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The Relation of Self-Efficacy and Reflected
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Peggy Joanne Burke

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THE RELATION OF SELF-EFFICACY
AND REFLECTED EFFICACY
TO THE PSYCHOLOGICAL ADJUSTMENT OF PSYCHIATRIC PATIENTS

BY

Peggy Joanne Burke

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ABSTRACT

THE RELATION OF SELF-EFFICACY AND REFLECTED EFFICACY TO THE PSYCHOLOGICAL ADJUSTMENT OF PSYCHIATRIC PATIENTS

By

Peggy Joanne Burke

There has been little research on the types of self-cognitions and perceptions about significant others made by psychiatric patients at the time of discharge, even though such cognitions may potentially affect the post-hospital adjustment process. This study extends research on the self-efficacy of psychiatric patients regarding their ability to cope after discharge. It investigates the concept of reflected efficacy as a personal and social cognition that may affect the recovery process. In this study, reflected efficacy refers to the patient's belief that a significant other believes the patient can or cannot cope after discharge.

The primary purpose of this investigation was to assess the basic psychometric properties of a measure of reflected efficacy for post-hospital adjustment and its ability, along with a measure of self-efficacy for post-hospital adjustment, to predict concurrent symptoms of distress and adjustment motivation at the time of discharge. A sample of 100 hospitalized psychiatric patients completed the measures of reflected efficacy (RISE) and self-efficacy (PHASE2), along with measures of

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symptom distress, motivation to adjust, social support, and relationship satisfaction.

The RISE measure achieved a satisfactory level of internal consistency, with a coefficient alpha of .92. The results of hierarchical regression analyses indicated that RISE explained significant variation beyond patient demographics and clinical functioning in predicting symptom distress and adjustment motivation criteria. However, RISE did not substantially improve over self-efficacy (PHASE2) in predictive equations. The interaction of RISE and PHASE2 contributed uniquely to the prediction of adjustment motivation but not symptom distress. The plotted interaction suggested that high RISE beliefs may "compensate" for low self-efficacy, while the adjustment motivation of high self-efficacy subjects was not influenced by RISE beliefs.

Supplementary analyses were also conducted to explore the effects of congruence or discrepancy between PHASE2 and RISE percepts on the outcome criteria. In general, subjects holding RISE and PHASE2 beliefs that were high and congruent achieved better outcomes than did those with low but congruent beliefs.

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The results of the investigation are presented in the following

TABLE I. A. 1. ON BEYOND 1911

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This dissertation is dedicated to my parents,
Patricia Laughlin Burke
and the late
Thomas Brady Burke

ACKNOWLEDGEMENTS

The concept of reflected efficacy is the perception that someone else's belief in us can augment or compliment our own belief in our ability to accomplish and achieve tasks before us. I offer my appreciation and gratitude to the following individuals, each of whom has made important contributions to this project and has added to my perception of being believed in -- to my sense of reflected efficacy.

To Dr. Robert W. Lent, chairperson of my dissertation committee, whose conceptualizations about reflected efficacy and self-efficacy stirred my interest in the topic and who provided guidance, attention to detail, timely review of drafts, and encouragement.

To Dr. Richard Johnson, dissertation committee member, whose insights and probing questions helped sharpen my thinking.

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along with his enthusiasm and support.

I am particularly indebted to the staff and patients at the hospital where the research was conducted.

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To Dr. Harry L. Piersma, Research Director at the hospital, and Dr. Mark Pantle, former testing director, whose unflagging support and cooperation were essential in the development and progress of this project. Special gratitude goes to Mark for helping me focus the project and believing in my ability to do it.

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This dissertation is the final product of many years of graduate work and numerous people have been supportive

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Reflected efficacy is particularly salient when the "other" has a close relationship with the perceiver. The important "others" in my life are my family.

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CHAPTER ONE: INTRODUCTION

Statement of the Problem

When psychiatric inpatients are discharged they go back to family, friends, and the community facing severe challenges: to maintain gains made during hospitalization, to continue the recovery process, and to cope and adjust to situations in their personal lives that may have led to the crises that brought them into the hospital. The mental health counselors who work with these clients seek ways to facilitate their recovery and strive to empower these clients' own health-engendering capacities (Lent, Lopez, Mikolaitis, Jones, & Bieschke, 1992).

Counseling psychologists are, by virtue of their training philosophy, disposed toward a health-oriented view of their clients. Super (1955) once defined this perspective as "hygiology...[a concern] with the normalities even of abnormal persons, with locating and developing personal and social resources and adaptive tendencies so that the individual can be assisted in making more effective use of them" (p.4). More recently, Coyne (1987) has suggested that "a critical task for the therapist is to assist them [clients] to feel empowered: that is, to view their situation in terms of a manageable coping task for which they have necessary resources and which affords the possibility of a positive outcome" (p.539).

It is certainly helpful to psychiatric patients to

have their therapists believe in them, but they live in a world of many other key people who may or may not instill in them such a sense of confidence. Do the psychiatric patients' perceptions of key others' faith in their ability to cope and adjust after discharge play a role in the recovery process? Do these perceptions of key others' confidence in the patient's coping abilities affect the patient's own self-efficacy for adjusting after discharge? To date, little research has been done examining the roles of self-cognitions and social interactions in the recovery process (Mikolaitis, 1989). There is a need to understand the factors that affect post-hospital adjustment and recovery in order to guide interventions for clients returning to the community.

At present, many former patients face the repeated sense of failure caused by relapse and re-admission (Billings & Moos, 1985; Birley & Brown, 1970; Lewinsohn, Zeiss, & Duncan, 1989). Research indicates that the spouses of depressed patients (Coyne, Kessler, Tal, Turnbull, Wortman, & Greden, 1987; Krantz & Moos, 1987) and the families of psychotic patients (Leff & Vaughn, 1980; Lukoff, Snyder, Ventura, & Neuchterlain, 1984) often have trouble coping with their ill family member, and this may further stress the patient. There is a high rate of relapse among patients from families who are highly emotional, critical, or overly involved with the patient (Goldstein, 1988; Leff & Vaughn, 1985; Spiegel & Wissler,

have some knowledge of the world of the future, and the world of the future is the world of the present.

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1986). By contrast, recovery and "quality of life" may be enhanced among patients whose families are able to express feelings openly and problem-solve constructively (Halford, Schweitzer, & Varghese, 1991).

The research literature on factors associated with recidivism has focused primarily on demographics, clinical variables, and global measures of premorbid functioning (Avison & Speechley, 1987). Some have criticized this research for its confusing and unimpressive results (Stoffelmayr, Dilavou, & Hunter, 1983) and for focusing on pathology-based assumptions rather than on health-focused or social contextual variables related to patient functioning (Lent et al., 1992). Others have argued that this literature lacks a strong theoretical base, and that it has not advanced understanding of the post-hospital adjustment process (Avison et al., 1987). Some researchers in this area have recommended that greater emphasis be placed on "perceptual, cognitive and social relationship processes" (Strauss, Klorman, Kokes, & Saccksteder, 1977, p. 242).

There is a definite need for research on post-hospital adjustment which attends to basic cognitive and social processes that affect psychiatric outcome. One theoretical approach which does take cognitive and social processes into account, along with behavioral actions, is Bandura's (1986) social cognitive theory. In particular, a major early portion of Bandura's (1977) broad social

1881. The following is a list of the names of the persons who have been elected to the office of Justice of the Peace for the year 1881, and who have taken the oath of office and qualification for the same.

cognitive theory focuses on the mechanisms governing the interrelationship between thought and action. He proposed that the most central and pervasive type of thought affecting human action is self-efficacy. Bandura hypothesized that a person's self-efficacy (i.e., beliefs about one's performance capabilities) helps determine his or her motivation, effort, persistence, and emotional reactions when faced with stressful conditions.

Self-efficacy theory provides a conceptualization of how people cognitively influence their actions and motivation under a given set of circumstances.

Bandura followed his influential paper on self-efficacy with an equally provocative paper (Bandura, 1978) conceptualizing human functioning from a social cognitive perspective. He proposed a tripartite model of human functioning consisting of three domains -- cognitions and other personal factors, behavior, and environmental influences -- which reciprocally interact and determine each other. Bandura also highlighted the "self-system," which is comprised of "cognitive structures and subfunctions for perceiving, evaluating, and regulating behavior" (Bandura, 1978, p. 344). Bandura proposed reciprocal determinism "...as a basic analytic principle for analyzing psychosocial phenomena at the level of intrapersonal development, interpersonal transactions, and interactive functioning" (Bandura, 1978, p. 344).

1990s theory focuses on the individual's perception of
the relationship between the self and the other. The
relationship is seen as a process of negotiation.

1990s theory

Subsequent research on self-efficacy by Bandura and others (e.g., Bandura, 1986; Bandura & Schunk, 1981; Betz & Hackett, 1981; Biram & Wilson, 1981; Di Clemente, 1981) has primarily explored the relationship between two of Bandura's tripartite domains -- the domains of thought (i.e., self-efficacy) and action. Work is needed that integrates all three domains. For example, it seems important to explore how the social environment impinges on an individual's self-efficacy and how, in turn, one's self-efficacy influences the social environment. In his 1986 book, Bandura did begin to address this issue by speculating about "interactive efficacy," which involves the process of making judgments about another's capabilities. He and his colleagues also initiated study of interactive efficacy. For example, Taylor, Bandura, Ewart, Miller, and DeBusk (1985) explored whether male patients' recovery from myocardial infarctions may be affected by their wives' beliefs about their cardiac capabilities.

Lopez and Lent (1991b) have begun to do some pioneering work exploring the contextual factors of interactive self-efficacy by proposing the existence of three types of interactive efficacy beliefs that a person may hold within a dyadic relationship. These three types of efficacy beliefs are: Self-Efficacy (SE) -- My beliefs that I can or cannot do a specific task; Other-Efficacy (OE) -- My belief that my partner can or cannot do a

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specific task; and Relationship-Inferred Self-Efficacy (RISE) -- My belief that my significant other believes I can or cannot do a specific task.

Lopez and Lent's (1991a) initial interactive efficacy study involved the relationship adjustment of college undergraduates. They focused on the three efficacy cognitions held by one member of a romantic dyad concerning the individual's confidence in performing skills necessary to maintain the relationship. They found support for all three efficacy measures used in the study and concluded "the three types of efficacy beliefs do tap somewhat distinct aspects of sociocognitive processing" (p. 226).

This contextual view of self-efficacy is so new that it has not yet been extended to the interactive efficacy beliefs of psychiatric patients regarding their ability to cope after discharge. However, a line of research (Harris, 1991; Lent et al., 1992; Mikolaitis, 1989) has been initiated that explores the personal self-efficacy of psychiatric patients regarding their ability to cope after discharge. Specifically, Mikolaitis (1989) developed and validated an assessment instrument (the Post-Hospital Adjustment Self-Efficacy Scale -- PHASE) to measure psychiatric patients' self-efficacy for coping after discharge. Lent et al. (1992) found that self-efficacy contributed significantly to the prediction of symptom distress and adjustment motivation, independently of

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patients' demographics, past psychiatric history, and outcome beliefs. Harris (1991) extended this work by modifying the self-efficacy instrument (PHASE became PHASE2) to improve its psychometric qualities and to make it appropriate for less severely disturbed psychiatric populations. He also initiated study of the patient's self-efficacy within a social context, exploring the relation of social support to patients' self-efficacy ratings and symptom distress.

Purpose of the Study

The present study extends the line of research begun by Harris (1991), Lent et al. (1992), and Mikolaitis (1989), in several ways, framing the study of post-hospital adjustment self-efficacy within a social context. By utilizing two parts of Lopez and Lent's (1991b) tripartite model of interactive efficacy, this study explores how psychiatric patients perceive their own abilities to cope after hospitalization in light of their perceptions of how they think significant others view their (the patients') capabilities. (This study does not assess what significant others actually believe about the patient's ability to cope after discharge ["Other-Efficacy" in Lopez and Lent's model], but will rather leave this issue for future programmatic research.) By focusing on the interrelation of Self-Efficacy (SE) and Relationship-Inferred Self-Efficacy (RISE) for post-hospital adjustment, this study is intended to

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further the understanding of two social cognitive constructs that may potentially enhance psychological recovery.

