1.32	1	26.3	2.28	4	71.6	3.48	1	96.8
1.40	1	27.4	2.32	1	72.6	3.52	1	97.9
1.44	3	30.5	2.36	2	74.7	3.80	1	98.9
1.48	1	31.6	2.40	1	75.8	4.00	1	100.0
						missing	6	
						Total	101	

Table 4.7. Score distribution of PHASE2 Scale--Time 2

Score	N	Cumulative %	Score	N	Cumulative %
.20	1	2.1	1.96	1	48.9
.40	1	4.3	2.04	2	53.2
.68	1	6.4	2.12	1	55.3
.96	1	8.5	2.20	1	57.4
1.00	1	10.6	2.28	1	59.6
1.04	2	14.9	2.40	2	63.8
1.08	1	17.0	2.44	1	66.0
1.20	1	19.1	2.48	2	70.2
1.24	1	21.3	2.52	1	72.3
1.28	1	23.4	2.60	2	76.6
1.40	1	25.5	2.64	2	80.9
1.52	2	29.8	2.68	2	85.1
1.64	1	31.9	2.72	1	87.2
1.72	1	34.0	2.88	1	89.4
1.76	1	36.2	2.92	1	91.5
1.80	2	40.4	2.96	1	93.6
1.88	1	42.6	3.20	1	95.7
1.92	2	46.8	3.52	1	97.9
			3.60	1	100.0
			missing 54 (non-returned T2 forms)		
			Total 101		

Figure 4.1. Score distribution of PHASE2 Scale--Time 1.

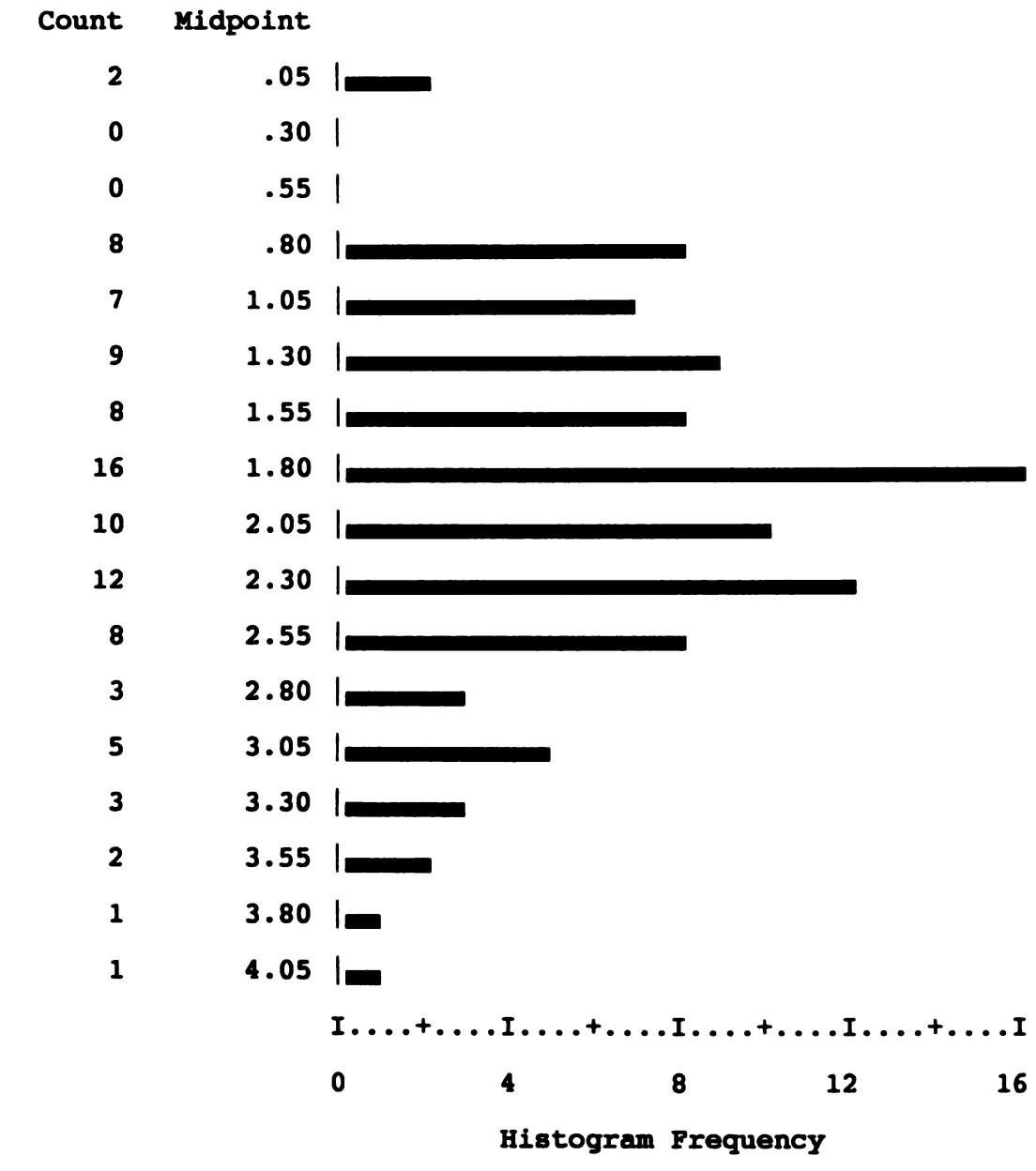
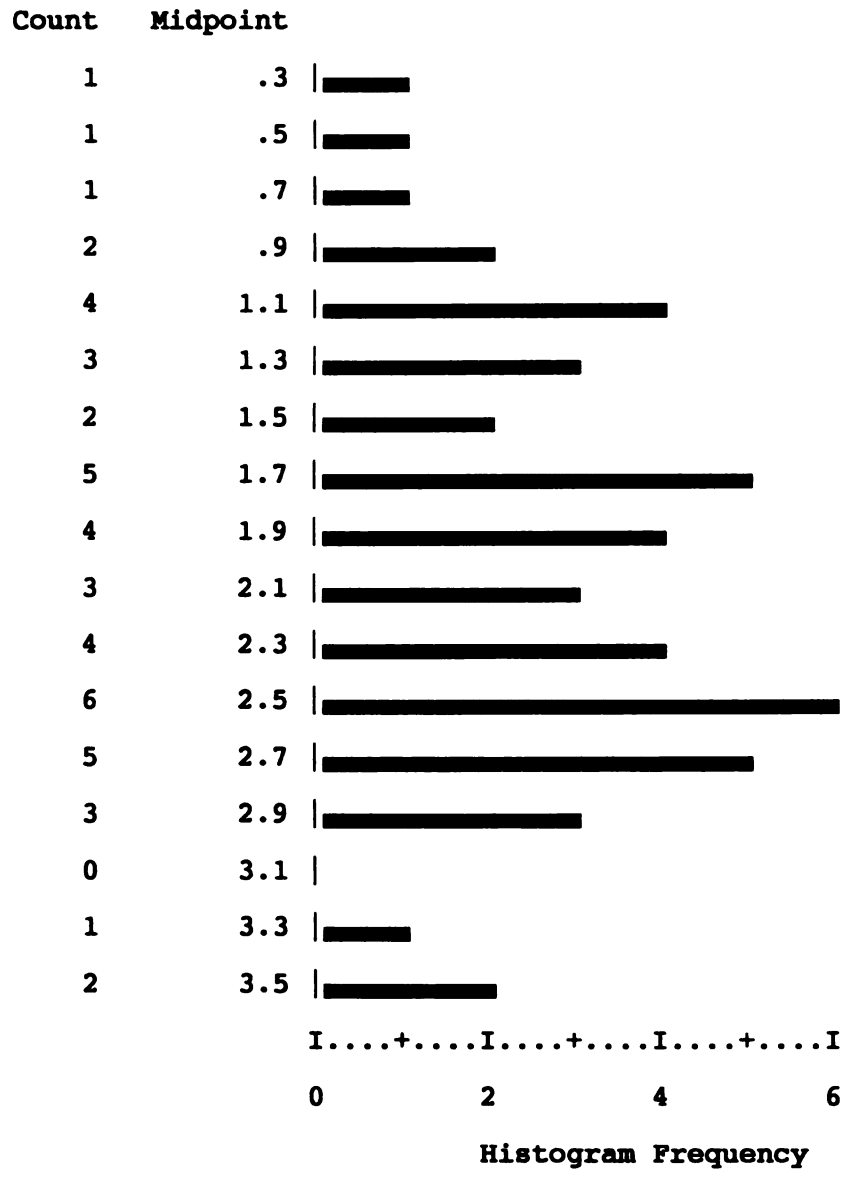


Figure 4.2. Score distribution of PHASE2 Scale--Time 2.



Research question 2: What is the internal consistency and two-week test-retest reliability of the Social Provisions Scale? Are these reliabilities sufficient to warrant its use for further research purposes?

Cronbach's alpha was computed to determine the internal consistency of the Social Provisions Scale (N = 101 at time 1, and 51 at time 2). Tables 4.8 and 4.9 contain the results of the reliability analysis on the Social Provisions Scale items at times 1 and 2, respectively. The Cronbach's alpha coefficient for the total measure at time 1 was .86, whereas at time 2 it was .93. These figures fall within the range of previously reported reliabilities using this instrument across various populations (.85-.92) (see Cutrona, 1986), and indicate that the Social Provisions Scale possesses good internal consistency. Social Provisions Scale scores at time 1 ranged from 1.63 to 4.00, with a mean of 2.72 (SD = .48). At time 2, Scale scores ranged from 1.08 to 3.71, with a mean of 2.74 (SD = .58). The score distributions of the Social Provisions Scale at times 1 and 2 are given in Tables 4.10 and 4.11; Figures 4.3 and 4.4 display the distributions graphically.

To assess the two-week test-retest reliability of the Social Provisions Scale, a correlational analysis was performed (N = 51). The resulting correlation coefficient of .70 suggests that, like the PHASE2, the Social Provisions Scale is moderately stable over a brief time period.