Research Questions

As the following basic research questions indicate, this study was aimed at exploring the reliability and preliminary validity of a novel measure of relationship-inferred self-efficacy regarding post-hospital adjustment (RISE). In particular, this study assessed the relation of the RISE measure to self-efficacy (SE), perceived motivation to recover, the level of symptom distress, and other relevant constructs.

Reliability

1. What is the internal consistency of the RISE measure for post-hospital adjustment? Is this reliability sufficient to warrant its use for further research purposes?

Construct Validity

2. What is the relation of the post-hospital adjustment RISE measure to the PHASE2 self-efficacy measure?

A moderate to strong relationship between these two measures would provide initial construct validity for the concept of interactive efficacy as proposed by Lopez and Lent (1991b).

3. What is the relation of RISE to social support, as measured by the Social Provisions Scale (Russell &

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Cutrona, 1985)?

4. What is the relation of RISE to relationship satisfaction, as measured by a modified version of Lopez and Lent's (1991a) Relationship Satisfaction Scale?

5. What is the relation of RISE to demographic variables and to indices of clinical functioning?

Theory would suggest that RISE is related to perceived social support and to relationship satisfaction with the identified RISE "partner." Theory provides no expectation that RISE will relate to demographics or clinical functioning. Previous research (Harris, 1991; Mikolaitis, 1989) found that post-hospital adjustment self-efficacy did not relate to demographics or to clinical functioning.

Concurrent Validity

6. Does RISE complement self-efficacy in regression predictions of the patients' concurrent scores on (a) General Severity Index (the global symptom distress score from the Brief Symptom Inventory; Derogatis & Spencer, 1982) and (b) perceived adjustment motivation (Motivation Scale; Lent et al., 1992), controlling for demographic variables and clinical functioning?

7. Does the interaction of RISE and self-efficacy explain unique variation in symptom distress and adjustment motivation? It is expected, for example, that persons having both high RISE and self-efficacy percepts will achieve better outcomes than those who have strong

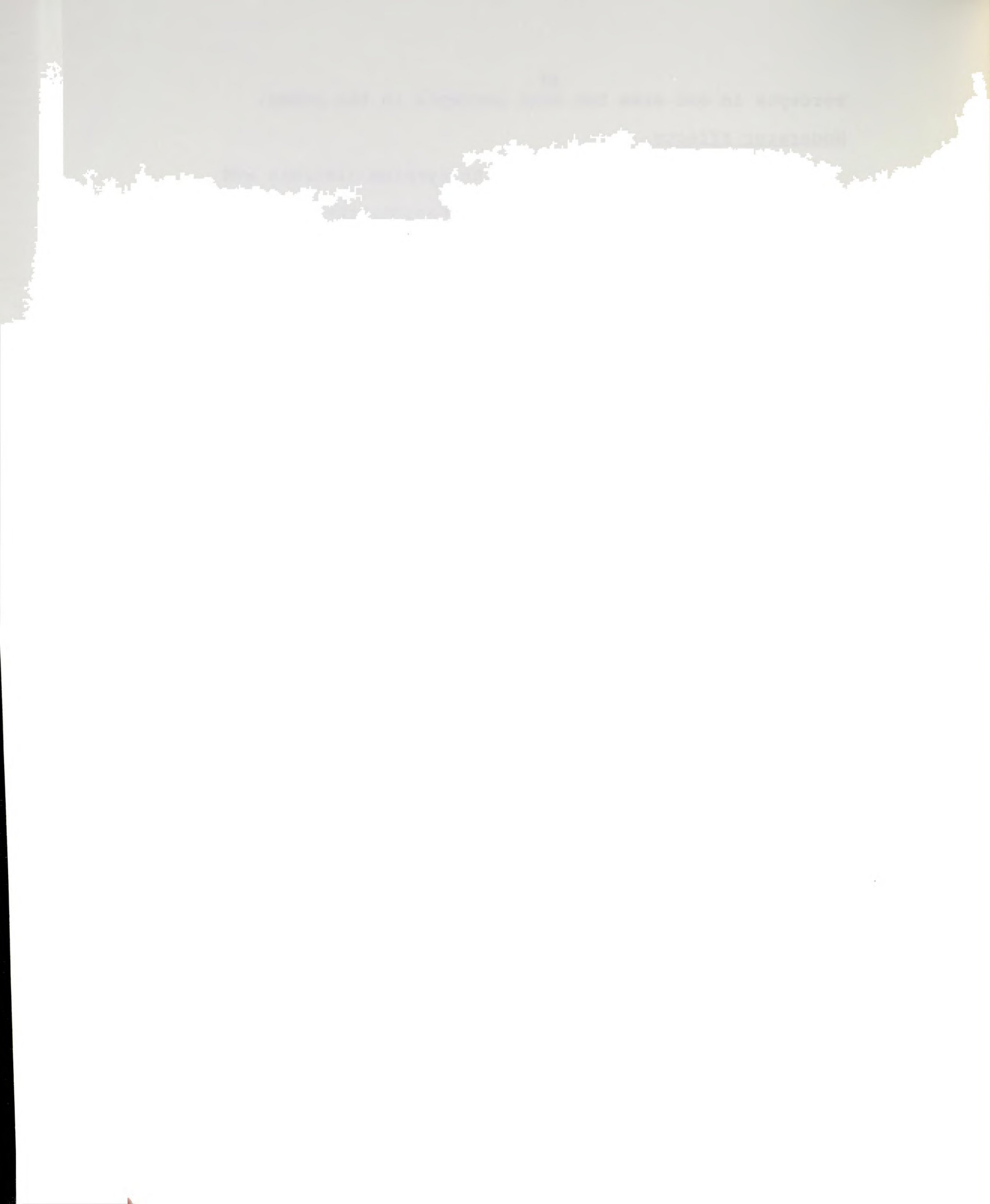
percepts in one area but weak percepts in the other.

Moderator Effects

8. Is the relation of RISE to symptom distress and adjustment motivation moderated by whether the patient exhibits psychotic vs. non-psychotic behavior? Prior research with the PHASE (Lent et al., 1992; Mikolaitis, 1989) and the PHASE2 (Harris, 1991) suggests that patients' self-cognitions may be a more valid predictor of psychological distress and adjustment motivation for non-psychotic rather than psychotic patients.

Overview

In Chapter I, the topic to be investigated was presented, along with the purpose and importance of the study, and the research questions. In Chapter II, the theoretical literature and empirical evidence which frames this study are reviewed. The overall design and methodology are presented in Chapter III. The analysis of the data is reported in Chapter IV. The study concludes with Chapter V, which includes a summary and discussion of the results, limitations of the findings, and implications for future research.



CHAPTER TWO: REVIEW OF THE LITERATURE

The review of the literature will examine six areas that serve as the foundation for this research. The review will first cover Bandura's (1986) self-efficacy and reciprocal determinism models, and then overview Lopez and Lent's (1991b) conceptualization of relational (interactive) efficacy. Next, it will cover the Symbolic Interactionist perspective and how it relates to efficacy appraisals. The literature on attributions and social cognitions relevant to relational efficacy will then be reviewed, followed by a consideration of the role that social support plays in helping or hindering persons undergoing a life crisis. Finally, the review will briefly summarize the literature on post-hospital psychological adjustment, indicating prior work on post-hospital adjustment self-efficacy.

Bandura's Theory

Self-efficacy

Bandura (1977) originally introduced the concept of self-efficacy to explain what happens in successful therapy. Essentially, he proposed that effective treatment alters the client's sense of coping self-efficacy. He defined self-efficacy as "people's beliefs in their capabilities to organize and execute certain courses of action required to attain designated types of performance" (Bandura, 1986, p. 391). According to Bandura, self-efficacy influences the individual's

thought patterns, motivation, effort, persistence, performance, and emotional arousal while the individual is trying to accomplish a task. With higher perceived self-efficacy, one is able to mobilize motivation and cognitive resources in meeting the demands of a given situation. Low self-efficacy is seen in self doubts about one's capabilities. Feelings of self-inefficacy can lead to apathy, despondency, a sense of futility, and a feeling that one is a victim of external events (Bandura, 1977; 1982).

According to Bandura (1977), self-efficacy is based on four principal sources of information or modes of influence: (a) past mastery experience, (b) vicarious experience, (c) verbal persuasion or social encouragement, and (d) physiological arousal. He also maintained that people's beliefs about their efficacy can be modified through these same four modes.

Bandura (1986) hypothesized a number of factors that may affect the strength of the relationship between self-efficacy beliefs and action. Two of these are of particular concern for this study. First, efficacious people who may have the skills needed to perform a particular task can be hindered either by disincentives (lack of equipment or needed resources), or by external physical or social constraints. The possibility of "social constraints" created by significant others is a concern since their negative or overly solicitous messages

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may impede psychiatric patients from coping efficaciously after discharge. Second, self-efficacy can be inaccurately assessed if erroneous self-knowledge distorts self-appraisal. Previous research (Mikolaitis, 1989; Harris, 1991) on post-hospital adjustment suggests that psychotic patients are less able to make accurate judgments about their ability to cope due to their distorted cognitive processes.

Self-efficacy has spawned a great amount of research investigating how these beliefs affect a broad range of behaviors and outcomes, such as children's math fears (Bandura & Schunk, 1981), scholastic aptitude and academic performance (Brown, Lent, & Larkin, 1989), depression (Holahan & Holahan, 1987; Mahalik & Kivlighan, 1988; Stanley & Maddux, 1986), anxiety (Kent & Gibbons, 1987), health behaviors (O'Leary, 1985, 1992), smoking cessation (Di Clemente, 1981), career development (Lent & Hackett, 1987), coping with acute pain (Williams & Kinney, 1991), and recovery from myocardial infarction (Ewart, Taylor, Reese, & DeBusk, 1984; Taylor et al., 1985). In general, these studies have supported hypothesized relations of self-efficacy to psychosocial functioning.

Reciprocal Determinism

The year after presenting his conceptualization of self-efficacy, Bandura (1978) published an important meta-theoretical paper that introduced his tripartite model of human functioning, termed reciprocal determinism.

He proposed that human functioning is guided by three interacting domains: (a) personal factors (including cognitions), (b) behavior, and (c) the environment. Bandura asserted that behavior was an equal determinant in human functioning along with personal factors and the environment.

Interestingly, most of Bandura's own research on self-efficacy has focused only on two of his three domains -- the domains of thought and action. Thus, there is a need to study self-efficacy in relation to the environment as well. Bandura (1986) has begun to consider the reciprocity between self-efficacy and the social environment within the framework of "interactive efficacy." Entertaining the notion that self-efficacy affects (and is affected by) all three domains (i.e., thought, action, and social relationships) raises many possibilities for research and theory development.

Lopez and Lent's Tripartite Model of Efficacy Perceptions

Lopez and Lent (1991b) have begun some pioneering work conceptualizing how self-efficacy interrelates with all three domains. They have particularly focused on percepts of self-efficacy within a dyadic relationship in exploring Bandura's notion of "interactive efficacy," or what they termed "relational efficacy."

Lopez and Lent have postulated the existence of three types of efficacy beliefs that an individual may hold about (or within) a dyadic relationship. These

relationship beliefs include expectancies "(a)...regarding one's own performance capabilities within the relationship (i.e., self-efficacy), (b) beliefs regarding the performance capabilities of one's significant other (i.e., other-efficacy), and (c) beliefs that the other is assumed to have of one's own efficacy (i.e., relationship-inferred self-efficacy)" (Lopez & Lent, 1991b, p.32, emphasis added). They offered their model as an attempt to integrate Bandura's (1977, 1982) self-efficacy theory with Cooley's (1902) and Mead's (1934) symbolic interaction theory, and noted that their model "draws upon the cognitive constructivist, phenomenological, and systemic traditions in psychology" (Lopez & Lent, 1991b, p. 1).

In their conceptual paper, Lopez and Lent (1991b) speculated about the properties and interrelationships of each type of efficacy -- Self-Efficacy (SE), Other-Efficacy (OE), and Relationship-Inferred Self-Efficacy (RISE). For the present research, it was Lopez and Lent's speculations about RISE that were deemed most relevant. They posited that since RISE is a "...personal construction formed through the feedback process" (Lopez & Lent, 1991b, p.20), it can be idiosyncratically distorted by cognitive defenses, such as projection or self-serving biases. They also indicated that RISE may act independently of SE and OE, and may have additive properties. RISE can be congruent or discrepant with SE and OE and they suspect it "may complement SE and

OE in determining relationship satisfaction and adjustment outcomes" (p.20).

"RISE is conceived of as a higher order or metacognitive construct requiring a complex and integrated assessment of both observed and imputed relationship information" (Lopez & Lent, 1991b, p.20). RISE has a unique supportive property in that people often attribute their success or accomplishments to the perception that a key person "believed in me" and that this "belief" sustained them in their efforts. The present study was concerned with whether psychiatric patients have a sense of being "believed in" by an important person in their lives, and if this "belief" relates to their concurrent level of symptom severity and to their motivation to cope after discharge. Lopez and Lent (1991b) hypothesized that "through its potential to bolster self-efficacy, RISE beliefs may serve a key role in perceived social support in the face of life stressors" (p.21).

Lopez and Lent also argued that RISE may be "especially instrumental" in certain "contexts requiring the development of important new skills or the re-evaluation of existing capacities at life turning-points (e.g., birth of a child, retirement, cardiac recovery) -- wherein earlier self-efficacy estimates and the usual sources of efficacy information may be either temporarily destabilized or of limited

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generalizability to the current performance situation" (p.21). Their analysis suggests that RISE may be particularly potent during a turning-point or crisis such as psychiatric hospitalization, and that RISE may bolster or change self-efficacy beliefs. Lopez and Lent see supportive RISE as having the potential to reduce stress and to provide a sense of relationship support. It is also likely that perceptions of non-supportive RISE could increase stress.

Discrepancies between SE and RISE are presumed to "arouse considerable distress, motivating us to reconcile these two sets of perceptions" (Lopez & Lent, 1991b, p.22). They go on to conjecture that "relationship participants strive to minimize SE-RISE discrepancy and to maximize SE-RISE congruence, thereby promoting a consistent view of self in relation to other" (p.22). They believe that SE-RISE discrepancies lead one to revise either their SE or RISE beliefs. Once such beliefs have been revised then "discernible changes" in behavior should be observable, according to Lopez and Lent (1991b).

They do not explore the possible consequences of each type of SE-RISE permutation that can exist. There are two basic types of congruence (a) High SE-High RISE (I believe in me, I think my partner believes in me) and (b) Low SE-Low RISE (I don't believe in me, I don't think my partner believes in me); and two basic types of discrepancy (a) High SE-Low RISE (I believe in me, I think

my partner doesn't believes in me) and (b) Low SE-High RISE (I don't believe in me, I think my partner believes in me).

Each of these pairings is likely to provide the perceiver with very different experiences. In particular, the two types of congruence are very different phenomenologically. High SE-High RISE congruence is likely to help a person cope well, while Low SE-Low RISE congruence confirms the person's self doubts and is likely to lead to despondency and hopelessness.

Since Lopez and Lent's interactive model of efficacy is so new, little research has been done exploring the different possible relationships between SE, OE, and RISE. In the present study the relationship between SE and RISE was explored, together with their interactive effects.

Lopez and Lent (1991a) initially tested their model of relational efficacy using college undergraduates who were in a sustained romantic relationship. This study focused on the three efficacy cognitions held by one member of the romantic dyad concerning one's own and one's partner's relationship maintenance skills. They found support for all three efficacy measures used in the study and concluded "the three types of efficacy beliefs do tap somewhat distinct aspects of sociocognitive processing" (p.226).

Their initial study concerned a dyad where both

members are faced with the same performance task -- to develop and maintain a relationship. In the present study, one member of a dyad is confronting a personal crisis (psychiatric hospitalization) and has to perform tasks related to adjusting and coping to life after discharge, while the other member is confronted with the task of coping and adjusting to a partner who is under great distress. It is unknown how interrelationships among SE, OE, and RISE may be affected when both members of a dyad have different, but complementary tasks to perform as opposed to when they have the same task to perform.

Symbolic Interaction Perspective: Relation to
Efficacy Appraisals

Lopez and Lent (1991b) noted that their tripartite model of self-efficacy also draws upon the work of the Symbolic Interactionists (Cooley, 1902; Mead, 1934; Sullivan, 1947). The Symbolic Interaction (SI) perspective receives its name from viewing verbal and non-verbal communications as symbolic forms of mental activity which are exchanged between people. A basic construct of the SI model is the "reflected self-concept" where an individual's sense of "self" is formed through interaction with others. Specifically, through the process of "role taking," the self-concept is learned as the individual interprets from the reactions of others how others appraise him or her and then comes to think of "self" as others see him or her.

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Early SI Theorists

The SI perspective has its roots in the works of James (1890) and Baldwin (1897), particularly their writings on how the "self" is both a product and reflection of one's social life (Gordon & Gergen, 1968). However, it is the writings of Charles H. Cooley (1902) which are usually considered as the foundation of the SI model. Cooley developed a theory of the self that focuses on how the self-concept develops as the result of interpersonal interactions. He proposed the concept of the "reflected or looking-glass self" (p. 152), wherein individuals come to think of themselves as they "think" others see them. In Cooley's words: "...in the presence of one whom we feel to be of importance, there is a tendency to enter into and adopt, by sympathy, his judgment of ourself....in short,... [one] ... tends to become, for the time, his interpretation of what the other thinks he is" (p. 175).

According to Cooley the self has three principal elements: "The imagination of our appearance to the other person; the imagination of his judgment of that appearance, and some sort of self-feeling, such as pride or mortification" (p. 152). He says our self-feeling is moved to pride or shame by the "imagined effect of ...[our]...reflection upon another's mind" (p. 152).

The SI perspective was elaborated by George H. Mead (1934) who promoted the idea of a "socially formed self." Mead suggested that we come to know and respond to

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ourselves as we see others responding to us. The "self" evolves by taking the "role" of the other and perceiving and adopting the attitude and judgment the other has toward the perceiver. Whereas Cooley proposed that this reflective process was conducted between perceivers and their significant others, Mead held that the reflective process also includes the "generalized other" -- the sociocultural environment of the perceiver.

Closely related to the SI ideas of Cooley and Mead is Sullivan's (1947) interpersonal theory of personality development. He introduced the terms "significant other" and "reflected appraisals," and the idea that children assimilate the "reflected appraisals" of their "significant others" and come to develop expectations and attitudes towards themselves as individuals. Like Cooley, Sullivan proposed that if the reflected appraisals were seen as derogatory, negative self-feelings would result; if the reflected appraisals were positive and constructive, the self would experience positive and approving feelings.

Current Status and Criticisms of the SI Model

Symbolic Interactionism was systematized and summarized by Kinch (1963), who identified a causal chain in which the other's actual appraisals influence the perceiver's reflected appraisals, which in turn influence the perceiver's self appraisal. In this model, reflected appraisals mediate the effect of actual appraisals on self

appraisals (Felson, 1989). Due to Kinch's (1963) conceptualization of the self-concept formation process, the field came to recognize three basic components of the self-concept: a) how the individual sees him or herself, b) how the individual believes others see him or her, and c) how other people actually see the individual (Schafer & Keith, 1985). Based on this model, the "...self-concept is affected by others' actual appraisal and the individual's subjective perception of others' appraisals" (Schafer & Keith, 1985, p. 963).

Symbolic Interactionism was widely accepted and had influenced much of the research on self-concept in the fields of sociology and social psychology from the 1950's through the early 70's. However, its popularity lagged after an influential critical review of the literature by Shrauger and Schoeneman (1979), who raised questions about the tenability of the SI model (May, 1991). Research using this model has primarily focused on how feedback from others affects subjects' self-appraisals either in uncontrolled, naturally occurring interactions (Miyamoto & Dornbusch, 1956; Quarantelli & Cooper, 1966), or in controlled structured feedback situations (Haas & Maehr, 1965; Videbeck, 1960).

Naturalistic studies generally have found that what people believe others think of them is more closely related to their self-concept than what the others actually thought about them (Schafer & Keith, 1985;

Shrauger & Schoeneman, 1979). In studies that experimentally manipulated feedback, subjects' self-perceptions usually changed in the direction of the feedback. In an extensive review of the SI research literature, Shrauger and Schoeneman (1979) found "...no consistent agreement between people's self-perceptions and how they are actually viewed by others" (p. 549).

In order to "validate" the SI theory, Shrauger and Schoeneman declared "...There must be a congruence between people's self-perceptions and how they feel others see them....(between)... self-perceptions and others' actual perceptions of the person, and...(between)... perceived other-evaluation and actual other-evaluation" (p. 552). Their review of the literature indicated that there was a strong relationship between self-appraisals and reflected-appraisals but not between the others' actual appraisals and either reflected- or self-appraisals. May (1991) and Schafer and Keith (1985) argued that Shrauger and Schoeneman's (1979) expectation of a relationship between self-perception and others' actual perceptions "...may be making a rather uncritical use of the symbolic interactionist model of the self-concept" (Schafer & Keith, 1985, p. 964). A closer investigation of Cooley's work and that of other SI theorists does not imply that reflected and actual appraisals need to be identical in order for reflected appraisals to influence self-appraisals.

Schafer and Keith (1985) suggested that one reason research on the SI model has not found strong links between others' actual appraisals and the individual's self-appraisal is due to the methodology and statistical analysis typically used in such studies. Rather than using bivariate correlations, Schafer and Keith (1985) and Schafer, Keith, and Lorenz (1984) advocated exploring possible causal relations among the three components of self-concept with path analysis and multiple regression. In their own studies they have selected subjects who have true significance and "biographical" history with each other. The Schafer and Keith (1985) study used 333 married couples. Their path analytic findings indicated that spouses' actual appraisals had an indirect influence on the subject's self-appraisal, which was mediated by the subject's perception of their spouses' evaluation of them.

Reflected Appraisals and Efficacy Appraisals

It is the triad of social cognitions (others' actual appraisal, reflected appraisals, and self-appraisals) that Lopez and Lent (1991b) described as underlying the "interactive efficacy process within close relationships" (p.14). Their model

... suggests the mechanisms of action, or component processes, through which interactive efficacy may operate....Social cognitive theory complements SI theory by emphasizing the complexity of the self-appraisal process, the multiple sources of

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information that people use in forming and revising self percepts, and the key content of self-appraisal that is presumed to guide much of psychosocial functioning, namely, percepts of self-efficacy or personal competence in particular behavioral domains. (Lopez & Lent, 1991b, p. 14).

Lopez and Lent (1991b) differed with Kinch (1963) on his view that the three primary constructs of SI theory are linked in a linear chain. They suggested that, like Bandura's (1986) model of triadic reciprocity, self-appraisal constructs are probably reciprocally interactive. They humorously but astutely noted, "...the "looking glass self" may more likely resemble a funhouse mirror than a clear and veridical source of self-information" (Lopez & Lent, 1991b, p. 14).

Attribution Theory and Attributions in Intimate Relationships

The literature on causal attributions may help shed light on how people form their different interactive efficacy beliefs. In making causal attributions, we depend on our knowledge and belief structures from past experience to help us make sense of the present social situation.

The Roots of Attribution Theory

Attribution theory began with the work of Fritz Heider (1958), whose major contribution to attribution theory was defining many basic issues and concepts that would later be explored by others (Thompson & Snyder, 1986). Heider

(1958) maintained that people use a commonsense psychology (naive epistemology) to think about and infer meaning from the happenings around them. In particular, he posited that people are motivated to make causal inferences about interpersonal occurrences in order to predict and control their environment. Social perceivers presumably use information about motivational, ability, and situational factors in order to "infer" the cause of an event. In addition, he categorized various types of responsibility attributions for outcomes, such as: association responsibility (guilt by association), causal responsibility (guilty by accident since outcome was not intended or foreseen), and intentional responsibility (guilty due to intention to do harm).