Table 4.8. Reliability analysis of Social Provisions Scale items--Time 1

Statistics for Scale

	Mean	Min	Max
Item Means	2.72	2.16	2.96
Item Variances	.97	.80	1.25
Inter-Item Covariances	.20	-.24	.58
Inter-Item Correlations	.21	-.23	.58

Reliability Coefficients

Alpha = .86 Standardized Item Alpha = .87

Mean	2.72	Std Err	.05	Median	2.77
Mode	2.58	Std Dev	.48	Variance	.23
Kurtosis	-.20	S E Kurt	.48	Skewness	-.04
S E Skew	.24	Range	1.63-4.00	Minimum	1.62
Maximum	4.00	Sum	266.83		

Table 4.9. Reliability analysis of Social Provisions Scale items--Time 2

Statistics for Scale

	Mean	Min	Max
Item Means	2.74	2.27	3.04
Item Variances	.87	.65	1.09
Inter-Item Covariances	.31	-.19	.82
Inter-Item Correlations	.35	-.19	.77

Reliability Coefficients

Alpha = .93 Standardized Item Alpha = .93

Mean	2.74	Std Err	.08	Median	2.75
Mode	2.08	Std Dev	.58	Variance	.33
Kurtosis	.24	S E Kurt	.66	Skewness	-.48
S E Skew	.33	Range	1.08-3.71	Minimum	1.08
Maximum	3.71	Sum	139.58		

Table 4.10. Score distribution of Social Provisions Scale --Time 1

Score	N	Cum. %	Score	N	Cum. %	Score	N	Cum. %
1.63	1	1.0	2.46	3	29.6	3.13	3	82.7
1.71	1	2.0	2.50	1	30.6	3.17	1	83.7
1.75	1	3.1	2.54	4	34.7	3.21	3	86.7
1.79	1	4.1	2.58	6	40.8	3.25	2	88.8
1.88	1	5.1	2.63	4	44.9	3.29	2	90.8
1.92	2	7.1	2.67	1	45.9	3.33	1	91.8
2.00	2	9.2	2.71	2	48.0	3.42	2	93.9
2.13	1	10.2	2.75	2	50.0	3.46	1	94.9
2.17	5	15.3	2.79	5	55.1	3.54	2	96.9
2.21	3	18.4	2.83	3	58.2	3.67	1	98.0
2.25	2	20.4	2.88	1	59.2	3.79	1	99.0
2.29	2	22.4	2.92	4	63.3	4.00	1	100.0
2.33	2	24.5	2.96	4	67.3	missing	3	
2.38	1	25.5	3.00	6	73.5			
2.42	1	26.5	3.04	6	79.6	Total	101	

Table 4.11. Score distribution of Social Provisions Scale --Time 2

Score	N	Cumulative %	Score	N	Cumulative %
1.08	1	2.0	2.83	1	54.9
1.63	1	3.9	2.88	3	60.8
1.67	1	5.9	2.92	2	64.7
1.79	1	7.8	2.96	1	66.7
1.96	1	9.8	3.00	2	70.6
2.08	3	15.7	3.04	2	74.5
2.17	1	17.6	3.17	1	76.5
2.25	1	19.6	3.25	3	82.4
2.38	2	23.5	3.33	1	84.3
2.42	3	29.4	3.42	1	86.3
2.54	3	35.3	3.46	1	88.2
2.58	2	39.2	3.50	1	90.2
2.63	2	43.1	3.54	2	94.1
2.67	1	45.1	3.63	1	96.1
2.75	3	51.0	3.67	1	98.0
2.79	1	52.9	3.71	1	100.0
			missing	50	
			Total	101	

Figure 4.3. Score distribution of Social Provisions Scale--Time 1.

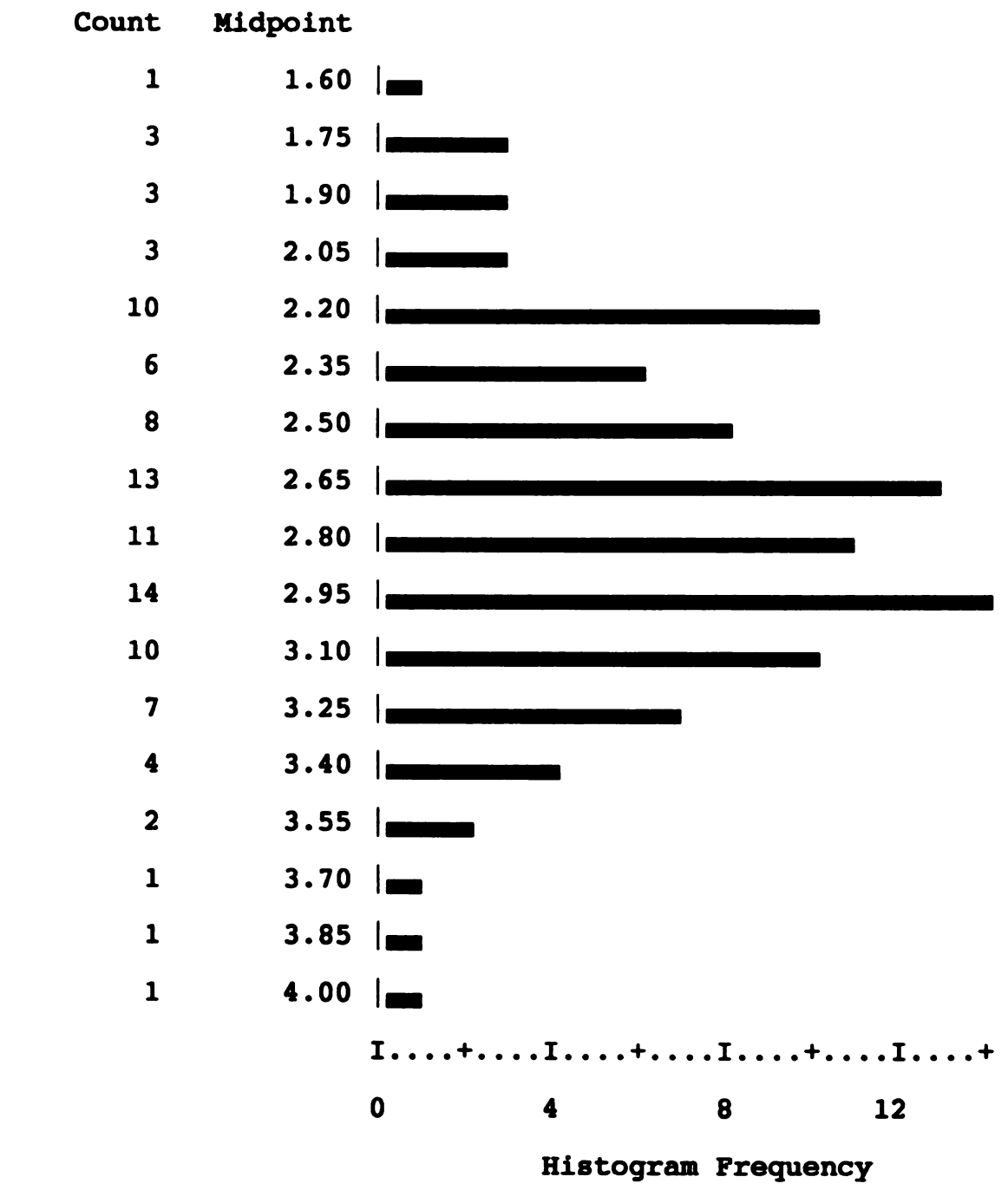
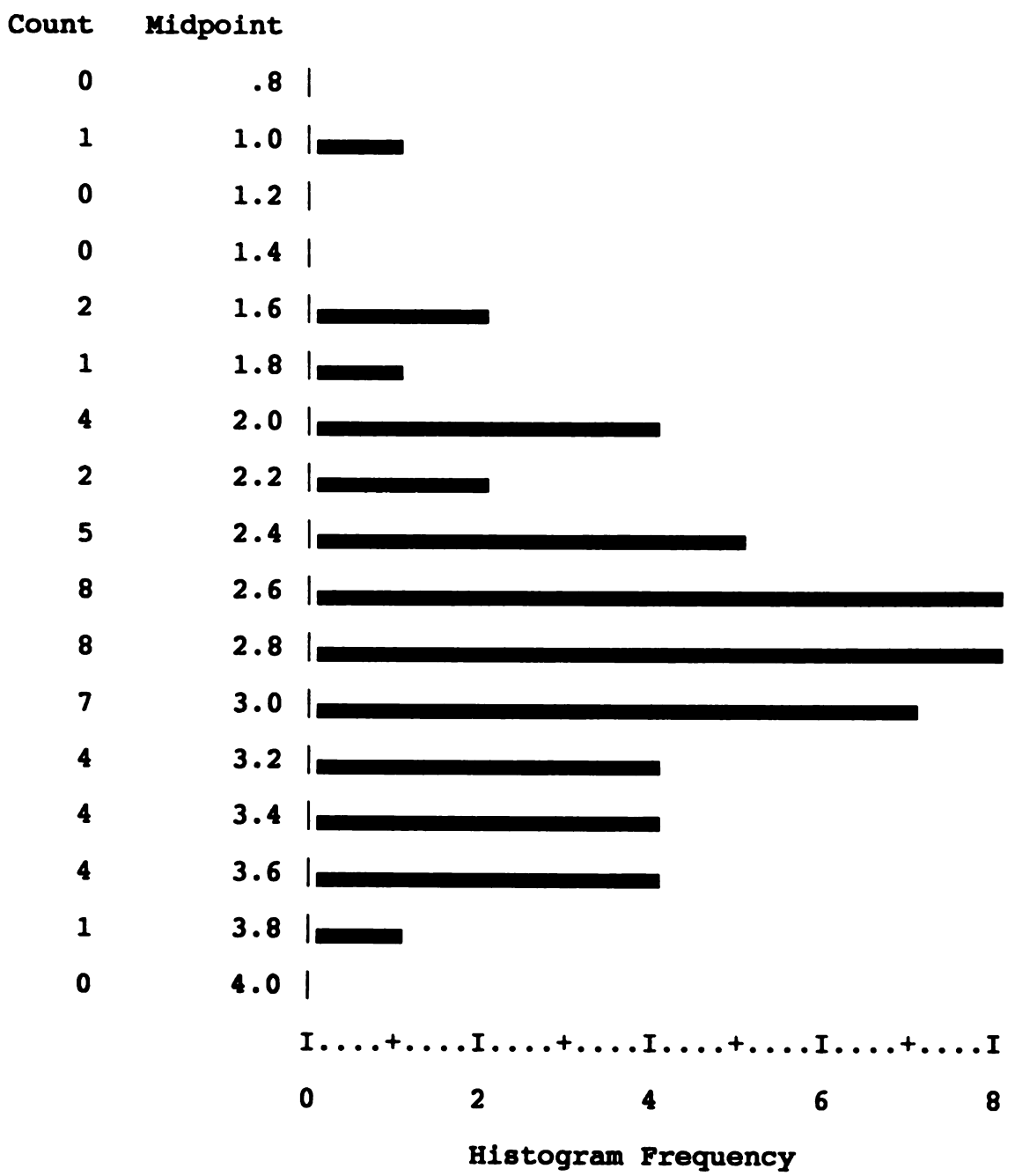


Figure 4.4. Score distribution of Social Provisions Scale--Time 2.



(See Appendix B for SPS item means and standard deviations at time 1 and time 2.)

Relationships Among Self-Efficacy, Social Support, Subject Demographics, and Various Outcome Variables

Research question 3: What are the relations of self-efficacy and social support at point of discharge to subject demographics (e.g., age, gender, marital status, ethnicity) and measures of psychological functioning (e.g., psychotic vs. non-psychotic status, number of previous psychiatric hospitalizations, length of crisis residential stay)?

To address this research question, a correlation matrix was constructed to provide an overall picture of how the numerous variables were correlating with one another. Table 4.12 presents the correlation matrix. Results show a significant correlation between clients' personal efficacy and their reality orientation; that is, those clients evidencing psychotic symptomatology attribute higher efficacy to themselves than do those clients without psychotic symptoms. This result replicates the unexpected finding of Mikolaitis (1989). Additionally, there is a correlation between clients' perception of social support and their reality orientation; that is, those clients with psychotic symptoms perceive more social support than do those clients without psychotic symptomatology.

Results also suggest that clients' perception of Table

4.12. Correlations of self-efficacy and social support at point of discharge to subject demographics and psychological functioning variables

	1	2	3	4	5	6	7	8	9
1.PHASE2									
2.SPS	.45***								
3.Gender	-.17	.03							
4.Age	.16	.02	-.02						
5.Race	-.03	-.05	-.05	-.17*					
6.MarStat	.01	-.10	-.02	-.08	.13				
7.PsyStat	.41***	.32***	-.19*	.22*	-.07	-.01			
8.PriorCR	.03	.08	.11	.04	-.05	.05	.21*		
9.PriorHos	.14	.12	.08	.12	.03	.09	.32***	.56***	
10.NC Stay	.17*	.17	-.02	.14	-.09	.12	.13	-.20*	.00

Note. PHASE2 = Post-Hospital Adjustment Self-Efficacy Scale (Revised); SPS = Social Provisions Scale; Gender = males (0), females (1); Race = white (0), non-white (1); MarStat = married (0), non-married (1); PsyStat = non-psychotic (0), psychotic (1); PriorCR = # of prior crisis residential stays; PriorHos = # of prior hospitalizations; CR Stay = length of current crisis residential stay (in # of days).