Jones and his associates (Jones, 1979; Jones & Davis, 1965; Jones & Nisbett, 1972) contributed to attribution theory's development by investigating how a perceiver may be biased when inferring the intention and disposition of an actor. Their research found that people tend to make dispositional attributions for other people's behavior; this is called the Fundamental Attribution Error (Jones, 1979; Ross, 1977). As an observer of others, an individual attributes other's behavior to personal traits (dispositions), but as an actor, the individual attributes his or her own behavior to situational causes -- termed the "actor-observer bias" (Jones & Nisbett, 1972).

In addition to these attribution tendencies, people

also have a bias to distort their own phenomenological perspective in ways that help them maintain a good self-image -- called a "self-serving bias" (Miller & Ross, 1975). People do this when they take personal credit for their own successes, but blame their failures on bad luck, others, or situational factors. It is likely that some of these attributional biases play a role in self-efficacy formation as well as "other efficacy" and "relationship efficacy" judgments.

H. H. Kelley (1967, 1972) contributed to attribution theory with his "covariation model" (1967), involving attributions based on exposure to multiple instances of the same or similar events; and with his concept of "causal schemata" (1972), involving exposure that is limited to a single event. Kelley was also concerned with the attributional instability that exists in situations where one's self-confidence is shaken by an experience, or where problems are beyond a person's ability to cope. He posited that, at such times, people are very susceptible to social influence and are likely to actively search for causal explanations for their predicament.

This speculation of Kelley's fits with the work of Jacobson, Waldron, and Moore (1980), who found that, in distressed married couples, partners were very reactive to one another's displeasing behaviors. Kelley's formulations may also help explain how psychiatric patients, who are likely to have low self-esteem and

coping problems, make attributions about their situation and form personal and relational efficacy judgments.

Much of the current research on attribution formation was influenced by the work of Weiner (1979), who investigated possible causal attributions one could make for achievement outcomes. He and his associates (Weiner, 1979; Weiner, Freize, Kukla, Reed, Rest, & Rosenbaum, 1972) proposed a three dimensional model of causal attributions consisting of locus of control (internal vs external), stability over time (stable vs unstable), and controllability (controllable vs uncontrollable). Weiner (1979) held that the causal attributions one makes for a successful or unsuccessful outcome influences future expectations, emotions, and performance.

Abramson, Seligman, and Teasdale (1978) proposed an important attributional reformulation of Seligman's (1975) Learned Helplessness model of depression. In modification of Weiner et al.'s (1972) causal model, Abramson et al. (1978) proposed a three dimensional attribution model of depression consisting of locus (internal vs external), stability over time (stable vs unstable), and globality (global vs specific). Abramson et al. (1978) posited that internal, stable, and global attributions for a negative event were the most damaging and likely to leave the person feeling helpless and depressed. These concepts of locus, stability, and globality have also influenced much of the research on causal and responsibility attributions

of people in intimate relationships (Epstein, 1985).

Attributions in Intimate Relationships

The literature on how intimates make attributions or explanations for relationship events or partner behavior is of particular importance to the current research on the relation of interactive efficacy to indices of post-hospital adjustment. In a major review of the literature on attributions in marriage, Bradbury and Fincham (1990) concluded that maritally distressed couples make causal and responsibility attributions for marital events that are likely to increase the impact of any negative event while decreasing the impact of any positive event; maritally satisfied couples tend to show the opposite pattern. For distressed couples, they found particularly strong effects "...on the causal dimension of gloablity, indicating that distressed spouses view the causes of negative events as globally influential in the marriage and view the cause of positive events as specific to a given incident" (Bradbury & Fincham, 1990, p. 29). Responsibility attributions for "malicious" behaviors, or "selfish" intentions of the partner's behavior, were seen as critical in producing, maintaining, and exacerbating marital distress.

Other studies have found that distressed spouses blame their partner for negative marital events and focus on their partner's selfish motivations and lack of love (Baucom, Epstein, Sayers, & Sher, 1989; Epstein, Pretzer,

& Fleming, 1987; Fincham, 1985; Fincham, Beach, & Baucom, 1987; Fincham, Beach, & Nelson, 1987). Distressed couples tend to "accentuate" their partners' negative behaviors (Baucom, Sayers, & Duhe, 1989). According to Baucom et al. (1989), "Spouses' perceptions and inferences about each others' behavior can contribute to marital distress independent of any extreme standards and evaluations because they can serve as a distorted and dissatisfying version of reality" (p.32).

Fincham, Beach, and Nelson (1987) reported that responsibility attributions predict the resulting emotional impact the couple experiences. Longitudinal research (Gottman & Krokoff, 1989; Levenson & Gottman, 1983) has found that negative emotional arousal patterns in a marriage has long-term negative effects on marital satisfaction. Fincham, Beach, and Nelson (1987) concluded that "...couples making negative responsibility attributions may be at a higher risk for deteriorating marital satisfaction over time than those making more benign responsibility attributions" (p.82).

A number of studies (Coyne, Burchill, & Stiles, 1990; Hinchcliffe, Hopper, & Roberts, 1978; Kahn, Coyne, & Margolin, 1985; Schmaling & Jacobson, 1990; Weissman & Paykel, 1974) have noted that depressed married people often experience marital distress. Heim and Snyder (1991) found the best predictor of depression for married subjects was "disaffection," referring to emotional

distance and alienation exhibited by a spouse. In particular, they found that husbands' disaffection was predictive of depression in wives. Depressed wives tended to attribute the causes of marital difficulties to themselves and not their husbands.

In a study on the communication patterns of maritally distressed couples with a depressed partner, Hautzinger, Linden, and Hoffman (1982) found that depressed couples' communication was more uneven, negative, and focused on somatic and psychological complaints than was that of nondistressed couples. Of particular note was the finding that the spouse of a depressed person made positive attributions for his or her own behavior but evaluated his or her depressed partner negatively.

Other research that has focused on the role of causal attributions in intimate relationships (Fincham & O'Leary, 1983; Holtzworth-Munroe & Jacobson, 1985) suggests that spouses make attributions about the causes of deviant behavior in their partners who are emotionally distressed. One study (Hooley, Richters, Weintraub, & Neale, 1987) found that spouses of mental patients with florid psychotic symptoms attributed the patients' deviant behaviors to the illness, while spouses of patients with affective disorders attributed the symptoms, such as self-neglect and apathy, to the patients' own volitions -- to their character rather than to the illness.

Hooley et al. (1987) concluded that when symptoms are

perceived by others as being under a patient's control, the patient is likely to be blamed for not trying to get better. They also concluded that their "data suggest the possibility that psychosocial factors may ... play a role in the causal chain. That is, if negative symptoms engender nonsupportiveness from others, then the resulting lack of social support may serve to perpetuate or exacerbate a patient's symptoms" (Hooley et al., 1987, p.32). It is noteworthy that the current study explored the relation of patients' symptom distress to their perceptions of their significant others' confidence in them.

The Role of Social Support in Psychological Distress

The study of social support in relation to health and well-being has grown dramatically since the mid-1970's (Cassel, 1974; Cobb, 1976). Results indicate that (a) social support has a beneficial effect on people adjusting to stress (Gottlieb, 1981); (b) lack of social support is related to the onset and maintenance of depression (Billings & Moos, 1985; Coyne, Aldwin, & Lazarus, 1981); and (c) the presence of social support relates to successful recovery from psychotic episodes (Breier & Strauss, 1984).

Perceived social support has also been found to play a major role in the psychological adjustment of individuals (Billings et al., 1985; Holahan et al., 1987). Sommers (1988) investigated social contextual factors relation to

recovering depressed patients' adjustment; finding that the family's expectation and tolerance for deviance, along with their capacity to be supportive, were related to the patient's likelihood of relapse and need for rehospitalization.

Some research has indicated that social support has a "buffering" effect, i.e., it may protect people who are under extreme stress (Cohen & Wills, 1985; Dean & Lin, 1977). When social support is operationized in terms of social integration or social networks, it tends to show direct effects; however, when it is measured in terms of aid, resources, and emotional support, it tends to serve as a stress "buffer" (Taylor, 1990).

On the other hand, there are instances in which the nature of the support is a problem and acts as a major hindrance to the distressed person (Coyne & Bolger, 1990; Coyne & DeLongis, 1986; Coyne & Holroyd, 1982). For example, sometimes others become "too supportive," causing their support to "misfire" or "aggravate" the stressful situation (Coyne, Wortman, & Lehman, 1988). Hostile, critical expressions and over emotional involvement from family members may also have a debilitating effect on recovering psychiatric patients (Goldstein, 1988; Halford et al., 1991; Leff & Vaughn, 1985; Spiegel & Wissler, 1986; Vaughn & Leff, 1976). Negative "expressed emotion" within families may especially adversely affect non-psychotic depressed patients (Hooley, Orley, &

Teasdale, 1986).

Research on Post-Hospital Psychological Adjustment

Despite government efforts to reduce psychiatric hospital admissions, recent statistics reveal that there are trends toward increased psychiatric admissions, particularly at general hospitals (Kiesler & Sibulkin, 1984; Kiesler & Simpkins, 1991), and toward longer stays (Kiesler, 1991; Kiesler, Simpkins, & Morton, 1990). In addition, there seems to be a trend toward increased readmissions, particularly in communities with adequate mental health resources (Wan & Ozcan, 1991). These statistics suggest that there is a growing number of mental health patients facing the post-hospital recovery process and, hence, a continuing need to understand the factors that reduce recidivism and enhance recovery. This section will briefly review research on the psychiatric recovery process and summarize the findings of these recent studies of post-hospital adjustment self-efficacy.

Past Research on the Recovery Process

Past research on the recovery process has focused primarily on relapse, with investigators trying to find the best predictors of recidivism so that at-risk populations could be identified. Early studies examined such possible predictors as patient demographics, diagnosis, problem at last admission, types of treatment during last hospitalization, and number of previous

hospitalizations (Anthony, Cohen, & Vitalo, 1978; Byers & Cohen, 1979; Nuehring, Thayer, & Ladner, 1980). Two reviews of this literature (Buell & Anthony, 1975; Rosenblatt & Mayer, 1974) concluded that only one variable consistently predicted rehospitalization -- the number of previous admissions. Rosenblatt and Mayer (1974) also asserted that searching for diagnostic or psychopathological predictors was too narrow a focus since social processes may largely contribute to relapse. In a meta-analytic review, Stoffelmayr et al. (1983) found that the level of premorbid functioning predicted outcome among schizophrenics.

In their review of the post-hospital adjustment literature, Avison and Speechley (1987) noted that the field has been expanding its definition of adjustment to include: (a) the length of time the patient stays out of the hospital (community tenure) (Bene-Kociemba, Cotton, & Frank, 1979), (b) the patient's ability to perform life-roles (Tessler & Manderscheid, 1982), (c) interpersonal adjustment (Strauss & Carpenter, 1977), (d) current levels of symptomatology (Leff & Vaughn, 1980), and (e) multidimensional outcomes, such as social adjustment, psychological condition, and economic productivity (Bland & Orn, 1980). Avison and Speechley (1987) argued that past research has added little knowledge about the post-hospital adjustment process because it has lacked a theoretical base and has suffered

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serious methodological flaws.

Current Research on the Recovery Process

In the last decade or so there has been a philosophical shift among mental health planners and providers away from "simply maintaining" clients in the community to helping them function better (Anthony, Cohen, & Kennard, 1990). This shift can also be seen in the research on post-hospital recovery. Rather than emphasizing demographic and psychopathological predictors of relapse, the research seems to be moving toward a focus on the recovering patient's well-being, and on the social contextual and cognitive factors that may promote recovery.

During the 1970's various fields in psychology were investigating questions about "quality of life" (Lehman, 1983; Lehman, Ward, & Linn, 1982). Lehman and his colleagues called for clinicians to apply the concept of "quality of life" to the study of chronic mental patients, arguing that "providers of health care for the chronically ill must ask not only whether their treatments alleviate symptoms of disease but also whether they enhance the quality of patients' lives" (Lehman et al. 1982, p. 1271). They maintained that well-being is due to satisfaction with one's living situation, family and social relations, leisure activities, work, finances, safety, and health. Mirin and Namerow (1991) and Sylvester and Bean (1989) have found links between well-being and the patient's

ability to live successfully in the community. More current studies on post-hospital adjustment are beginning to consider the patient's perceptions about his or her social milieu and the influence that significant others can have on the patient's success at recovery (Harris, 1991; Lent et al., 1992; Mikolaitis, 1989).