* = $p \leq .05$ ** = $p \leq .01$ *** = $p \leq .001$

personal efficacy is correlated with their length of stay in the crisis residential program; that is, the higher the self-efficacy, the longer the crisis residential stay. In addition, client perception of social support correlated positively with client self-efficacy. Finally, several client demographic and psychological functioning variables correlated with each other. For example, gender correlated with client psychosis status, with males being more likely to evidence psychotic symptomatology. Age also correlated with psychosis status, suggesting that the older the client, the more likely he or she would have psychotic symptoms. Not surprisingly, psychotic clients tended to have a greater number of previous crisis residential admissions and psychiatric hospitalizations than did non-psychotic clients. The number of prior crisis residential admissions positively correlated with number of prior hospitalizations. Lastly, the greater the number of prior crisis residential admissions, the shorter the length of the current crisis residential stay.

Research question 4: To what extent do self-efficacy and social support at point of discharge predict concurrent symptom distress (BSI), independently of subject demographics and psychological functioning variables?

To explore the prediction of symptom distress from the independent variables of self-efficacy and social support, a hierarchical regression analysis was performed. Hierarchical regression allows for choosing the order in which the variables are entered into the data analysis, based upon some rationale. "(T)he coefficient of interest is the proportion of variance accounted for at a particular step over and above that accounted for by the independent variables entered previously" (Wampold & Freund, 1987, p. 377). In this study, subject demographics were entered first as a set, followed by the set of psychological functioning variables, and finally the independent variables of self-efficacy and social support were separately and alternately added to the prediction of BSI scores. This procedure seems preferable to "the complete anarchy of the simultaneous analysis in which everything is partialled from everything else indiscriminantly, including effects from their causes" (Cohen & Cohen, 1983, p. 115).

Results (reported as R^2 changes) indicate that while subject demographics and psychological functioning variables accounted, respectively, for 4% and 6% of the variance in

concurrent symptom distress, self-efficacy contributed an additional 24% of the variance and social support contributed another 5% (see Table 4.13). When the social support variable was entered into the regression equation before self-efficacy, social support contributed 15% of the variance while self-efficacy added another 13%. Thus, self-efficacy appeared to explain somewhat more unique variance in symptom distress than did social support.

Table 4.13. Hierarchical regression analyses: Prediction of concurrent symptom distress from client measures of self-efficacy and social support

Dependent variable and predictor	Step	R	Total R^2	R^2 change	F change	r	Beta
Symptom distress							
Demographics	1	.21	.04	.04	1.07		.07
Psych'l Funct.	2	.32	.11	.06	1.62		.02
Self-efficacy	3	.58	.34	.24	32.63**	-.57**	-.54
Social support	4	.63	.39	.05	7.29*	-.44**	-.26
Social support[a]	3	.51	.26	.15	18.82**	-.44**	-.42
Self-efficacy[b]	4	.63	.39	.13	19.52**	-.57**	-.44

Note. Symptom distress = BSI General Severity Index; Demographics = Gender, Age, Ethnicity, Marital Status; Psychological Functioning = Psychosis Status, Prior # Hospitalizations, Prior # Crisis Residential Admissions, Length of Current Crisis Residential Stay; PHASE2 = Post-Hospitalization Adjustment Self-Efficacy Scale (Revised); SPS = Social Provisions Scale;

[a] Contribution of social support (SPS) when entered at step 3;

[b] Contribution of self-efficacy (PHASE2) when entered at step 4.

* $p \leq .01$

** $p \leq .001$

Research question 5: To what extent do self-efficacy and social support at point of discharge, independent of subject demographics and psychological functioning variables, predict the following criteria at two-weeks post-discharge:

a. symptom distress (BSI)
b. self-reported crisis resolution
c. speed of return to work/school
d. incidence of readmission.

Given the smaller N at Time 2 (two-week follow-up N = 51), multiple regression analyses were not warranted; instead, zero-order correlations were performed to assess the bivariate relations of PHASE2 and SPS scores to each of the follow-up criteria (see Table 4.14). Both self-efficacy and social support variables at point of discharge were significantly correlated with symptom distress two weeks later (r's = -.42 and -.47, respectively). Also, self-reported crisis resolution and psychosis status correlated significantly with symptom distress at the 2-week follow-up, with higher crisis resolution and the presence of psychotic symptoms during their crisis residential stay being associated with less symptom distress. Concurrent relations among self-efficacy, social support, and symptom distress at the follow-up were all significant and substantial.

Table 4.14. Correlations among self-efficacy, social support, demographic, and clinical variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.PHASE2/1															
2.SPS/1	.45***														
3.PHASE2/2	.60***	.40**													
4.SPS/2	.16	.70***	.63***												
5.BSI/2	-.42**	-.47***	-.64***	-.52**											
6.Crisis	.43***	.34**	.80***	.58***	-.50***										
7.HC Rst	-.04	.06	-.30*	.03	-.13	-.23									
8.Hosp Rst	-.05	-.09	.23	-.05	-.07	.16	-.10								
9.Gender	-.17	.03	-.13	.11	-.00	-.11	.18	-.07							
10.Age	.16	.02	.03	.04	-.08	.08	.11	-.09	-.02						
11.Race	-.03	-.05	-.31*	-.16	.22	-.18	.13	-.41***	-.05	-.17*					
12.MarStat	.01	-.10	-.03	-.28*	-.04	-.08	-.11	-.11	-.02	-.08	.13				
13.PsyStat	.41***	.33***	.37**	.27*	-.26*	.43***	-.08	.17	-.19*	.22*	-.07	-.01			
14.PriorCR	.03	.08	.12	-.04	.03	.27*	-.16	.05	.11	.04	-.05	.05	.21*		
15.PriorHos	.14	.12	.05	-.08	.13	.22	-.04	.21	.08	.12	.03	.09	.32***	.56***	
16.HC Stay	.17*	.17*	-.11	-.12	.00	-.14	-.07	-.11	-.02	.13	-.09	.12	.13	-.20*	.00

Note. PHASE2/1 = Self-efficacy at Time 1 (point of discharge);
SPS/1 = Social support at Time 1 (point of discharge);
PHASE2/2 = Self-efficacy at Time 2 (two-weeks post-discharge);
SPS/2 = Social support at Time 2 (two-weeks post-discharge);
BSI/2 = Symptom distress at Time 2 (two-weeks post-discharge);
Crisis = Self-reported crisis resolution two weeks post-discharge;
CR Rst = Crisis Residential readmission incidence within two weeks post-discharge (Y=1,N=2);
Hosp Rst = Hospitalization incidence (#) within two weeks post-discharge (Y=1,N=2);
Gender = Male (0), Female (1); Race = White (0), Non-White (1);
MarStat = Married (0), Non-Married (1);
PsyStat = Non-Psychotic (0), Psychotic (1);
PriorCR = # of prior Crisis Residential admissions;
PriorHos = # of prior psychiatric hospitalizations;
CR Stay = length of current Crisis Residential stay (in days).

* = $p \leq .05$ ** = $p \leq .01$ *** = $p \leq .001$

Table 4.14 indicates that self-efficacy and social support at point of discharge were also significantly predictive of self-reported crisis resolution at two-weeks post-discharge. Concurrent relations among these variables at the follow-up were also quite substantial, with higher self-efficacy and social support associated with greater crisis resolution. Interestingly, two clinical indicator variables correlated significantly with self-reported crisis resolution. Specifically, a relationship between crisis resolution and psychosis status was found, indicating that those clients with psychotic symptomatology reported higher crisis resolution than non-psychotic clients. Also, those clients with a history of admissions to the crisis residential unit reported higher crisis resolution than those having fewer previous admissions.

Supplementary analyses were performed to explore whether changes in self-efficacy, social support, and symptom distress from Time 1 to Time 2 correlated with one another and with self-reported crisis resolution at Time 2. Specifically, change scores were created by subtracting PHASE2, SPS, and BSI scores at Time 2 from their respective scores at Time 1. A correlation matrix was created using these change scores and the ratings for self-reported crisis resolution. Results indicate that the change scores all significantly correlated with one another as well as with self-reported crisis resolution (see Table 4.15).

Table 4.15. Correlations among PHASE2, SPS, and BSI change scores and self-reported crisis resolution ratings

	1	2	3
1. PHASE2 change			
2. SPS change	.64**		
3. BSI change	-.66**	-.53**	
4. Crisis	.44**	.44**	-.35*

* $p \leq .01$

** $p \leq .001$

To examine the relation of self-efficacy and social support at point of discharge to likelihood of return to work or school within two weeks of discharge, t-tests were performed. Results indicate that there were no signicant differences between "returners" versus "non-returners" in terms of self-efficacy and social support mean scores (see Table 4.16). However, given the small N (23) of those who were working or in school prior to their crisis residential admission and who returned their follow-up questionnaires, this finding should be viewed extremely cautiously.

A power analysis (Cohen, 1988) was conducted in order to determine the size of the N that would have been sufficient to perform the above t-tests with any confidence. As Cohen (1990) writes, "I have...learned the importance of power analysis and the determination of just how big (rather than how statistically significant) are the effects that we study" (p. 1304). "The power of a statistical test of a null hypothesis is the probability that it will lead to the rejection of the null hypothesis, i.e., the probability that it will result in the conclusion that the phenomenon exists" (Cohen, 1988, p. 4). This power hinges upon three parameters: "the significance criterion, the reliability of the sample results, and the 'effect size,' that is, the degree to which the phenomenon exists" (Cohen, 1988, p. 4). Assuming an alpha value of .05, the power to detect a moderate effect size (d = .50) with an N of 23 is only .38! Sixty-four subjects would need to have been employed to

Table 4.16. T-test: Mean PHASE2 and SPS differences between "returners" and "non-returners" to pre-admission vocational/academic functioning

---

T-test for PHASE2 (Self-Efficacy)

	# of cases	Mean	Std. Dev.	t
Returners	19	1.90	.55	.47, n.s.
Non-returners	4	1.75	.63	

T-test for SPS (Social Support)

	# of cases	Mean	Std. Dev.	t
Returners	19	2.80	.51	.42, n.s.
Non-returners	4	2.69	.42	

achieve the recommended power level of .80. Assuming a small effect size (.20) at a power level of .80, 393 subjects would need to have been employed.

Similar to the above analysis, t-tests were utilized to determine if there were any significant differences in self-efficacy and social support between those individuals who were readmitted either to the crisis residential unit or to a psychiatric hospital versus those individuals who were not. No differences were found, which appears to contradict the earlier finding from Table 4.14 showing a significant negative relationship between crisis residential readmission and self-efficacy. A possible explanation of this discrepancy might be that one or more t-test assumptions were violated; for example, the N sizes of the two samples were quite divergent (9 vs. 46), suggesting the homogeneity of variance assumption may have been jeopardized (see Table 4.17). To ascertain whether recidivists differed from non-recidivists in terms of psychosis status, a supplementary chi-square analysis was performed. No differences were found between the two groups (see Table 4.17).

A power analysis (Cohen, 1988) was conducted in order to determine the size of the N that would have been sufficient to perform the above t-tests with any confidence. Assuming an alpha value of .05, the power to detect a moderate effect size (d = .50) with an N of 57 is .75. Sixty-four subjects would need to have been employed to achieve the recommended power level of .80. Assuming a

Table 4.17. T-test: Mean PHASE2 and SPS differences between recidivists (to the crisis residential unit or hospital) and non-recidivists within two weeks post-discharge

T-test for PHASE2 (Self-Efficacy)

	# of cases	Mean	Std. Dev.	t
Non-Recidivists	46	2.00	.66	-.48, n.s.
Recidivists	9	2.12	.94	

T-test for SPS (Social Support)

	# of cases	Mean	Std. Dev.	t
Non-Recidivists	47	2.79	.45	-.21, n.s.
Recidivists	10	2.82	.39	

Chi-square analysis: Recidivism by Psychosis status

		Psychosis status		
		Non-Psychotic	Psychotic	Row Total
Recidivism	Yes	6	4	10
	No	24	23	47
Column Total		30	27	57
	%	52.6	47.4	100.0

Chi-square	D.F.
.03, n.s.	1
.26, n.s.	1

small effect size (.20) at a power level of .80, 393 subjects would need to have been employed.

In an effort to address the limitations of the small N in the preceding two analyses, a discriminant analysis was performed in which the subjects were "pooled" into one of two groups: those evidencing a positive or negative outcome (i.e., favorable vs. less favorable adjustment) at the two-week follow-up. According to Betz (1987), discriminant analysis "is a technique for the multivariate study of group differences....it provides a method of examining the extent to which multiple predictor variables are related to a categorical criterion, that is, group membership" (p. 393). Stated another way, "(l)inear combinations of the independent, sometimes called predictor, variables are formed and serve as the basis for classifying cases into one of the groups" (Norusis, 1988, p. B-1). Here, the four variables comprising return to community functioning and lack of recidivism (i.e., incidence of school or work return, and incidence of readmission to the crisis residential unit or a psychiatric unit) were "pooled" into one group--"outcome." A "negative" value on any one of the four variables (that is, the client indicated that he/she did not return to school or work or was readmitted to the crisis residential unit or a psychiatric unit) constituted a "negative outcome" or "poor adjustment" for that particular client. Predictor variables were clients' mean scores on the self-efficacy and social support measures at point of

discharge. Results indicate that there were no significant differences in self-efficacy and social support mean scores between "positive" and "negative" outcome clients (Ns = 42 and 13, respectively; see Table 4.18).

Table 4.18. Discriminant analysis: Prediction of positive vs. negative "outcome" from self-efficacy and social support measures at point of discharge

Predictor	Structure Coefficient	Wilks's Lambda	F	Positive Outcome		Negative Outcome	
				Mean	SD	Mean	SD
PHASE2	1.00	1.00	.01	2.01	.65	2.03	.86
SPS	.38	1.00	.00	2.79	.47	2.79	.40

Note. N = 55. The structure coefficient represents pooled within-group correlations between predictor variables and the discriminant function. For the function as a whole, Wilks's Lambda = 1.00, Chi-square = .01 (n.s.), and R_c = .01.

A multivariate analysis of variance was also performed comparing subjects who completed the follow-up with those who did not on the dependent and independent variables obtained at discharge. Results of the analysis showed that there was a significant difference between the group of subjects who returned their followup questionnaires versus those who did not [Hotelling's T^2 (13, 40) = 1.96, $p \leq .05$]. Examination of the univariate F-tests revealed that the two groups differed on the variable of crisis residential recidivisim, that is, those who were readmitted to the crisis residential unit were less likely to participate in the follow-up measurement (see Table 4.19).

Table 4.19. MANOVA (Hotelling's T^2) comparing Time 1 and Time 2 samples across dependent and independent variables

Univariate F-tests with (1,52) d.f.	
Variable	F
PHASE2	.26
SPS	.10
BSI	.12
Crisis Residential readmission	12.76**
Hospitalization	.02
Gender	.00
Age	.00
Ethnicity	3.07
Marital status	.47
Psychosis status	.00
Hospital history	1.63
Crisis Residential history	3.24
Length of Current Crisis Residential stay	.31
Hotelling's T^2 value	1.96*

* $p \leq .05$

** $p \leq .001$

Research question 6: Is the relation of self-efficacy and social support to the various outcome criteria moderated by (dependent upon) subjects' reality-testing capacities (i.e., psychotic vs. non-psychotic status)?

To address this research question, subject data were divided according to reality-testing capacity (i.e., psychotic vs. non-psychotic). Next, self-efficacy and social support were correlated with the various outcome criteria separately for the psychotic and non-psychotic groups. Finally, the resulting correlation coefficients were transformed using Fisher's z' transformation to test the significance of the difference between correlation coefficients obtained on two different random samples (Cohen & Cohen, 1983; see Table 4.20). One variable was eliminated from the final analysis because of insufficient data to compute the correlation coefficients (speed of return to school). Results suggest that clients' reality-testing capacities do indeed moderate the relation of self-efficacy and social support to several outcome criteria. Specifically, the relation of self-efficacy to clients' speed of return to work was moderated by psychotic/non-psychotic status, with non-psychotic clients evidencing a strong, negative PHASE2-work return association, while psychotic clients evidenced a strong, positive relation; that is, non-psychotic/high self-efficacy clients were more likely to return to work sooner within two weeks post-

Table 4.20. Moderation of the relation of self-efficacy and social support to various outcome criteria by subjects' reality-testing capacities

Self-Efficacy (PHASE2)

	Non-Psychotic (N)	Psychotic (N)	Z'
BSI(T2)[a]	-.54** (25)	-.06 (24)	1.79
Work(Days)[b]	-.60 (7)	.75** (10)	2.69**
Crisis[c]	.62*** (27)	-.22 (24)	-3.20***
NC Ret.[d]	-.08 (32)	.37* (28)	1.72
Hosp. Ret.[e]	-.00 (32)	-.09 (28)	-.35

Social Support (SPS)

	Non-Psychotic (N)	Psychotic (N)	Z'
BSI(T2)	-.59*** (25)	-.21 (24)	1.45
Work(Days)	-.00 (7)	.14 (10)	.23
Crisis	.45** (27)	-.13 (24)	-2.05*
NC Ret.	.03 (32)	.14 (28)	.43
Hosp. Ret.	.01 (32)	-.08 (28)	-.35

[a] Symptom distress at Time 2 (two-weeks post-discharge)
[b] Speed of work return in # of days post-discharge (N of "returners" = 17, or 89% of those who had work to return to)
[c] Self-reported crisis resolution two weeks post-discharge
[d] Crisis residential readmission incidence within two weeks post-discharge (1 = yes, 2 = no)
[e] Psychiatric hospitalization incidence within two weeks post-discharge (1 = yes, 2 = no)

* $p < .05$
** $p < .01$
*** $p < .001$

discharge than psychotic/high self-efficacy clients. Similar results were obtained for crisis resolution, with non-psychotic clients showing strong, positive PHASE2-crisis and SPS-crisis relations, and psychotics reporting weaker, negative relations. The relation of self-efficacy to symptom discomfort (BSI) and recidivism was not significantly moderated by reality-testing capacity. Also, the relation of social support to symptom discomfort, recidivism, and speed of return to work was not significantly moderated by clients' reality-testing capacities though, again, the small N in this analysis warrants caution.

A power analysis (Cohen, 1988) was conducted in order to determine the size of the N that would have been sufficient to perform the above z' transformations with any confidence. Assuming an alpha value of .05, the power to detect a moderate effect size (d = .30) with an N of 32 is only .39! One hundred seventy-seven subjects would need to have been employed to achieve the recommended power level of .80. Assuming a small effect size (.10) at a power level of .80, 1573 subjects would need to have been employed.

CHAPTER V

DISCUSSION

Chapter V summarizes and discusses the findings of the current study. In addition, suggestions are offered regarding the implications of this research for future inquiry.

Summary

Six research questions were generated regarding the reliability and research utility of the revised PHASE Scale (PHASE2) and the Social Provisions Scale, and their relationships to other relevant variables. Twelve major points regarding the six research questions are as follows:

1. The revised PHASE Scale (PHASE2) was demonstrated to be internally consistent, with a coefficient alpha of .94 at time 1, and a coefficient alpha of .95 at time 2. These reliabilities were sufficient to warrant its use for further research purposes.

2. The Social Provisions Scale was shown to be internally consistent, with a coefficient alpha of .86 at time 1, and a coefficient alpha of .93 at time 2. These reliabilities fell within the range of previously reported findings using this instrument across various populations (.85-.92), and were sufficient to merit its utility for subsequent research purposes.

The relationships between the PHASE2 Scale, the Social Provisions Scale, and selected variables were as follows:

3. There were no significant relationships between PHASE2 Scale scores and demographic variables of gender, age, marital status, and ethnicity.

4. There were no significant relationships between Social Provisions Scale scores and demographic variables of gender, age, marital status, and ethnicity.

5. There was a relationship between PHASE2 Scale scores and the psychological functioning variables of psychosis status and length of current crisis residential stay; that is, those clients evidencing psychotic symptomatology attributed higher efficacy to themselves than did those clients without psychotic symptomatology, and higher self-efficacy was associated with longer crisis residential stays. But there was no relationship between PHASE2 Scale scores and prior crisis residential admissions or prior psychiatric hospitalizations.

6. There was a relationship between Social Provisions Scale scores and the psychological functioning variable of psychosis status; that is, those clients with psychotic symptoms perceived more social support than did those clients without psychotic symptomatology. However, there was no relationship between Social Provisions Scale scores and the psychological functioning variables of number of prior crisis residential admissions, number of prior

psychiatric hospitalizations, and length of current crisis residential stay.

7. PHASE2 Scale scores and Social Provisions Scale scores at point of discharge appear to predict concurrent symptom distress (BSI) independently of subject demographics and psychological functioning variables.

8. There was a negative relationship of PHASE2 Scale scores and Social Provisions Scale scores at point of discharge to BSI scores (symptom distress) at two-weeks follow-up. Also, there were relationships of BSI scores at two-weeks follow-up to self-reported crisis resolution and psychosis status; that is, lower symptom distress correlated with higher crisis resolution and with those clients who were psychotic.

9. There was a positive relationship of PHASE2 and Social Provisions scores at point of discharge to self-reported crisis resolution at two-weeks follow-up. Also, there were relationships of self-reported crisis resolution to psychosis status (reality-testing capacity) and number of previous crisis residential admissions. There were no relationships of self-reported crisis resolution to crisis residential readmission or hospitalization within two-weeks post-discharge, age, gender, race, marital status, previous number of crisis residential admissions or hospitalizations, and length of current crisis residential stay.

10. Neither the PHASE2 Scale or the SPS at time of discharge related to return to work/school status two-weeks post-discharge.

11. There were no relationships of PHASE2 and Social Provisions scores at time of discharge to psychiatric hospitalization or readmission to the crisis residential unit within two-weeks post-discharge.

12. Subjects' reality-testing capacities were found to moderate the relation of PHASE2 scores and Social Provisions scores at time of discharge to several outcome criteria; specifically, those outcome criteria were crisis resolution, and speed of return to work (PHASE2 Scale scores only). Specifically, non-psychotic clients showed strong, positive PHASE2-crisis and SPS-crisis relations, and psychotics reported weaker, negative relations; that is, the higher the self-efficacy and social support, the greater the crisis resolution in non-psychotics. Regarding speed of return to work, non-psychotic clients evidenced a strong, negative PHASE2-work return association, while psychotic clients showed a strong, positive relation; that is, non-psychotic/high self-efficacy clients were more likely to return to work sooner within two weeks post-discharge than psychotic/high self-efficacy clients. Subjects' reality-testing capacities were not found to moderate the relation of PHASE2 scores and Social Provisions scores at time of discharge to symptom distress (BSI General Severity Index scores two-weeks post-discharge), psychiatric

hospitalization, or crisis residential readmission two-weeks post-discharge.

Discussion of Results

This extension of previous research on cognitive factors in post-hospital adjustment (Lent et al., in press; Mikolaitis, 1989) sought to answer three primary research questions: (a) Are the internal consistencies and two-week test-retest reliabilities of the modified self-efficacy measure (PHASE2 Scale) and social support instrument (Social Provisions Scale) sufficient to warrant their use for further research purposes?, (b) What are the relations of self-efficacy and social support to subject demographics and various outcome criteria?, and (c) Are the relations of self-efficacy and social support to various outcome criteria moderated by subjects' reality-testing capacities?