Research On Post-Hospital Adjustment Self-Efficacy

In order to impose a theoretical model on the recovery process, as Avison and Speechley (1987) had argued, a series of investigations were begun in the past five years at Michigan State University. These studies have applied Bandura's (1986) model of self-efficacy to the adjustment of psychiatric patients about to re-enter the community.

Mikolaitis (1989) developed a measure of psychiatric post-hospital adjustment self-efficacy (PHASE), and assessed its internal consistency and preliminary construct validity. She had psychiatric inpatients complete both the PHASE scale and a measure of symptom distress (Brief Symptom Inventory -- BSI) just before being discharged.

Mikolaitis (1989) found a significant inverse relationship between the PHASE and the BSI, with higher self-efficacy predicting less symptom distress. Consistent with Bandura's (1986) theory, two hypothesized sources of self-efficacy -- past performance and internal arousal cues -- correlated with the PHASE. Although the PHASE scale intended to tap several different dimensions

of self-efficacy, factor analysis suggested that the instrument was measuring a single latent dimension.

One problem with the PHASE scale was its negative skew, indicating that most respondents reported high confidence in their ability to perform the post-hospital adjustment tasks. Mikolaitis also found, unexpectedly, that patients' capacity to reality-test moderated the relation of self-efficacy to symptom distress. Specifically, non-psychotic subjects produced stronger PHASE-BSI correlations than did psychotic patients.

Lent et al. (1992) reanalyzed portions of Mikolaitis' data along with concurrently gathered additional data; they also conducted a brief follow-up study. In addition to the PHASE and BSI, they administered measures of outcome expectations (OE scale) about patients' post-hospital adjustment and about their motivation to adjust to the community (Motivation Scale -- MS). Using hierarchical regression analysis, they found that self-efficacy contributed significantly to the prediction of both symptom distress and adjustment motivation independent of demographics, past behavior, and outcome beliefs (OE).

Finally, Harris (1991) extended this line of research by modifying the PHASE instrument to reduce its negative skew and to be useful with less severely ill patients than those employed by Mikolaitis (1989) and Lent et al. (1992). Harris found that the revised scale (PHASE2) was

no self-will, I have no power to do
anything, and I am a mere instrument
in the hands of God. I am a
creature of His love, and I am
a creature of His mercy.

highly internally consistent and moderately stable over a 2-week test-retest period. Harris also explored the relations of the PHASE2 scale and a measure of social support to several outcome indicators among clients in a residential crisis setting. Hierarchical regression analysis revealed that self-efficacy, more than social support, contributed substantially to the prediction of symptom distress independent of patient demographics and level of clinical functioning. Self-efficacy and social support at point of discharge were also predictive of patients' crisis resolution two weeks after discharge.

Harris also found that patients' capacity to reality-test moderated certain relationships, although the relation of self-efficacy to symptom distress was not substantially different in psychotic vs. non-psychotic subjects. Curiously, he found that psychotic patients were more likely to report they had resolved their crisis after discharge. However, the psychotic/high self-efficacy patient was not as likely to have returned to work or school in the two weeks after discharge as was the non-psychotic/high self-efficacy patient.

Collectively, the studies on post-hospital adjustment self-efficacy indicate that Bandura's (1986) theory may aid understanding of patient's ability to adjust and cope after psychiatric discharge.

CHAPTER THREE: METHODOLOGY

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

Research Participants

The sample was drawn from the population of adult clients at a large psychiatric hospital in an urban Midwest community. The hospital treats a broad range of adult clients, from inpatients with psychotic and non-psychotic disorders, to "partial" patients whose level of functioning allows them to attend treatment classes during the day and reside at home or in the community during the evening. Access to patients with this range of disorders and adaptive functioning helped in replicating and extending the prior research on self-efficacy for post-hospital adjustment.

The study sample consisted of patients admitted to the hospital from late October 1991 through early April 1992 who were asked to participate in the research and were given a consent form. Ten subjects first participated in a small pilot project, and 100 subjects took part in the study proper. All subjects completed the following instruments within five days of discharge: the Post-Hospital Adjustment Self-Efficacy Scale -- Revised (PHASE2), Relationship-Inferred Self-Efficacy Scale for Post-Hospital Adjustment (RISE), the Brief Symptom

Inventory (BSI), the Motivation Scale (MS), the Social Provisions Scale (SPS), and the Relationship Satisfaction scale (RS). In addition, data about subject demographics and level of clinical functioning were also collected.

Description of the Sample

Sample Population

During the six-month data collection period, approximately 265 patients were available as potential research participants. Potential subjects were approached to participate in this research if they met the criteria of (a) being hospitalized for at least 7 days, (b) were within 5 days of discharge, and (c) were judged by nursing staff as able to give informed consent. Excluded from consideration were patients who had the investigator as their primary therapist, patients who had previously participated in the study and were readmitted during the data collection period, and those patients who were discharged before their planned discharge dates and therefore had not been approached for participation.

The primary sample and the pilot subjects represented 42% of potential subjects. Of the 155 patients who did not participate, 24% ($n=37$) did not meet selection criteria (i.e., hospitalized at least 7 days, able to give informed consent), 15% ($n=23$) were the investigator's clients, 14% ($n=22$) remained hospitalized more than 5 days after completing the research instruments, 8% ($n=12$) declined participation, 3% ($n=5$) were readmitted, and 36%

(n=56) were discharged before they could be recruited or left "AMA" ("against medical advice").

Demographics

Demographic features of the research sample (N=100), the pilot sample (N=10), and the patients not sampled (N=155) are outlined in Table 3.1. As can be seen, χ^2 and t test statistics performed to compare the demographic status of respondents (N=100) and non-respondents (N=155) indicate that the two groups were similar in age, gender, ethnic composition, and marital status. The major sample of 100 subjects consisted of 37 males and 63 females who were predominately Caucasian (93%). These subjects ranged in age from 18 to 78, with a mean age of 37.9 years (SD =12.09). Fifty-nine percent of the subjects were married and 41% were unmarried. Of the unmarried subjects, 18% were single, 8% separated, 11% divorced, and 4% widowed.

Most of the sample had at least a high school education. Specifically, those with a high school diploma or GED made up 43% of the sample, and 34% had completed some college. Only 6% had not graduated from high school, while 7% had a Bachelor's degree, and 10% had done post graduate work. Most of the subjects were employed or were dependent on a spouse who was employed (81%), while 19% were on government assistance.

Table 3.1. Demographic statistics on pilot, main sample, and patients not sampled

Variable	Pilot (N=10)		Main Sample (N=100)		Not Sampled (N=155)		<u>X</u> ² , d.f.
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	
<u>Gender</u>							
Male	4	40.0	37	37.0	46	30.0	1.48, 1, n.s.
Female	6	60.0	63	63.0	109	70.0	
<u>Ethnicity</u>							
Caucasian	8	80.0	93	93.0	147	95.0	.37, 1, n.s.
Other	2	20.0	7	7.0	8	5.0	
<u>Marital Status</u>							
Married	4	40.0	59	59.0	81	52.0	(married v.s. not married) 1.12, 1, n.s.
Single	6	60.0	18	18.0	47	30.0	
Separated/ Divorced/ Widowed	0	00.0	23	23.0	27	17.0	
<u>Income</u>					Not Avail		
Gov. Asst.	1	10.0	19	19.0	--	--	
Employment	9	90.0	81	81.0	--	--	
<u>Education</u>					Not Avail		
<12	0	00.0	6	6.0	--	--	
12	2	20.0	43	43.0	--	--	
>12, no degree	6	60.00	34	34.0	--	--	
Bachelor's	2	20.0	7	7.0	--	--	
Post Grad Work	0	00.0	10	10.0	--	--	
		Mean		Range		<u>SD</u>	<u>t</u>
<hr/>							
<u>Age</u>							
Pilot		34.50		24 - 51		9.70	
Main Sample		37.90		18 - 78		12.09	
Not Sampled		36.47		18 - 66		11.04	1.03, n.s.

Note. Statistical tests were performed on the differences between the main sample and non-responders; n.s. = not significant.

	Sample	Population
Age		
18-24	15.0	12.5
25-34	20.0	18.0
35-44	25.0	22.0
45-54	20.0	18.0
55-64	15.0	12.5
65+	5.0	8.0

Level of Clinical Functioning

The clinical characteristics of the research sample, the pilot sample, and those patients not sampled are portrayed in Table 3.2. Chi Square tests indicated that respondents were comparable to non-respondents on clinical characteristics. Only 16% of the major sample subjects were diagnosed as evidencing psychotic features during their hospital stay. This group was composed primarily of patients diagnosed as having mood disorders with psychotic features. Previous research on post-hospital adjustment self-efficacy used samples with a much higher incidence of psychosis: Mikolaitis' (1989) sample ($N=103$) had 71% psychotic clients, while Harris' (1991) sample ($N=101$) had 49% psychotic clients.

Based on the diagnostic classification system from the Diagnostic and Statistical Manual of Mental Disorders (DSM-III-R), 78% of the main subjects had Axis I diagnoses of Mood Disorder, 10% were diagnosed with Adjustment Disorder, 9% with Anxiety Disorder, and 3% with various other categories. The DSM-III-R diagnoses for this population were also quite different from the two earlier studies on post-hospital adjustment self-efficacy. Thirty-nine percent and 31% of Mikolaitis' and Harris' samples were schizophrenic, respectively, while only 1% of the current sample were so diagnosed.

Table 3.2. Clinical descriptive data on pilot, main sample, and patients not sampled

Variable	Pilot (<u>N</u> =10)		Main Sample (<u>N</u> =100)		Not Sampled (<u>N</u> =155)		<u>X</u> ² , d.f.
	<u>N</u>	%	<u>N</u>	%	<u>N</u>	%	
<u>Psychotic Behavior</u>							
Present	4	40.0	16	16.0	22	14.0	.16,
Absent	6	60.0	84	84.0	133	86.0	1, n.s.
<u>DSM-III-R Axis I, Diagnosis</u>							
Mood Disorder	9	90.0	78	78.0	126	81.0	(mood disorder v.s. all others)
Adjustment Disorder	1	10.0	10	10.0	12	8.0	
Anxiety Disorder	0	0.0	9	9.0	4	3.0	
Dissociative Disorder	0	0.0	1	1.0	3	2.0	.41,
Eating Disorder	0	0.0	1	1.0	4	3.0	1, n.s.
Schizophrenia/ Psychotic NOS	0	0.0	1	1.0	4	3.0	
Other	0	0.0	0	0.0	2	1.0	
<u>DSM-III-R Axis I, Focus 2 Diagnosis</u>					Not	Avail	
None	0	0.0	51	51.0	--	--	
Mood Disorder	2	20.0	17	17.0	--	--	
Adjustment Disorder	0	0.0	1	1.0	--	--	
Anxiety Disorder	1	10.0	9	9.0	--	--	
Dissociative Disorder	1	10.0	2	2.0	--	--	
Eating Disorder	1	10.0	6	6.0	--	--	
Alcohol Disorder	1	10.0	8	8.0	--	--	
Psychotic NOS	1	10.0	0	0.0	--	--	
Other	3	30.0	6	6.0	--	--	
<u>Diagnoses on Both Axis I & II</u>					Not	Avail	
Present	3	30.0	28	28.0	--	--	
Deferred	3	30.0	19	19.0	--	--	
Absent	4	40.0	53	53.0	--	--	

Note. Statistical tests were performed on the differences between the main sample and non-responders; n.s. = not significant.

The two previous studies did not note if Axis I focus 2 diagnoses were made. In the current sample, 51% of the subjects did not receive a secondary Axis I diagnosis. Of those who did, 17% were mood disorders, 9% anxiety disorders, 8% alcohol dependence/abuse, 6% eating disorders, 2% dissociative, and 6% other.

Twenty-eight percent of the patients were diagnosed with both Axis I and II disorders, and an additional 19% have a deferred diagnosis on Axis II with personality traits noted. The Mikolaitis study did not report Axis II diagnoses. The Harris study reported that 14% of his sample had diagnoses on both Axis I and II. It therefore appears that the current sample had more characterological disturbance features than did the Harris sample.

Further descriptive information on main sample participants' previous psychiatric hospitalizations, length of stay during the current hospitalization, current and past global functioning levels, severity of stressors, and history of past and present suicidality are presented in Table 3.3. The average number of prior psychiatric hospitalizations for the sample was 1.17 (range = 0-8, SD=1.75). The average length of stay during the current hospitalization was 32.06 days (range = 8-87 days, SD=15.23). Twenty-four percent of the sample reported having made one to two prior suicide attempts, 8% reported three or more prior attempts, and 68% reported never having made a prior suicide attempt.

Table 3.3. Additional clinical descriptive statistics on main sample (N=100)

Variable	Mean	Range	<u>SD</u>
Number of prior psychiatric hospitalizations	1.17	0-8	1.75
Length of current hospitalization (days)	32.06	8-87	15.23
Peak global functioning in past year ^a	70.08	50-85	7.57
Global functioning at admission ^a	50.59	20-75	11.34
General index of symptom severity at discharge ^b	.93	.02-3.47	.73
	<u>N</u>		<u>%</u>
<u>Severity of psychological stressors in past year^c</u>			
Unknown	4		4.0
None	5		5.0
Mild	6		6.0
Moderate	45		45.0
Severe	34		34.0
Extreme	6		6.0
<u>Category of previous suicide attempts</u>			
attempts = 0	68		68.0
attempts = 1-2	24		24.0
attempts = 3 or more	8		8.0
<u>Suicide status at admission</u>			
attempt	19		19.0
ideation	48		48.0
denies	33		33.0

^aBased on the Global Assessment Scale (GAS) score; possible range 0-100. Higher scores indicate better functioning.

^bBased on General Severity Index of the Brief Symptom Inventory; possible range 0-4. Higher scores indicate increased severity of reported symptoms.

^cDSM-III-R Axis IV diagnosis.

Table 2.1. - Substrate utilization by
the various species of the genus

Suicide attempts (19%) and suicidal ideation (48%) were the leading precipitants to the patients' current hospitalization.

Measures

Personal Data Sheet

A personal data form was used to obtain both demographic and client functioning data (see Appendix A). This information was used to describe sample characteristics, including: age; gender; educational background; ethnicity; employment status; marital/relationship status; extent of previous outpatient therapy; DSM-III-R Axis I, II, IV, and V diagnoses; assigned ward in the hospital (inpatient vs. partial patient); whether the precipitant for hospitalization included a suicide attempt and/or suicidal ideation; psychotic vs. non-psychotic status; and number of previous psychiatric hospitalizations. The present author, in collaboration with hospital staff, completed the form on each participant based upon medical records.

Post-Hospital Adjustment Self-Efficacy Scale, Revised (PHASE2)

The PHASE2 (Harris, 1991) (see Appendix B) is a revision of the PHASE Scale (Lent et al., 1992; Mikolaitis, 1989). The original PHASE was validated on a severely distressed psychiatric population, and Harris revised it to make it appropriate for usage with a broader range of client severity and to reduce its negative skew. Because the psychiatric hospital which served as the

During the summer of 1951, the author was in the
the United States as the author's guest.

Respectfully,
1951

present research site treats a broad range of clients, the PHASE2 version was selected as appropriate for this population.

Harris (1991) added several new items, which staff and clients at his research site identified as important in helping clients to negotiate a crisis. He also deleted items from the PHASE which Mikolaitis (1989) found not to discriminate well (i.e., mean ≥ 3), and rephrased other items to increase their level of discrimination. Because of the increased difficulty of the behavior tasks, Harris (1991) obtained more item variance than did Mikolaitis (1989).

The PHASE2 has shown adequate internal consistency for research usage: Harris (1991) reported a Cronbach's alpha coefficient of .92 at initial testing and .96 two weeks later. Harris (1991) found that the PHASE2 had a moderately stable test-retest reliability of .49 over a two week interval, which is consistent with the conceptualization of self-efficacy as being responsive to situational and temporal factors, such as disconfirming experience.

Content validity of the original PHASE scale and the revised scale (PHASE2) are inferred to be sufficient given their careful development. Initial data regarding the construct validity of both scales indicate that they relate to perceived symptoms and psychiatric functioning but not to various demographics and descriptive variables.

Several comments with regard to the above are:

1. The above is a summary of the results of the

analysis.

The PHASE2 consists of 25 items which focus on the following behavior areas: (a) personal habits and hygiene; (b) social skills, activity, and use of social support; (c) control of symptoms and problem-solving behaviors; and (d) positive self-statements and hopes regarding the future. It assesses self-efficacy by asking participants to indicate how sure they are that they can successfully perform each task on a 5-point scale: not at all (0), a little bit (1), moderately (2), quite a bit (3), and completely sure (4). Some examples of PHASE2 questions are: "How sure are you that you could find ways to work out difficult 'everyday problems';" and "How sure are you that you could keep yourself from withdrawing or isolating yourself from others when you are feeling depressed or anxious." Strength of self-efficacy is measured by dividing the sum of the subject's confidence ratings by 25, with higher ratings indicating stronger expectations regarding post-hospital adjustment.

Relationship-Inferred Self-Efficacy Scale for Post-Hospital Adjustment (RISE)

The RISE scale for post-hospital adjustment (see Appendix C) was developed and piloted by Lent and Lopez (1991) on 28 patients in a follow-up to Mikolaitis' (1989) study. They developed the RISE measure to parallel, but not closely resemble, the PHASE instrument, in order to minimize common method variance and, hence, artifactual correlation among the two measures.

The results of the pilot testing on the RISE suggested

that it possesses adequate internal consistency, coefficient alpha = .92 (Lent & Lopez, 1991). Correlations between PHASE and RISE scores were found to be .73, suggesting that they reflect overlapping constructs. RISE also correlated somewhat less with a measure of symptom severity than did PHASE (r 's, respectively, were -.27 and -.48), and RISE and PHASE correlated with social support at a similar magnitude (r 's, respectively, were .40 and .37). It would be expected that RISE should predict social support since it attempts to tap the subject's perceptions about the amount of confidence a significant other has in the patient.

The RISE measure consists of 14 items taken from the original 43 items on the PHASE. The instructions for the RISE ask the subject to list the relationship and gender of the "most important" person in his or her life at this time. The subject is then asked to rate on a scale from 0 (not at all) to 4 (extremely) how they think the identified "important person" would rate the subject's ability to perform each of the 14 tasks.

The RISE has items that focus on behaviors in the following areas: (a) personal habits and hygiene; (b) social skills, activity, and use of social support; (c) control of symptoms and problem solving behaviors; and (d) medication and therapy behavior. Some examples of RISE items are: "How sure is this person that you could handle the problems you were having before you came to the

hospital;" and "How sure is this person that you could let others know when you're feeling down." The strength of relationship-inferred self-efficacy (RISE) is measured by dividing the sum of the subject's item ratings by 14.

Higher ratings indicate that the subject believes his or her significant other holds strong expectations for the subject to function well.

For the current research project the RISE measure was expanded to 17 items and modified to reflect the sort of changes that Harris (1991) incorporated into PHASE2; e.g., increasing item ability to discriminate and revising items to make the RISE appropriate for a broader range of client functioning. An attempt was made to reduce PHASE2-RISE multicollinearity by (a) counterbalancing the presentation of the two efficacy instruments, and (b) ensuring that subjects did not have both instruments in their possession at the same time.

Brief Symptom Inventory (BSI)

The Brief Symptom Inventory (BSI) is a short form of the Symptom Check List (SCL-90-R) (Derogatis, 1975; Derogatis & Spencer, 1982). (The BSI is a readily available and copyrighted instrument, therefore a copy of it does not appear in the appendices.) The BSI consists of 53 items drawn from the 90-item SCL-90-R. Like its predecessor, the BSI is a self-report rating system designed and validated to indicate the presence and severity of psychopathological symptoms in both patient

and normal populations (Derogatis & Melisaratos, 1983). Both instruments have nine subscales that were constructed based on clinical experience and confirmed via factor analysis. The nine subscales are: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism.

Respondents rate each of the 53 items in terms of how much they have been distressed by the various symptoms in the past seven days. Items are rated on a 0-4 scale, ranging from 0 = "not at all" to 4 = "extremely." The internal consistencies of the nine dimensional scales are generally adequate, ranging from .71 to .85. The test-retest reliability is also acceptable (range of .68 to .91).

The BSI also provides three indices of global distress, but only one of these, the General Severity Index (GSI), was used in this study. The GSI reflects the number of symptoms and the intensity of distress, and it is considered by Derogatis to be the best single indicator of current distress levels (Derogatis & Melisaratos, 1983). Two-week test-retest reliability for the GSI is .90. GSI scores are formed by dividing the sum of the subject's symptom distress ratings by 53.

Motivation Scale for Post-Hospital Adjustment (MS)

The Motivation Scale for Post-Hospital Adjustment (MS) (Lent et al., 1992) (see Appendix D) was developed to

measure hospitalized clients' perceived motivation for staying out of the hospital and adjusting to life in the community. The MS has been found to possess acceptable internal consistency (coefficient alpha = .86; Lent et al., 1992).

The nine-item measure was designed to reflect patients' motivation regarding maintenance of personal habits and social relationships, control of symptoms, and problem solving intentions. Respondents rate each motivational statement in terms of how much they agree with it. Items are rated on a 0-4 scale, from 0 = "not at all" to 4 = "completely agree." Some examples of MS items are: "I have several good reasons for wanting to adjust well to life outside of the hospital;" and "I intend to discuss my ups and downs with others." Motivation Scale scores are formed by dividing the sum of the subject's scores by 9.

Social Provisions Scale (SPS)

The Social Provisions Scale (SPS) (Russell & Cutrona, 1985) (see Appendix E) taps the quality of persons' social support networks. It is based on Weiss' (1974) theory of the provisions of social relationships, which include attachment, social integration, reassurance of worth, reliable alliance, guidance, and opportunity for nurturance.

The 24-item measure asks respondents to rate the degree to which their social relationships are currently

supplying each of the provisions. Items are rated on a 1-4 scale, with 1= "strongly disagree" and 4= "strongly agree." Each provision is assessed by four items, two that describe the presence and two that describe the absence of the provision. 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 formed by summing the six provision subscale scores and dividing by 24.

Russell and Cutrona (1985) reported relatively high internal consistency for the total scale score, ranging from .85 to .92 across a variety of populations. Harris (1991) reported similar internal consistency results (coefficient alpha = .85 at time 1 and .94 at time 2) when he used the SPS in his study of post-hospital adjustment self-efficacy. He also found that the SPS was moderately stable over a brief (two-week) time period (test-retest r of .65).

Relationship Satisfaction (RS)

The Relationship Satisfaction Scale (RS) was developed by Lopez and Lent (1991a) in their initial study of interactive efficacy. They reported an internal consistency alpha coefficient of .60 for this scale. The RS correlated at .63 with an established measure of relationship adjustment, the Dyadic Adjustment Scale (Spanier, 1976).

The RS is a brief scale containing five items.

Subjects are asked to rate their level of satisfaction with the quality of communication, emotional support, physical affection, trust, and compatibility in their current relationship. Levels of satisfaction are rated on a 1-5 rating scale, with 1 = "very dissatisfied" and 5 = "very satisfied." Item ratings are summed and then divided by the number of items (5) to produce a total satisfaction score.

For the purpose of this research project, subjects were asked to rate their level of relationship satisfaction with the same person they identified on the RISE measure as the "most important" person in their life at this time. Because this "most important" person may not be someone with whom the subject has a romantic relationship, an item about physical affection was dropped from this measure. Also for this study, the RS was expanded to eight items by adding items assessing aspects of one's level of satisfaction with the amount of attention paid by one's partner and satisfaction with the dyad's ability to resolve conflict and tension (see Appendix F). The wording and clarity of the modified RS scale was pilot-tested.