The current results provided support for the following statements: (1) Both the modified self-efficacy measure and the social support instrument were shown to be internally consistent and reliable over a two-week timespan; (2) the analysis of the relation of self-efficacy and social support to subject demographics and various outcome criteria yielded mixed outcomes--some of which may be understood in theoretically meaningful ways, and some of which suggest questions needing additional study; and (3) the relation of self-efficacy and social support to certain outcome criteria is, in fact, moderated by subjects' reality-testing

capacities. Also, heed must be given to the methodological limitations of this research. These matters are addressed in the rest of this chapter.

Efforts expended to increase the "difficulty" of individual PHASE2 Scale items appear to have been successful given that the average rating of subjects on each of the 25 tasks was 1.93 at Time 1, and 2.00 at Time 2, indicating that subjects were "moderately sure" they could carry out the tasks. By contrast, the average rating of original PHASE Scale was 3.01, or "quite a bit sure" (Mikolaitis, 1989).

Reliability of the PHASE2 Scale

Two kinds of reliability were explored for the PHASE2 Scale in research question 1, that of internal consistency and test-retest reliability.

> Research Question 1: What is the internal consistency and two-week test-retest reliability of the modified self-efficacy (PHASE2) measure? Are these reliabilities sufficient to warrant its use for further research purposes?

The coefficient alphas of .94 (Time 1) and .95 (Time 2) indicate that the PHASE2 Scale is minimally influenced by random measurement error, that is, errors due either to item sampling or to chance circumstantial factors (Nunnally, 1978). Thus, it appears that the modifications made to the original PHASE Scale (including reducing the instrument by 11 items) did not affect its internal consistency (coefficient alpha for original PHASE Scale = .96). Given

that the coefficient alpha also provides an index of homogeneity which estimates the proportion of test variance attributable to common factors among the items (Cronbach, 1951), the resulting alpha levels of .94 and .95 suggest that the PHASE2 Scale is measuring a unidimensional construct.

Regarding test-retest reliability, the correlation coefficient of .60 suggests that the PHASE2 instrument has moderate stability over time to justify its continued use as a research tool. This moderate stability over a two-week period reflects the nature of the self-efficacy construct; that is, according to Bandura, self-efficacy is situation- and domain-specific--responsive to situational factors while remaining relatively stable within a particular domain (unless conflicting information provokes a reassessment of personal efficacy in a given domain).

Reliability of the Social Provisions Scale

> Research Question 2: What is the internal consistency and two-week test-retest reliability of the Social Provisions Scale? Are these reliabilities sufficient to warrant its use for further research purposes?

The coefficient alphas of .86 (Time 1) and .93 (Time 2) suggest that the Social Provisions Scale is minimally influenced by random measurement error (errors due either to item sampling or to chance circumstantial factors). These

alpha levels also indicate that the Social Provisions Scale is measuring a unidimensional construct, given the rather high inter-item correlations.

Regarding test-retest reliability, the correlation coefficient of .70 suggests that the Social Provisions Scale has moderate stability over time.

Relationships Among Self-Efficacy, Social Support, Subject Demographics, and Various Outcome Variables

Research questions 3 through 5 explored the relationships among self-efficacy, social support, subject demographics, and various outcome variables. Research question 6 addressed whether the relation between self-efficacy and social support at point of discharge to several outcome variables was moderated by subjects' reality-testing capacities.

> Research Question 3: What are the relations of self-efficacy and social support at point of discharge to subject demographics (i.e., age, gender, marital status, ethnicity) and measures of psychological functioning (e.g., psychotic vs. non-psychotic status, number of previous crisis residential admissions, number of previous psychiatric hospitalizations, length of current stay in the crisis residential unit)?
>
> Research Question 4: To what extent do self-efficacy and social support at point of discharge predict concurrent symptom distress (BSI), independently of subject demographics and psychological functioning variables?
>
> Research Question 5: To what extent do self-efficacy and social support at point of discharge, independently of subject demographics and psychological functioning variables, predict the following criteria at two-weeks post-discharge:

a. symptom distress (BSI)
b. self-reported crisis resolution
c. speed of return to work/school
d. incidence of readmission

Research Question 6: Is the relation of self-efficacy and social support to the various outcome criteria moderated by (dependent upon) subjects' reality-testing capacities (i.e, psychotic vs. non-psychotic status)?

Based upon previous research (Mikolaitis, 1989) or theory, it was assumed in Research Question 3 that subject demographics would evidence no particular relationships to self-efficacy and social support, but that psychosis status, number of previous crisis residential and/or psychiatric admissions, and length of current crisis residential stay would show significant relationships to self-efficacy. This latter assumption is founded, in part, on Mikolaitis' (1989) finding that subjects' reality-testing capacities moderated the relation of self-efficacy to certain outcome criteria.

The assumption of reality-testing status moderating the self-efficacy--outcomes relationship is also based on Bandura's (1986) contention that the cognitive appraisal of efficacy information explains why there is no direct equivalence between prior behavior and percepts of self-efficacy; that is, depending on how individuals select, weigh, and integrate efficacy information, the appraisals made may be inaccurate or accurate in terms of their genuine capabilities. Thus, it was assumed that greater numbers of previous mental health admissions would be viewed as past

"failures" in post-discharge adjustment, therefore resulting in lower self-efficacy judgments. Results indicated that there was a significant correlation (r = .41) between clients' percepts of self-efficacy and their reality orientation; those clients with psychotic symptoms perceived themselves as having more efficacy than did those clients without psychotic symptomatology. Similarly, there was a correlation (r = .32) between clients' perception of social support and their reality orientation; clients with psychotic symptoms perceived more social support than did those clients without psychotic symptomatology. Results also suggested that clients' perception of personal efficacy was positively correlated (r = .17) with their length of stay in the crisis residential program; the longer the crisis residential stay, the higher the self-efficacy at point of discharge.

Self-efficacy theory (Bandura, 1986) offers explanations for the results as obtained. Specifically, the theory suggests that the cognitive processing of self-efficacy concerns two distinct functions: (1) the types of information that individuals consider and utilize as evidence of personal efficacy; and (2) the cognitive estimation rules that individuals make use of in evaluating and integrating efficacy information. Thus, the finding that psychosis status significantly correlated with both self-efficacy and social support points toward the possibility that distortions in cognitive appraisal (or

rules) may have affected the judgments of self-efficacy and social support in this sample. In other words, the higher mean self-efficacy and social support ratings made by psychotic clients versus non-psychotic clients implies that psychotic clients were more assured than non-psychotic clients about their social support system and their abilities to carry out the post-discharge adjustment tasks on the PHASE2 Scale. Yet in clinical practice as well as in the research literature, it is widely held that the course of recovery and the risk of rehospitalization is higher for those individuals with psychotic disorders than for those with less severe impairments (Avison & Speechley, 1987). Thus, a likely explanation for this finding is that psychotic clients were evidencing what Bandura (1986) considered "faulty self-knowledge." That is, because of residual impaired reality-testing, the use of the denial defense mechanism, or deficiencies in attentional or memory processes, clients who were psychotic during their current crisis residential stay may have misjudged their self-efficacy or social support network. These misconstruals may have occurred at the level of perception, during cognitive processing, or during recall of efficacy-applicable events. Mikolaitis (1989) suggested that non-psychotic clients may "view themselves more realistically in attending to and weighting...information than do psychotic (clients)" (p. 149).

Similar research findings have been reported in an alcoholic population (Larson & Heppner, 1989). Specifically, in asking a group of inpatient alcohol-dependent males to appraise their problem-solving abilities, these researchers found that "the alcoholic sample mean was 15 points higher than the adult male sample,...12 points higher than the elderly male sample....(and) more similar to late adolescents than to adults whom they more closely resemble in age" (Larson & Heppner, p. 76). Also, the recovering alcoholic's problem-solving appraisal was not significantly correlated with the number of personal problems acknowledged, nor with various indices of alcohol severity. Among other possible interpretations of their data, these authors concluded that perhaps this "mismatch" displayed "dysfunctional problem solving, an inability to learn from feedback, or overutilization of defenses such as denial, which is a common tendency in alcoholics" (Larson & Heppner, p. 76). These findings suggest that reality-testing capacity or psychological defenses may impede the predictive utility of cognitive constructs like problem-solving appraisal or post-hospital adjustment self-efficacy.

The finding that self-efficacy was significantly correlated with length of stay in the crisis residential unit might be understood in terms of the principal sources of information or modes of influence that one's percept of efficacy is based upon; i.e., past mastery experience, vicarious experience, verbal persuasion, and physiological

state (Bandura, 1986). During the course of stay in a crisis residential program, a client's perception of self-efficacy might be influenced by any or all of these sources of information, including the length of stay in the program. Thus, as a client gains mastery experiences during his or her stay, observes other clients successfully performing certain tasks, receives encouragement and positive feedback from staff or other clients, and/or feels less negative physiological arousal, he or she may form higher opinions of his/her self-efficacy. Such experiences may increase over the hospital stay.

An alternative interpretation may be that psychosis status moderated the relation between self-efficacy and length of stay in the crisis residential unit. That is, perhaps psychotic clients with unrealistically high percepts of self-efficacy nevertheless stayed longer (than high self-efficacy/non-psychotic clients) in the crisis residential program at the recommendation of the professional staff who could more objectively and accurately assess clients' functioning.

Research Question 4 is an extension of analyses conducted by Mikolaitis (1989) who investigated the relationship between total scale scores on the original PHASE instrument and level of symptom distress as measured by the Brief Symptom Inventory at the time of discharge. Similar to previous findings (Lent et al., in press), client self-efficacy as measured by the <u>revised</u> PHASE Scale

accounted for significant and unique variation in symptom distress, independent of demographic and psychological functioning variables. Specifically, self-efficacy contributed an additional 24% of the variance to the 4% and 6% accounted for by client demographics and psychological functioning variables. Social support added another 5% to the variance after self-efficacy.

When the social support variable was entered into the regression equation before self-efficacy, social support contributed 15% of the variance beyond that attributed to demographics and psychological functioning variables, while self-efficacy added another 13%. Thus, self-efficacy appeared to explain somewhat more unique variance in symptom distress than did social support.

Considering Research Question 5, it was assumed that levels of self-efficacy and perceived social support at the time of discharge, independent of client demographics and psychological functioning variables, would significantly predict post-discharge functioning two weeks later. Post-discharge functioning was assessed by consideration of symptom distress (BSI), self-reported crisis resolution, speed of return to work or school (if applicable), and incidence of recidivism to the crisis residential unit or a psychiatric unit. Specifically, it was hypothesized that higher levels of perceived self-efficacy and social support would result in lower levels of symptom distress two-weeks post-discharge, greater return rates to prior work or school

functioning, higher self-reports of crisis resolution, and lower rates of recidivism.

As predicted, both self-efficacy and social support variables at point of discharge were significantly correlated with symptom distress two weeks later (*r*'s = -.42 and -.47, respectively). Furthermore, the demographic and psychological functioning variables did not correlate significantly with symptom distress at the two-week follow-up. The social support/BSI relation is consistent with previous findings suggesting that a support system may help "buffer" individuals against psychosocial stressors (e.g., Cutrona & Troutman, 1986; Strauss & Carpenter, 1977; Walker & Greene, 1987).

As also predicted, it was found that self-efficacy and social support at point of discharge were significantly predictive of self-reported crisis resolution at two-weeks post-discharge (*r*'s = .43 and .34, respectively). Concurrent relations among these variables at the follow-up were also quite substantial, with higher self-efficacy and social support associated with greater crisis resolution. Supplemental analyses also indicated that changes in self-efficacy, social support, and symptom distress from Time 1 to Time 2 correlated with one another and with self-reported crisis resolution at Time 2. Taken together, these findings support the contention that personal efficacy and perceived social support are predictive of clients' recovery from psychological crises.