Procedures for Data Collection

Both inpatients and partial hospitalization patients admitted to the adult unit at the research site over a six month period (from late October 1991 through early April 1992) constituted the pool from which the research

participants for this study were drawn. The primary researcher for this project was also a therapist on one of the inpatient units. Any patient who had this researcher as a primary therapist was excluded from the sample. Also excluded from the sample were patients whom nursing staff deemed incapable of providing informed consent because of the patient's psychosis and/or limited intellectual abilities.

Patients were provided with a general statement of the purpose of the project as an examination of factors involved in adjusting to their life crisis (see Appendix G). Consent and participation forms were executed in accordance with the Ethical Principles in the Conduct of Research with Human Participants (American Psychological Association, 1982), and the relevant human research committee standards of Michigan State University and the host site's Hospital Research Board (see Appendix H).

Since the RISE measure was already piloted, the first phase of this study involved a modest pilot-testing of the wording and clarity of the modified RISE and Relationship Satisfaction scales, and of the procedures for data collection. Those clients consenting to participate in this part of the study ($N = 10$) were given the modified versions of the RISE and RS scales, along with the PHASE2, the BSI, the MS, and the SPS during the week of discharge.

The main phase of this study addressed the proposed research questions. Prospective participants were



informed that the results of the tests would be confidential and that their decision about participation would not affect their treatment. Those clients consenting to participate were administered all measures within five days of discharge. In an attempt to reduce the common method variance and, hence, artifactual correlation among the PHASE2 and RISE measures, the packet of instruments were broken into two packages with the PHASE2 in one and the RISE in another. The sequence of the administrations of the two packages were counterbalanced such that roughly half of the subjects received the PHASE2 package first, and the other half received the RISE package first. One package contained the PHASE2, the MS, and the BSI while the other package contained the measures related to relationships -- the RISE, SPS, and RS.

Design and Data Analysis

The primary purpose of this study was to extend the line of research on post-hospital adjustment self-efficacy by examining the psychometric properties and correlates of Relationship-Inferred Self-Efficacy (RISE). Descriptive statistics were first calculated to describe both the sample characteristics and the psychometric properties of the RISE scale. The internal consistency reliability of the RISE was determined by calculating Cronbach's alpha coefficient for the scale (Cronbach, 1951).

In order to explore the research questions related to

construct validity, a correlation matrix was computed to assess the bivariate relation among the major variables of RISE, PHASE2, social support, and relationship satisfaction, along with their correlation with demographics and clinical functioning.

Two hierarchical regression equations were calculated to predict, respectively, patients' psychological distress (GSI scores) and motivation for recovery (MS). Hierarchical regression allows one to select the order in which the variables are entered into the data analysis, based upon some rationale. The present study followed the rationale established by Lent et al. (1992) of sequentially entering independent variables in blocks consisting of subject demographics, psychological functioning variables, PHASE2, and then RISE. This strategy allows one to explore the contributions of the efficacy variables to the equation while controlling for demographics and client functioning. Lopez and Lent (1991) asserted that the hierarchical ordering of the efficacy measures should be self-efficacy SE before RISE in order to "...assess the unique contributions of RISE" (p.225). The interaction term of PHASE2 and RISE was also added to each equation to see if it provided information over and above the main effects of each variable.

Analyses were also conducted to examine whether subjects' reality-testing capacities (i.e., psychotic versus non-psychotic status) moderate the relation of RISE



to GSI and MS. In particular, following Lent et al.'s (1992) strategy, the correlation between RISE/GSI and RISE/MS was explored separately for psychotic and non-psychotic subjects. It was expected that stronger RISE-GSI and RISE-MS correlations would be obtained in the non-psychotic vs. psychotic groups. The difference in correlation magnitudes were tested using Fisher's \underline{r} to \underline{z} ' transformation (Cohen & Cohen, 1983).

Supplementary analyses were also performed (a) in an effort to further explore SE-RISE interactions by investigating the effects that SE-RISE congruence or discrepancy have on symptom distress (GSI), adjustment motivation (MS), and relationship satisfaction (RS) scores, and (b) to examine the ability of RISE to predict symptom distress (GSI) and adjustment motivation (MS) scores for a sub-sample of married subjects.

TO THE HONORABLE SENATE OF THE UNITED STATES
IN SENATE, JANUARY 10, 1901.
REPORT
OF THE
COMMISSIONER OF THE GENERAL LAND OFFICE
IN RESPONSE TO A RESOLUTION PASSED BY THE SENATE
MAY 1, 1899.
WASHINGTON:
GOVERNMENT PRINTING OFFICE:
1901.

CHAPTER FOUR: RESULTS

This chapter will present the results of the analysis of data collected for this study. Analyses pertaining to the primary research questions will be presented first, followed by findings of the supplementary data analyses.

Reliability

Research Question 1:

What is the internal consistency of the RISE measure for post-hospital adjustment? Is this reliability sufficient to warrant its use for further research purposes?

To determine the internal consistency of the RISE measure, Cronbach's alpha was computed on both the pilot ($N = 10$) and the main ($N = 100$) samples. The alpha coefficient estimates the proportion of instrument variance due to all common factors among the items (Cronbach, 1951). According to Cronbach (1951), if an instrument has a high alpha coefficient it is considered to have substantial internal consistency or homogeneity, indicating that the items reflect the same construct. The Cronbach's alpha coefficient was essentially the same for both samples, .91 on the pilot data and .92 on the main sample data, as is shown in Tables 4.1 and 4.2, respectively. These findings suggest that the RISE measure used in this research has acceptable internal consistency (Nunnally, 1978).

Table 4.3 presents all 17 items on the modified RISE scale and their descriptive statistics from the main sample ($N=100$). The score distributions and summary of

Table 4.1. Cronbach's Alpha Reliability statistics of
RISE scale items in the pilot sample ($N=10$)

Reliability Matrix: Utilizing Cronbach's Alpha

	<u>Mean</u>	<u>Min</u>	<u>Max</u>
Item Means	2.54	2.00	3.50
Item Variances	.73	.23	1.51
Inter-Item Covariances	.27	-.22	.96
Inter-Item Correlations	.32	-.63	.90

Reliability Coefficients

Alpha = .91

Standardized Item Alpha = .89

Table 4.2. Cronbach's Alpha Reliability statistics of
RISE scale items in the main sample ($N=100$)

Reliability Matrix: Utilizing Cronbach's Alpha

	<u>Mean</u>	<u>Min</u>	<u>Max</u>
Item Means	2.46	2.03	2.84
Item Variances	.85	.65	1.09
Inter-Item Covariances	.34	.08	.79
Inter-Item Correlations	.40	.10	.76

Reliability Coefficients

Alpha = .92

Standardized Item Alpha = .92

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1975-1976

Table 4.3. RISE scale item means and standard deviations

Item	Mean	<u>SD</u>	Range
1. Take care of your health and eating habits, even when you are feeling depressed or anxious.	2.54	.96	0.0-4.0
2. Handle the problems you were having before you came to the hospital.	2.32	.89	0.0-4.0
3. Ask him or her for support when you need it.	2.78	1.03	0.0-4.0
4. Control your current fears and anxieties.	2.47	.86	1.0-4.0
5. Set realistic goals for yourself during painful times in your life.	2.28	.88	0.0-4.0
6. Resolve conflicts between the two of you, even when you are upset.	2.45	.99	0.0-4.0
7. Avoid withdrawing or isolating yourself from others when you feel down or tense.	2.03	.94	0.0-4.0
8. Cope with setbacks or crises that come up in your life.	2.24	.84	0.0-4.0
9. Find ways on your own to work out "everyday problems."	2.62	.83	1.0-4.0
10. Do your daily tasks or job effectively, even when you are dealing with emotional problems.	2.58	.81	1.0-4.0
11. Cope with tension or anger between the two of you.	2.33	1.05	0.0-4.0
12. Keep yourself from behaving in ways that other people think are odd.	2.84	.92	0.0-4.0
13. Manage or ignore the thoughts that upset you.	2.29	.91	0.0-4.0

Table 4.3. Continued

Item	Mean	<u>SD</u>	Range
14. Offer him or her support, in spite of your own problems, if he or she was having a difficult day.	2.72	.94	0.0-4.0
15. Do enjoyable activities on a regular basis, even when you are feeling upset or down.	2.44	.89	1.0-4.0
16. Notice the start of changes in your own moods, thoughts, or behaviors that begin to give you trouble.	2.50	.89	0.0-4.0
17. Offer reasonable solutions to problems that come up between the two of you, even when you are tense or angry.	2.38	.99	0.0-4.0

statistics of the RISE scale on the pilot and main samples are depicted in Tables 4.4 and 4.5, respectively. As can be seen, RISE scale scores in the pilot sample ($N = 10$) ranged from 1.58 to 3.18 with a mean of 2.42 ($SD = .60$). In the main sample ($N = 100$) the RISE scores ranged from .65 to 3.77 with a mean of 2.46 ($SD = .61$). For the main sample ($N = 100$), the RISE measure had a slightly negative skew ($-.02$).

Cronbach alpha coefficients for the remaining instruments were also computed on the full sample ($N = 100$). They were: PHASE2, $\alpha = .96$; SPS, $\alpha = .92$;

Table 4.4. Score distribution and descriptive statistics
of RISE scale on Pilot (N=10)

Score	<u>N</u>	Cum. %	Score	<u>N</u>	Cum. %
1.58	1	10.0	2.65	1	60.0
1.65	1	20.0	2.75	1	70.0
1.71	1	30.0	3.00	2	90.0
2.24	1	40.0	3.18	1	100.0
2.47	1	50.0			

Descriptive Statistics of RISE Scale

Mean = 2.42 Median = 2.56 Mode = 3.00

Std Dev = .60 Variance = .36 Std Err = 1.03

Kurtosis=-1.54 SE Kurt = 1.33 Skewness=-.36

Minimum = 1.58 Maximum = 3.18 SE Skew = .69

Range = 1.58-3.18 Sum = 24.24

Table 4.5. Score distribution and descriptive statistics
of RISE scale on main sample (N=100)

Score	<u>N</u>	Cum. %	Score	<u>N</u>	Cum. %	Score	<u>N</u>	Cum. %
.65	1	1.0	2.18	4	33.0	2.94	4	79.0
.94	1	2.0	2.24	1	34.0	3.00	1	80.0
1.12	1	3.0	2.29	6	40.0	3.06	5	85.0
1.18	1	4.0	2.35	5	45.0	3.12	5	90.0
1.24	1	5.0	2.41	3	48.0	3.18	1	91.0
1.41	2	7.0	2.47	4	52.0	3.29	3	94.0
1.59	3	10.0	2.53	6	58.0	3.35	2	96.0
1.65	1	11.0	2.59	4	62.0	3.47	1	97.0
1.77	1	12.0	2.65	3	65.0	3.59	1	98.0
1.88	3	15.0	2.71	2	67.0	3.65	1	99.0
2.00	5	20.0	2.77	3	70.0	3.77	1	100.0
2.06	3	23.0	2.82	1	71.0			
2.12	6	29.0	2.88	4	75.0			

Descriptive Statistics of RISE scale

Mean = 2.46 Median = 2.47 Mode = 2.12

Std Dev = .61 Variance = .37 Std Err = .06

Kurtosis = .02 SE Kurt = .03 Skewness = -.02

Minimum = .65 Maximum = 3.77 SE Skew = .01

Range = .65-3.77 Sum = 245.65

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RS, $\alpha = .92$; and MS, $\alpha = .74$. These coefficients support the measures' use as research instruments.

Construct Validity

Research Question 2:

What is the relation of the post-hospital adjustment RISE measure to the PHASE2 self-efficacy measure?

Research Question 3:

What is the relation of RISE to social support as measured by the Social Provisions Scale (Russell & Cutrona, 1985)?

Research Question 4:

What is the relation of RISE to relationship satisfaction as measured by the modified version of Lopez and Lent's (1991a) Relationship Satisfaction Scale (RS)?

Research Question 5:

What is the relation of RISE to demographics and indices of clinical functioning?