Interestingly, two clinical indicator variables correlated significantly with self-reported crisis resolution. Specifically, a relationship between crisis resolution and psychosis status was found (r = .43), indicating that those clients who evidenced psychotic symptomatology during their crisis residential stay tended to report higher crisis resolution than those individuals who were not psychotic. Also, those clients with a history of admissions to the crisis residential unit reported higher crisis resolution than those having fewer previous admissions (r = .27). As previously discussed, by sheer fact of impaired reality-testing, psychotic individuals may be less capable of making accurate assessments of their psychological functioning than are non-psychotic individuals; hence, the higher crisis resolution reported by psychotic individuals needs to be interpreted with caution. Two other possibilities (not necessarily mutually exclusive) are that individuals with psychotic symptomatology may have set their sights lower regarding what constitutes a return to prior functioning levels, and/or may have benefited from the effect of antipsychotic medication, reducing their perceived symptom distress much more quickly than that of non-psychotic individuals who were not on major tranquilizers.

The consecutive analyses performed to assess whether self-efficacy and social support predicted return to work or school and incidence of recidivism were frustrated by the

very small N in these groups. Specifically, though t-tests and a discriminant analysis all resulted in inconclusive findings, this must be viewed with methodological caution.

A multivariate analysis of variance was utilized to compare subjects who completed the follow-up questionnaires with those who did not on the dependent and independent variables obtained at discharge. This anlaysis produced a Hotelling's T^2 statistic (13,40) of 1.96 ($p < .05$). Examination of the univariate F-tests revealed that the two groups differed on the variable of crisis residential recidivism, with those who were readmitted to the crisis residential unit being less likely to participate in the follow-up measurement. Thus, caution is urged in interpreting the follow-up results.

Research Question 6 also extends Mikolaitis' (1989) and Lent et al.'s (in press) research by investigating whether the relations of self-efficacy and social support to the various outcome criteria are moderated by clients' reality-testing capacities (psychotic vs. non-psychotic status). Results of the Fisher's z transformations suggested that clients' reality-testing capacities do indeed moderate the relation of self-efficacy and social support to several outcome criteria. Specifically, the relations of both self-efficacy and social support to clients' self-reported crisis resolution were moderated by psychosis status, with non-

psychotic clients showing strong, positive PHASE2-crisis and SPS-crisis relations, and psychotic clients reporting weaker, negative relations.

Regarding incidence of return to work or school, non-psychotic clients reported a strong, negative PHASE2-work return association, while psychotic clients evidenced a strong, positive relation; that is, non-psychotic/high self-efficacy clients were more likely to return to work or school sooner within two-weeks post-discharge than psychotic/high self-efficacy clients. Using caution in consideration of the small N, this outcome may be interpreted as illustrating the effect of impaired reality-testing capacity on clients' ability to accurately assess their functioning. The relation of self-efficacy to symptom discomfort (BSI) and recidivism was not significantly moderated by reality-testing capacity. Also, the relation of social support to symptom discomfort, recidivism, and speed of return to work was not significantly moderated by clients' reality-testing capacities though, again, the small N in these analyses warrants caution.

Limitations of the Study

Reliance upon clients' willingness to participate in the study resulted in a 17-month data collection period in order to gather at least 100 subjects from a total pool of approximately 250 for the Time 1 data collection; added to this was the approximate 50% return rate of follow-up

questionnaires (although this rate is considered excellent by some comparisons; e.g., Lent et al., in press). Nonetheless, the relatively small N for some analyses severely hampers this research's generalizability. Reference to Cohen's (1988) sample size tables for power analysis suggested that some recommended Ns would have been within reach given more data collection time. The fact that the sample was drawn from one psychiatric unit in the Midwest during a 17-month time period may also limit the study's generalizability.

Related to the concern regarding the small N is the fact that the sampling procedure required clients to volunteer to participate in the study, which may have produced a potentially biased subject sample. For example, self-selection may have resulted in participants who possessed some characteristics that may have biased their responses to the PHASE2 Scale or other instruments, compared to how non-participants may have responded. Thus, clients who agreed to participate in the study may have been relatively apt to deny their doubts about returning to the community. On the other hand, lack of willingness to participate may have been due to any number of factors, such as fear of self-disclosure or apathy; in fact, some clients said as much when supplying their reasons for not participating in the study. Hence, those clients who agreed

to participate may not be entirely representative of the crisis residential population, thus limiting the generalizability of the results.

Additionally, data on the demographic and clinical characteristics of the non-sampled clients on the unit were not compiled given that written consent was not obtained to view their records, thus it is not possible to compare sampled and non-sampled groups. This question of representativeness of the sample to the population threatens this study's external validity. Further research with other, larger samples is needed to clarify this issue.

Another area of potential limitation for this study arises from the fact that neither experimental manipulation nor random assignment was used to maximize control of independent variables. Thus, one must be concerned about possible alternative hypotheses deriving from extraneous variables that may have influenced the results of the study.

Still another possible area that might limit generalizability of this study stems from potential mediating variables unaccounted for in this study. Similar to the research by Mikolaitis (1989), this study did not systematically assess the four key sources of self-efficacy information suggested by theory (Bandura, 1986). Also, factors such as task difficulty, accuracy of self-knowledge, and other personal, situational, and temporal variables were not examined.

Research and Clinical Implications

Some research questions that were not addressed by this study are as follows.

1. What factors affect the judgmental process of forming self-efficacy perceptions concerning psychiatric post-discharge adjustment?

2. What types of information do people attend to in formulating their post-discharge adjustment self-efficacy?

3. What are the behaviors that are most important in determining post-discharge adjustment and that should be included in the measurement of self-efficacy?

While this research included the potentially important variable of social support not assessed in Mikolaitis's (1989) study of post-hospitalization adjustment self-efficacy, future investigators might want to explore more closely the nature of the relation between self-efficacy and social support, in addition to other potentially interacting or mediating variables not included heretofore (for example, causal attributions).

The role of cognitive distortions, especially in psychotic clients compared to non-psychotic clients, seems to be a critical factor in this population.

Along these lines, it would be useful to assess the internal consistencies and test-retest reliabilities of the PHASE2 and Social Provisions scales when subjects are

divided according to their reality-testing capacity; for example, do non-psychotic vs. psychotic subjects respond more reliably on these instruments?

As a measure of denial, paranoia, or thought disorder, the Minnesota Multiphasic Personality Inventory (MMPI) has been suggested for use with this population, as well as one or both subtests of the Wechsler Adult Intelligence Scale--Revised (WAIS-R) to assess cognitive distortion (Mikolaitis, 1989). For example, the Comprehension subscale of the WAIS-R is considered a reliable indicator of common sense and the capacity to utilize facts in an appropriate, useful, and emotionally relevant way; the Similarities subtest is viewed as a dependable gauge of logical thinking. Thus, the use of the MMPI and other concurrent instruments to appraise reality-testing functioning and/or deficiencies in attentional or memory processes would aid in addressing the issue of the relationship between self-efficacy and cognitive functioning.

Future inquiries might also examine the question of the types of information that clients consider in developing their self-efficacy beliefs regarding post-discharge adjustment. This might be achieved by conducting semi-structured interviews with clients following completion of the PHASE2 Scale.

The findings of this and previous research (Mikolaitis, 1989) have implications for additional instrument revision. That is, to deal with the possibility that psychiatric

clients may distort their self-efficacy ratings, it may be utilitarian to include items to detect a conscious effort on the part of the client to portray himself/herself in a positive way. One might use the "L" and "K" scales of the MMPI or the Crowne-Marlowe social desirability scale (Crowne & Marlowe, 1960) to examine this issue.

The potential clinical use of the PHASE2 Scale might be explored in future research. For example, the PHASE2 Scale might by useful in identifying likely clients at risk for relapse. Thus, clients with considerably low self-efficacy ratings or those psychotic clients with unusually high self-efficacy ratings might be followed closely to determine whether they relapse more often than other clients. The individual items of the PHASE2 Scale might suggest areas to address in a didactic or group learning situation to afford clients the opportunity to practice performance of tasks they feel inefficacious to carry out. Changes in PHASE2 scores might also be used to monitor the clients' progress and to furnish feedback to both clients and caregivers. Thus, an appraisal of individual clients' strengths and weaknesses might be assisted by use of the PHASE2 Scale in determining their specific susceptibility to dysfunction in discharge planning.

In this regard, attention could be given to developing an experimental treatment that would augment the post-discharge adjustment self-efficacy. For instance, a study might concentrate on whether self-efficacy can be raised by

cognitive or behavioral modes of treatment. Regular administration of the PHASE2 Scale could monitor changes in clients' self-efficacy that may be due to current treatment modalities.

Similarly, the positive relation of social support to self-reported crisis resolution suggests that clinicians and future researchers may want to focus on devising means to increase clients' perceived and/or actual social support system. Here again, administration of the Social Provisions Scale would provide a means of monitoring an individual client's current perception of his or her social support. Should the SPS indicate that a particular client perceives little social support in the community, efforts could be made prior to discharge to shore up or strengthen his or her support system. If a lack of, or marginal, social skills prevents a client from benefiting from increased social support, social skills training might be indicated prior to, or just after, discharge.

While the ideas offered above do not exhaust the possible directions for future investigations, they might provide an impetus for further endeavors to examine the complexities of post-hospitalization adjustment self-efficacy.

APPENDICES

APPENDIX A

PHASE2 Item Means and Standard Deviations at Time 1 and Time 2

Table A. PHASE2 Item Means and Standard Deviations at Time 1 and Time 2.

Time 1 (N = 101)			Time 2 (N = 51)		
Item	X	SD	Item	X	SD
1	2.10	1.07	1	2.21	.87
2	2.42	1.11	2	2.33	1.18
3	1.84	1.21	3	1.88	1.11
4	1.96	1.33	4	2.12	1.13
5	1.78	1.42	5	2.15	1.24
6	1.70	1.13	6	1.80	1.25
7	1.87	1.23	7	2.11	1.15
8	1.97	1.26	8	2.06	1.16
9	2.43	1.24	9	2.33	1.19
10	1.85	1.21	10	2.02	1.08
11	1.85	1.28	11	1.69	1.18
12	1.75	1.20	12	1.78	1.22
13	2.43	1.17	13	2.28	1.08
14	1.71	1.12	14	1.73	1.16
15	2.12	1.21	15	2.26	1.11
16	1.82	1.27	16	1.98	1.06
17	1.71	1.18	17	1.90	1.12
18	2.12	1.28	18	2.15	1.24
19	1.54	1.29	19	1.83	1.20
20	1.98	1.20	20	2.36	1.17
21	1.48	1.32	21	1.60	1.18
22	1.57	1.21	22	1.82	1.11
23	1.79	1.20	23	1.75	1.24
24	2.43	1.20	24	2.89	1.05
25	1.91	1.19	25	1.90	1.11

APPENDIX B

Social Provisions Scale Item Means and Standard Deviations at Time 1 and Time 2

Table B. Social Provisions Scale Item Means and Standard Deviations at Time 1 and Time 2.

Time 1 (N = 101)			Time 2 (N = 51)		
Item	X	SD	Item	X	SD
1	2.96	.92	1	2.96	.91
2	2.51	1.06	2	2.44	.96
3	2.76	.99	3	2.94	.96
4	2.70	1.00	4	2.81	.89
5	2.96	.96	5	2.85	.80
6	2.56	.97	6	2.67	.84
7	2.54	1.08	7	2.27	1.01
8	2.60	1.01	8	2.52	.96
9	2.64	.98	9	2.65	.91
10	2.79	1.02	10	2.86	.86
11	2.42	1.04	11	2.46	1.04
12	2.97	.95	12	2.94	.96
13	2.71	.92	13	2.65	.96
14	2.80	.93	14	2.96	.86
15	2.48	1.06	15	2.39	.98
16	2.90	.91	16	2.94	.87
17	2.94	1.06	17	2.88	1.00
18	2.92	.97	18	2.88	.96
19	2.84	.90	19	2.88	.96
20	2.79	.92	20	2.88	.81
21	2.22	1.04	21	2.44	1.02
22	2.93	.90	22	2.79	.92
23	2.95	1.00	23	3.04	.84
24	2.57	1.12	24	2.56	.98

APPENDIX C

Post-Hospital Adjustment Self-Efficacy Scale, Revised

PHASE2

Instructions: This questionnaire asks about some things that people often face when dealing with a crisis. Please read each item carefully and then say how sure you are that you could do each task. Give your answer by circling the number that best describes how sure--or not sure--you are that you can do each task.

How sure are you that you could:	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	COMPLETELY SURE
1. Find ways to work out difficult "everyday problems."	0	1	2	3	4
2. Ask for support from others when you need it.	0	1	2	3	4
3. Manage or ignore thoughts that bother you.	0	1	2	3	4
4. Handle the problems you were having before you came to Night Care.	0	1	2	3	4
5. Get at least 6 hours of sleep every night, even when there is a lot of stress in your life.	0	1	2	3	4
6. Get involved in activities with other people, even when you are feeling depressed or anxious.	0	1	2	3	4
7. Eat a healthy, balanced diet every day, even when you are dealing with emotional problems.	0	1	2	3	4
8. Get your ideas across clearly to others, even when you are feeling upset or confused.	0	1	2	3	4
9. Talk with someone when you are worried about something.	0	1	2	3	4
10. Say encouraging things to yourself when you are feeling down.	0	1	2	3	4
11. Handle stressful situations involving your family.	0	1	2	3	4

How sure are you that you could:	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	COMPLETELY SURE
12. Set realistic goals for yourself during painful times in your life.	0	1	2	3	4
13. Notice if there are changes in your thoughts, feelings, or behavior that are beginning to give you trouble.	0	1	2	3	4
14. Maintain a good energy level (one that is not too high or too low) even when you are dealing with difficult problems.	0	1	2	3	4
15. Keep yourself from behaving in ways that other people think are odd.	0	1	2	3	4
16. Do activities you enjoy on a regular basis, even when you are feeling upset or down.	0	1	2	3	4
17. Handle your current fears and anxieties.	0	1	2	3	4
18. Talk with others about your feelings when you feel down.	0	1	2	3	4
19. Tell others exactly how their behavior makes you feel.	0	1	2	3	4
20. Handle changes or new situations (for example, meeting new people) as they occur.	0	1	2	3	4
21. Cope with a major loss (for example, death of a loved one).	0	1	2	3	4
22. Keep from withdrawing or isolating yourself from others when you are feeling depressed or anxious.	0	1	2	3	4
23. Keep yourself from worrying about future events that may or may not occur.	0	1	2	3	4
24. Keep looking for solutions to your problems until you find one.	0	1	2	3	4
25. Cope with setbacks or crises in your life.	0	1	2	3	4

APPENDIX D

Social Provisions Scale

SPS

Instructions

In answering the following set of questions, think about your current relationships with friends, family members, co-workers, community members, and so on. Please indicate to what extent you agree that each statement describes your current relationships with other people. Use the following scale to give your opinion. So, for example, if you feel a statement is very true of your current relationships, you would indicate "strongly agree." If you feel a statement clearly does not describe your relationships, you would respond "strongly disagree."

STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1	2	3	4

1. There are people I can depend on to help me if I really need it. ____
2. I feel that I do not have close personal relationships with other people. ____
3. There is no one I can turn to for guidance in times of stress. ____
4. There are people who depend on me for help. ____
5. There are people who enjoy the same social activities I do. ____
6. Other people do not view me as competent. ____
7. I feel personally responsible for the well-being of another person. ____
8. I feel part of a group of people who share my attitudes and beliefs. ____
9. I do not think other people respect my skills and abilities. ____
10. If something went wrong, no one would come to my assistance. ____
11. I have close relationships that provide me with a sense of emotional security and well-being. ____

STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1	2	3	4

12. There is someone I could talk to about important decisions in my life. ____

13. I have relationships where my competence and skill are recognized. ____

14. There is no one who shares my interests and concerns. ____

15. There is no one who really relies on me for their well-being. ____

16. There is a trustworthy person I could turn to for advice if I were having problems. ____

17. I feel a strong emotional bond with at least one other person. ____

18. There is no one I can depend on for aid if I really need it. ____

19. There is no one I feel comfortable talking about problems with. ____

20. There are people who admire my talents and abilities. ____

21. I lack a feeling of intimacy with another person. ____

22. There is no one who likes to do the things I do. ____

23. There are people I can count on in an emergency. ____

24. No one needs me to care for them. ____

APPENDIX E

Two-Weeks Post-Discharge Questionnaire

TWO-WEEKS POST-DISCHARGE QUESTIONNAIRE

1. Were you attending school or a training program just before your Night Care admission?
YES _____ NO _____

If you checked YES, have you returned to your classes?
YES _____ NO _____

If you have returned to your classes, how soon (in days) did you return to them after your discharge from Night Care? _____

2. Were you working or doing volunteer work just before your Night Care admission?
YES _____ NO _____

If you checked YES, have you returned to work?
YES _____ NO _____

If you have returned to work, how soon (in days) did you return after your discharge from Night Care? _____

3. How well have you resolved the crisis that brought you into Night Care? (circle one option below)

NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	COMPLETELY
0	1	2	3	4

4. Since discharge from Night Care two weeks ago, have you been readmitted to Night Care?
YES _____ NO _____

5. Since discharge from Night Care two weeks ago, have you been admitted to a psychiatric unit?
YES _____ NO _____

APPENDIX F

Personal Data Sheet

Personal Data Sheet

Subject #_____**Date**_____

Age_____**Sex**_____**Race**_____

Marital/Relationship Status (check one):
Single _____ Married _____ Separated _____
Divorced _____ Widowed _____
Not married but in a monogamous relationship (not living together) _____
Not married but in a monogamous relationship (living together) _____

Educational Status: Currently attending school or training program? _____
If so, part-time or full-time? _____
What type of program?_____

Occupational Status: Currently working for a living? _____
If so, part-time or full-time? _____
What type of work? _____

Living Status (check one):
Independent living (alone) _____
Independent living (with others) _____
Living with parents _____
Living with spouse and/or children _____
Boarding house _____
Supervised group home _____

Treatment Status:
Attending therapy or see case manager? _____
If so, how often? _____
Had therapist or case manager in past? _____
If so, approximately how many months or years total? ___
Attending day treatment? _____
If so, how often? _____
Taking medication? _____
If yes, what? _____

Hospitalization Status: Ever been hospitalized for psychological reasons? _____ How many times? _____

Where (Place)	When (Date)	What for?	How long?

Night Care (Yes/No)? _____ How many times? _____

Current Diagnosis: _____

Length of Current N.C. Stay: _____

APPENDIX G

Research Protocols

DESCRIPTION OF STUDY

This MSU study is looking at how people try to solve the problems that bring them into Night Care. To be in this study, you will need to fill out three (3) questionnaires now. Two weeks from now, you will be mailed the same three questionnaires to fill out again, plus a fourth questionnaire with five questions on it. You will be asked to mail back these four questionnaires in a stamped envelope provided to you. By being in the study, you agree to let the researcher get information from your files about your education, employment, diagnosis, etc. All information will be kept confidential.

RESEARCH PARTICIPATION REQUEST

Night Care is helping out with a research project that is being done by a few researchers at Michigan State University. The people who are doing this research would like to know if you would be willing to be in the study.

In the field of psychology, mental health researchers are trying to learn more about how people adjust to the crises that bring them into a partial-hospitalization unit (like Night Care). The purpose of this research is to understand what kinds of things help people adjust to their life crises.

People who volunteer to participate in this study will be asked to fill out three questionnaires on one occasion, and the same three questionnaires plus a fourth one on the second occasion. The first occasion will be at the time of discharge, and the second occasion will be two weeks later (you will be asked to mail back the completed questionnaires in a stamped envelope provided). One questionnaire asks about things people often face when they leave a partial-hospitalization unit. A second questionnaire asks about the help that people get from others who are important to them. The third questionnaire asks about problems and complaints people may have. All three questionnaires together should take you about 20 minutes to complete. A fourth, very brief (5 questions) questionnaire, which asks people about how they are doing after their partial-hospitalization discharge, will be given on the second occasion.

Your responses to the questionnaires will be kept strictly confidential. Your name does not appear on the questionnaires, and your questionnaires will be separated from the Consent Form so your name will not be attached to the questionnaires.

Attached is the Consent Form, which you will need to sign if you agree to volunteer for this study. By signing the Consent Form, you also agree to allow the researchers to access data from your files. Again, any information used will be kept strictly confidential--your name will not be attached to the information.

If you have any questions, staff will be happy to answer them.

Thank you for your cooperation--your time and input in this research are appreciated.

APPENDIX H

Consent Form

CONSENT FORM

1. I have freely consented to take part in a study being conducted by David Harris, M.A. under the supervision of Robert Lent, Ph.D.
2. The study has been explained to me and I understand the explanation that has been given and what my participation will involve. My participation in this research is completely voluntary.
3. I understand that my participation or lack of participation will not affect my current or future Community Mental Health services in any way.
4. I understand that if at any time during my participation I experience any personal discomfort, I am free to discontinue participation in the study without penalty, and I may contact the experimenter David Harris at 374-8000 regarding any questions I may have.
5. I understand that my participation involves the release of the following information from my clinical record to be used in the study: information from my social and medical history, and information about my condition during this Night Care admission and plans for after-care.
6. I understand that the results of the study will be treated in strictest confidence. My name will not be attached to any information used in the study. Within these restrictions, results of the study will be made available to me at my request.
7. I understand that my participation in the study does not guarantee any beneficial results to me.
8. I understand that involvement in this study is not part of the usual treatment program at Night Care.
9. I understand that, at my request, I can receive additional explanation of the study after my participation is completed.

Signed: _____

(Address and Phone are for follow-up purposes)

Address: _____

Phone #: _____

Date: _____

- -

I verify that the above named subject is capable of understanding the meaning of his or her participation sufficiently well to give informed consent.

_____ _____

Clinical Staff Member's Signature Title

LIST OF REFERENCES

LIST OF REFERENCES

Abler, R. M., & Fretz, B. R. (1988). Self-efficacy and competence in independent living among oldest old persons. Journal of Gerontology, 43, S138-143.

Amenson, C. S., & Lewinsohn, P. M. (1981). An investigation into the observed sex difference in prevalence of unipolar depression. Journal of Abnormal Psychology, 90, 1-13.

American Psychological Association. (1981). Ethical principles in the conduct of research with human participants. Washington, DC: Author.

Aneshensel, C. S., & Frerichs, R. R. (1982). Stress, support, and depression: A longitudinal causal model. Journal of Community Psychology, 10, 363-376.

Avison, W. R., & Speechley, K. N. (1987). The discharged psychiatric patient: A review of social, social-psychological, and psychiatric correlates of outcome. American Journal of Psychiatry, 144, 10-18.

Bandura, A. (1977). Self-efficacy theory: Toward a unifying theory of behavioral change. Psychological Review, 84, 191-215.

Bandura, A. (1984). Recycling misconceptions of perceived self-efficacy. Cognitive Therapy and Research, 8, 231-255.

Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A., Adams, N. E., Hardy, A. B., & Howells, G. N. (1980). Tests of the generality of self-efficacy theory. Cognitive Therapy and Research, 4, 39-66.

Betz, N. E. (1987). Use of discriminant analysis in counseling psychology research. Journal of Counseling Psychology, 34, 393-403.

Billings, A. G., & Moos, R. H. (1982). Stressful life events and symptoms: A longitudinal model. Health Psychology, 1, 99-117.

Billings, A. G., & Moos, R. H. (1985). Psychosocial processes of remission in unipolar depression: Comparing depressed patients with matched community controls. Journal of Consulting and Clinical Psychology, 53, 314-325.

Borg, W. R., & Gall, M. D. (1971). Educational research: An introduction. New York: David McKay.

Breier, A., & Strauss, J. S. (1984). The role of social relationships in the recovery from psychotic disorders. American Journal of Psychiatry, 141, 949-955.

Broadhead, W. E., Kaplan, B. H., James, S. A., Wagner, E. H., Schoenbach, V. J., Grimson, R., Heyden, S., Tibblin, G., & Gehlbach, S. H. (1983). The epidemiologic evidence for a relationship between social support and health. American Journal of Epidemiology, 117, 521-537.

Brook, B. D. (1980). Community families: A seven-year program perspective. Journal of Community Psychology, 8, 147-151.

Brook, B. D., Cortes, M., March, R., & Sundberg-Stirling, M. (1976). Community families: An alternative to psychiatric hospital intensive care. Hospital and Community Psychiatry, 27, 195-197.

Brown, I., Jr., & Inouye, D. K. (1978). Learned helplessness through modeling: The role of perceived similarity in competence. Journal of Personality and Social Psychology, 36, 900-908.

Caplan, G. (1974). Support systems and community mental health. New York: Behavioral Publications.

Cassel, J. C. (1976). The contribution of the social environment to host resistance. American Journal of Epidemiology, 104, 107-123.

Caton, C. L. M., Showlong, P. K., Fleiss, J.L., Barrow, S., & Goldstein, M. (1985). Rehospitalization in chronic schizophrenics. Journal of Nervous and Mental Disease, 173, 139-148.

Cobb, S. (1976). Social support as a moderator of life stress. Psychosomatic Medicine, 38, 300-314.

Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Cohen, J. (1990). Things I have learned (so far). American Psychologist, 45, 1304-1312.

Cohen, J., & Cohen, P. (1983). Applied multiple regression/correlation analysis for the behavioral sciences (2nd ed.). Hillsdale, NJ: Erlbaum.

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. Psychological Bulletin, 98, 310-357.

Costello, C. G. (1982). Social factors associated with depression: A retrospective community study. Psychological Medicine, 12, 329-339.

Coyne, J. C., Aldwin, C., & Lazarus, R. S. (1981). Depression and coping in stressful episodes. Journal of Abnormal Psychology, 90, 439-447.

Cronbach, L. (1951). Coefficient alpha and the internal structure of tests. Psychometrika, 16, 297-334.

Crowne, D. P., & Marlowe, D. A new scale of social desirability independent of psychopathology. Journal of Consulting Psychology, 24, 349-354.

Cutrona, C. E. (1982). Transition to college: Loneliness and the process of social adjustment. In L. A. Peplau & D. Perlman (Eds.), Loneliness: A sourcebook of current research, theory, and therapy (pp. 291-309). New York: Wiley Interscience.

Cutrona, C. E. (1986). Objective determinants of perceived social support. Journal of Personality and Social Psychology, 50, 349-355.

Cutrona, C. E., & Troutman, B. R. (1986). Social support, infant temperament, and parenting self-efficacy: A mediational model of postpartum depression. Child Development, 57, 1507-1518.

Davis-Berman, J. (1988). Self-efficacy and depressive symptomatology in older adults: An exploratory study. International Journal of Aging and Human Development, 27, 35-43.

Dean, A., & Lin, N. (1977). The stress-buffering role of social support. Journal of Nervous and Mental Disease, 165, 403-417.

Derogatis, L. R. (1975). Brief Symptom Inventory. Baltimore: Clinical Psychometric Research.

Derogatis, L. R., & Melisaratos, N. (1983). The Brief Symptom Inventory: An introductory report. Psychological Medicine, 13, 595-605.

Fiore, J., Coppel, D. B., Becker, J., & Cox, G. B. (1986). Social support as a multifaceted concept: Examination of important dimensions for adjustment. American Journal of Community Psychology, 14, 93-111.

Flannery, R. B., Jr. (1986). Personal control as a moderator variable of life stress: Preliminary inquiry. Psychological Reports, 58, 200-202.

Gottlieb, B. H. (Ed.). (1981). Social networks and social support. Beverly Hills, CA: Sage.

Gottlieb, B. H. (1983). Social support strategies. Beverly Hills, CA: Sage.

Henderson, S. Byrne, D. G., & Duncan-Jones, P. (1981). Neurosis and the social environment. New York: Academic Press.

Holahan, C. K., Holahan, C. J., & Belk, S. S. (1984). Adjustment in aging: The roles of life stress, hassles, and self-efficacy. Health Psychology, 3, 315-328.

Holahan, C. J., & Moos, R. H. (1981). Social support and psychological distress: A longitudinal analysis. Journal of Abnormal Psychology, 90, 365-370.

Holahan, C. K., & Holahan, C. J. (1987). Self-efficacy, social support, and depression in aging: A longitudinal analysis. Journal of Gerontology, 42, 65-68.

Kaplan, B. H., Cassel, J. C., & Gore, S. (1977). Social support and health. Medical Care, 15, 47-58.

Kaplan, D. M., & Brown, D. (1987). The role of anxiety in career indeciveness. Career Development Quarterly, 36, 148-162.

Kent, G., & Gibbons, R. (1987). Self-efficacy and the control of anxious cognitions. Journal of Behavior Therapy and Experimental Psychiatry, 18, 33-40.

Kinney, P. J., & Williams, S. L. (1988). Accuracy of fear inventories and self-efficacy scales in predicting agoraphobic behavior. Behaviour Research and Therapy, 26, 513-518.

Lan, L. Y., & Gill, D. L. (1984). The relationships among self-efficacy, stress responses, and a cognitive feedback manipulation. Journal of Sport Psychology, 6, 227-238.

Larson, L. M., & Heppner, P. P. (1989). Problem-solving appraisal in an alcoholic population. Journal of Counseling Psychology, 36, 73-78.

Leary, M. R., Atherton, S. C., Hill, S., & Hur, C. (1986). Attributional mediators of social inhibition and avoidance. Journal of Personality, 54, 704-716.

Leavy, R. L. (1983). Social support and psychological disorder: A review. Journal of Community Psychology, 11, 3-21.

Lent, R. W., Lopez, F. G., Mikolaitis, N. L., Jones, L., & Bieschke, K. J. (in press). Social cognitive mechanisms in the client recovery process: Revisiting hygiology. Journal of Mental Health Counseling.

Mahalik, J. R., & Kivlighan, D. M., Jr. (1988). Self-help treatment for depression: Who succeeds? Journal of Counseling Psychology, 35, 237-242.

Major, B., Cozzarelli, C., Sciacchitano, A. M., Cooper, M. L., Testa, M., & Mueller, P. M. (1990). Perceived social support, self-efficacy, and adjustment to abortion. Journal of Personality and Social Psychology, 59, 452-463.

Marshal, P. S., & Bougsty, T. (1981). Social/psychological problems in an energy-impacted community. In J. A. Davenport & J. Davenport (Eds.), Proceedings of the first international symposium on the human side of energy (pp. 55-66). Laramie: University of Wyoming.

Mikolaitis, N. L. (1989). Post-hospital adjustment self-efficacy of psychiatric patients: A preliminary study. Unpublished doctoral dissertation, Michigan State University.

Mitchell, R. E., Billings, A. G., & Moos, R. H. (1982). Social support and well-being: Implications for prevention programs. Journal of Primary Prevention, 3, 77-98.

Norusis, M. J. (1988). SPSS/PC+ advanced statistics V2.0. Chicago: SPSS, Inc.

Nunnally, J. C. (1978). Psychometric theory. New York: McGraw-Hill.

O'Leary, A. (1985). Self-efficacy and health. Behavioral Research and Therapy, 23, 437-451.

Olioff, M., Bryson, S. E., & Wadden, N. P. (1989). Canadian Journal of Behavioral Sciences, 21, 353-363.

Polak, P. (1967). The crisis of admission. Social Psychiatry, 2, 150-157.

Polak, P., & Kirby, M. (1976). A model to replace psychiatric hospitals. Journal of Nervous and Mental Disease, 162, 13-22.

Robins, C. J. (1986). Sex role perceptions and social anxiety in opposite-sex and same-sex situations. Sex Roles, 14, 383-395.

Rosenbaum, M., & Hadari, D. (1985). Personal efficacy, external locus of control, and perceived contingency of parental reinforcement among depressed, paranoid, and normal subjects. Journal of Personality and Social Psychology, 49, 539-547.

Russell, D., & Cutrona, C. E. (1985). The Social Provisions Scale: A qualitative measure of facets of social support. Manuscript in preparation.

Salovey, P., Birnbaum, D. (1989). Influence of mood on health-relevant cognitions. Journal of Personality and Social Psychology, 57, 539-551.

Sarason, I. G., & Sarason, B. R. (Eds.). (1985). Social support: Theory, research and applications. The Hague, The Netherlands: Martinus Nijhof.

Stanley, M. A., & Maddux, J. E. (1986). Self-efficacy expectancy and depressed mood: An investigation of causal relationships. Journal of Social Behavior and Personality, 1, 575-586.

Strauss, J. S., & Carpenter, W. T., Jr. (1974). The prediction of outcome in schizophrenia: II. Relationships between predictor and outcome variables: A report from the WHO international pilot study of schizophrenia. Archives of General Psychiatry, 31, 37-42.

Strauss, J. S., & Carpenter, W. T., Jr. (1977). Prediction of outcome in schizophrenia: III. Five-year outcome and its predictors. Archives of General Psychiatry, 34, 159-163.

Stroul, B. A. (1987). Crisis residental services in a community support system. Rockville, MD: National Institute of Mental Health.

Stroul, B. A. (1988). Residential crisis services: A review. Hospital and Community Psychiatry, 39, 1095-1099.

Tran, T. V., Wright, R., Jr., & Chatters, L. (1991). Health, stress, psychological resources, and subjective well-being among older blacks. Psychology and Aging, 6, 100-108.

Turner, R. J. (1981). Social support as a contingency in psychological well-being. Journal of Health and Social Behavior, 22, 357-367.

Walker, L. S., & Greene, J. W. (1987). Negative life events, psychosocial resources, and psychophysiological symptoms in adolescents. Journal of Clinical Child Psychology, 16, 29-36.

Wampold, B. E., & Freund, R. D. (1987). Use of multiple regression in counseling psychology research: A flexible data-analytic strategy. Journal of Counseling Psychology, 34, 372-382.

Weisman, G. (1985). Crisis houses and lodges: Residential treatment of acutely disturbed chronic patients. Psychiatric Annals, 15, 642-647.

Weiss, R. (1974). The provisions of social relationships. In Z. Rubin (Ed.), Doing unto others (pp. 17-26). Englewood Cliffs, NJ: Prentice-Hall.

Williams, A. W., Ware, J. E., Jr., & Donald, C. A. (1981). A model of mental health, life events, and social supports applicable to general populations. Journal of Health and Social Behavior, 22, 324-336.

Williams, S. L., Kinney, P. J., & Falbo, J. (1989). Generalization of therapeutic changes in agoraphobia: The role of perceived self-efficacy. Journal of Consulting and Clinical Psychology, 57, 436-442.