To address these research questions, a correlation matrix was constructed (see Table 4.6). Results show that the RISE measure correlated with the PHASE2, $r = .58$ ($p < .001$), indicating that higher relationship-inferred self-efficacy is positively associated with one's personal sense of efficacy for post-hospital adjustment, as is suggested by theory (Lopez & Lent, 1991b). The RISE also correlated significantly with the two social relationship measures, SPS ($r = .37$, $p < .001$) and RS ($r = .65$, $p < .001$). Theory suggests that RISE should relate both to perceived social support and to satisfaction with the identified relational "partner."

The RISE measure also correlated to a modest degree with subject age ($r = .18$, $p < .05$) indicating that RISE scores tend to increase with subject age. The RISE scale

Table 4.6. Correlations of RISE and PHASE2 at point of discharge to social support, relationship satisfaction, subject demographics, and clinical functioning factors

	RISE	PHASE2	SPS	RS	Gender	Age	Race	MarStat	Educ	Employ	PsyStat	PriHosp
	1	2	3	4	5	6	7	8	9	10	11	12
1. RISE												
2. PHASE2	.58***											
3. SPS	.37***	.61***										
4. RS	.65***	.38***	.32***									
5. Gender	-.11	-.26**	.10	-.11								
6. Age	.18*	-.02	-.03	.11	.06							
7. Race	-.09	-.09	-.02	.02	.05	-.23**						
8. MarStat	-.12	-.14	-.16	-.11	.09	-.32***	.17					
9. Educ	-.00	.05	.15	.01	.06	.00	-.07	-.20*				
10. Employ	.08	-.05	-.24**	-.03	-.05	.11	.07	.11	-.17*			
11. PsyStat	.06	-.02	-.03	.04	-.06	.03	-.12	.02	.12	-.00		
12. PriHosp	-.14	-.20*	-.14	-.04	.16	.04	.02	.07	.02	.01	.05	
13. DayHosp	-.18*	-.12	-.05	-.19*	.21*	-.05	.04	-.04	.24**	.01	.32***	.09

Note. RISE = Relationship-Inferred Self-Efficacy scale for post-hospital adjustment (Modified);

PHASE2 = Post-Hospital Adjustment Self-Efficacy (Revised); SPS = Social Provisions Scale;

RS = Relationship Satisfaction (Modified); Gender = males (0), females (1);

Race = white (0), non-white (1); Mar Stat = married (0), non-married (1);

employ = employed (0), government assistance (1); Psy Stat = non-psychotic (0), psychotic (1);

Pri Hosp = # of prior psychiatric hospitalizations; Day Hosp = # of days this admission.

* = $p \leq .05$

** = $p \leq .01$

*** = $p \leq .001$



correlated negatively with patient's length of stay in the hospital ($r = -.18$, $p < .05$), indicating that RISE decreases as hospital stays increase in length. This suggests that respondents who have longer hospitalizations tend to perceive their significant other as having less confidence in their ability to cope after discharge. Interestingly, length-of-stay also correlated negatively with the Relationship Satisfaction (RS) measure ($r = -.19$, $p < .05$), indicating that relationship satisfaction tended to decrease as hospitalization length increased.

The PHASE2 and SPS scales also correlated with some of the patient demographic variables. PHASE2 correlated with gender ($r = -.26$, $p < .01$), with males tending to report higher self-efficacy than did females. Additionally, the PHASE2 measure correlated negatively with the number of previous hospitalizations ($r = -.20$, $p < .05$). That is, respondents' personal efficacy tended to decrease as the number of previous hospitalizations increased. The social support measure (SPS) correlated with employment status ($r = -.24$, $p < .01$), showing that subjects who were employed tended to perceive themselves as having more social support than did subjects on government assistance.

Finally, several subject demographic variables also correlated with each other. For example, gender correlated with length of stay ($r = .21$, $p < .05$), with females tending to have longer hospitalizations than males. Patients who evidenced symptoms of psychosis

during their hospitalization were also more likely to have longer hospital stays ($r = .32$, $p < .001$).

Concurrent Validity

Research Question 6:

Does RISE complement self-efficacy in regression predictions of the patients' concurrent scores on (a) General Severity Index (the global symptom distress score from the Brief Symptom Inventory; Derogatis & Spencer, 1982) and (b) perceived adjustment motivation (Motivation Scale; Lent et al., 1992), controlling for demographic variables and clinical functioning?

A hierarchical regression analysis was performed to explore the prediction of concurrent scores of symptom distress (GSI) and perceived motivation for adjustment (MS). Hierarchical regression allows one to select the order in which variables are entered into the predictive equation, based upon a conceptual rationale. As noted earlier, the present study followed the rationale established by Lent et al. (1992) of sequentially entering independent variables in blocks consisting of subject demographics, psychological functioning variables, and PHASE2 scores. This strategy allowed exploration of the contribution of self-efficacy to the equation while controlling for demographic variables and client functioning. Lopez and Lent (1991b) asserted that the hierarchical ordering of the efficacy measures should be self-efficacy before RISE in order to "...assess the unique contributions of RISE" (p. 225). Thus, RISE scores were added to the regression equation at the fourth step, following PHASE2.

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hospital is to be operated.

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Table 4.7. Hierarchical regression predicting General Severity Index scores ($N=100$)

Predictor Set	Step	r	B	R^2 Change	Adj. R^2	F Change
Demographics	1			.08	.06	2.97
Marital		.03	.01			
Gender		.29	.29			
Race		-.01	-.02			
Clinical Funct.	2			.02	.04	.59
Psychotic Beh.		-.09	-.05			
Prior Hosp.		-.04	-.08			
Days in Hosp.		-.03	-.07			
Self-Efficacy	3	-.50	-.50	.22	.27	30.34***
Reflected Efficacy	4	-.26	.02	.00	.27	.02
Reflected Efficacy	3	-.26	-.27	.07	.10	7.23**
Self-Efficacy	4	-.50	-.51	.16	.27	21.21***
Interaction of Self-Efficacy/ Reflected Efficacy	5	-.42	.50	.01	.26	.74

Note. $N=100$. The following variables were dummy coded: Marital (0 = married, 1 = not married); Gender (0 = male, 1 = female); Race (0 = white, 1 = non-white); Psychotic behavior (0 = absent, 1 = present).

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

Table 4.7. Atmospheric concentrations of various trace gases in the atmosphere (1990-1995)

Regression predicting concurrent GSI

In predicting concurrent scores of psychological distress, the regression analysis results (see Table 4.7) indicate that demographic variables (gender, marital status, ethnicity) yielded a significant contribution (R^2 change = .08) to the equation, while the psychological functioning variables (length of stay, psychotic behavior, number of prior hospitalizations) did not add a sizeable increment (R^2 change = .02) beyond subject demographics. Self-efficacy explained a significant amount of additional variance in symptom distress (R^2 change = .22) over and above that explained by the first two blocks of variables. Surprisingly, reflected efficacy did not account for additional significant variance (R^2 change = .00). Overall, the full regression equation explained 32% of the variance in psychological distress levels (R^2 adjusted = .27).

In order to parcel out the unique contributions of PHASE2 and RISE in predicting symptom distress and to further compare their predictive utility, given their tendency toward multicollinearity ($r = .58$), the regression equation was replicated, except that RISE was entered before PHASE2 scores. When reflected efficacy was entered before self-efficacy, it explained 7% (R^2 change) of the variance while self-efficacy contributed an additional 16% (R^2 change) (see Table 4.7). This suggests that self-efficacy accounts for a greater proportion of

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Table 4.8. Hierarchical regression predicting Motivation Scale scores ($N=100$)

Predictor Set	Step	r	B	R^2 Change	Adj. R^2	F Change
Demographics	1			.03	-.00	.85
Marital		-.15	-.15			
Gender		.03	.04			
Race		-.06	-.04			
Clinical Funct.	2			.02	-.02	.66
Psychotic Beh.		.02	.01			
Prior Hosp.		-.13	-.13			
Days in Hosp.		-.06	.06			
Self-Efficacy	3	.53	.56	.28	.28	38.75***
Reflected Efficacy	4	.32	.02	.00	.27	.04
Reflected Efficacy	3	.32	.33	.10	.08	10.55**
Self-Efficacy	4	.53	.55	.18	.27	25.07***
Interaction of Self-Efficacy/ Reflected Efficacy	5	.44	-1.69	.06	.33	9.26**

Note. $N=100$. The following variables were dummy coded:
 Marital (0 = married, 1 = not married); Gender (0 = male, 1 = female); Race (0 = white, 1 = non-white);
 Psychotic behavior (0 = absent, 1 = present).

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

unique variance in symptom distress than does reflected efficacy.

Regression predicting concurrent MS

In predicting concurrent scores for motivation to adjust to community living (see Table 4.8), neither demographic or psychological functioning variables explained significant variance (R^2 change = .03 and .02, respectively). However, self-efficacy provided a significant and sizeable increment beyond that accounted for by demographics and psychological functioning (R^2 change = .28). Once again, reflected efficacy did not contribute any additional significant explanatory power to the equation (R^2 change = .00) beyond self-efficacy. The final equation produced an R^2 of .33 (R^2 adjusted = .27). When RISE was entered as block three, after controlling for demographics and psychological functioning, it contributed 10% of the variance (R^2 change), while PHASE2 accounted for an additional 18% (R^2 change). Thus, self-efficacy appears to account for more unique variance in motivation than does reflected efficacy.

Research Question 7:

Does the interaction of reflected efficacy (RISE) and self-efficacy (PHASE2) explain unique variation in symptom distress and motivation?

Although applied regression analysis is dominated by the "additive assumption," interactive (multiplicative) assumptions can also be made (Lewis-Beck, 1985). For this analysis, the possibility that reflected efficacy is

involved interactively with self-efficacy was explored. According to Lewis-Beck (1985) "... an interaction effect exists when the impact of one independent variable depends on the value of another independent variable" (p. 54).

The possibility that the interaction of the two efficacy variables (PHASE2 and RISE) may contribute to the hierarchical regression equations was explored by entering their interaction term as the fifth block in each equation. In predicting psychological distress (see Table 4.7), the interaction term did not contribute any further significant variance (R^2 change = .01) beyond that already accounted for by demographics, clinical functioning, PHASE2, and RISE. However, in predicting motivation to adjust after discharge (see Table 4.8), the interaction term did contribute further significant variance (R^2 change = .06) to the regression model.

The additional variance accounted for by the product term suggests that reflected efficacy (RISE) moderates the relationship between self-efficacy (PHASE2) and adjustment motivation (MS). In order to explore this interaction more closely, subjects were divided into high and low groups on the PHASE2 and RISE based on a median split procedure. Adjustment motivation (MS) scores were then subjected to a 2 (high, low self-efficacy) x 2 (high, low reflected efficacy) analysis of variance. Table 4.9 presents the results of the 2-Way ANOVA; Table 4.10 presents the Motivation Scale cell means for the four

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The following information was obtained from the
records of the Department of the Interior, Bureau of
Land Management, at Washington, D. C., on January 10, 1934.
The records of the Department of the Interior, Bureau of
Land Management, at Washington, D. C., on January 10, 1934.

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Table 4.9. Results of 2 (high, low PHASE2) x 2 (high, low RISE) ANOVA on Motivation Scale

Source of Variation	Sum of Squares	<u>d.f.</u>	Mean Square	<u>F</u>	Signif of <u>F</u>
Main Effects	323.460	2	161.730	12.261	.000***
RISE	10.170	1	10.170	.771	.382
PHASE2	223.300	1	223.300	16.929	.000***
2-Way Interaction	116.990	1	116.990	8.869	.004**
RISExPHASE2	116.990	1	116.990	8.869	.004**
Explained	440.450	3	146.817	11.130	.000***
Residual	1266.300	96	13.191		
Total	1706.750	99	17.240		

N=100

Note. ** p<.01
 *** p<.001

Table 4.10. Motivation Scale (MS) cell mean scores for low and high self-efficacy (PHASE2) and reflected efficacy (RISE) groups

PHASE2	RISE	
	LOW	HIGH
<hr/>		
M S cell means		
LOW	3.11 (0.49) <u>n</u> =34	3.44 (0.39) <u>n</u> =16
HIGH	3.75 (0.23) <u>n</u> =14	3.56 (0.37) <u>n</u> =36
<hr/>		

Note. Numbers in parentheses are standard deviations.

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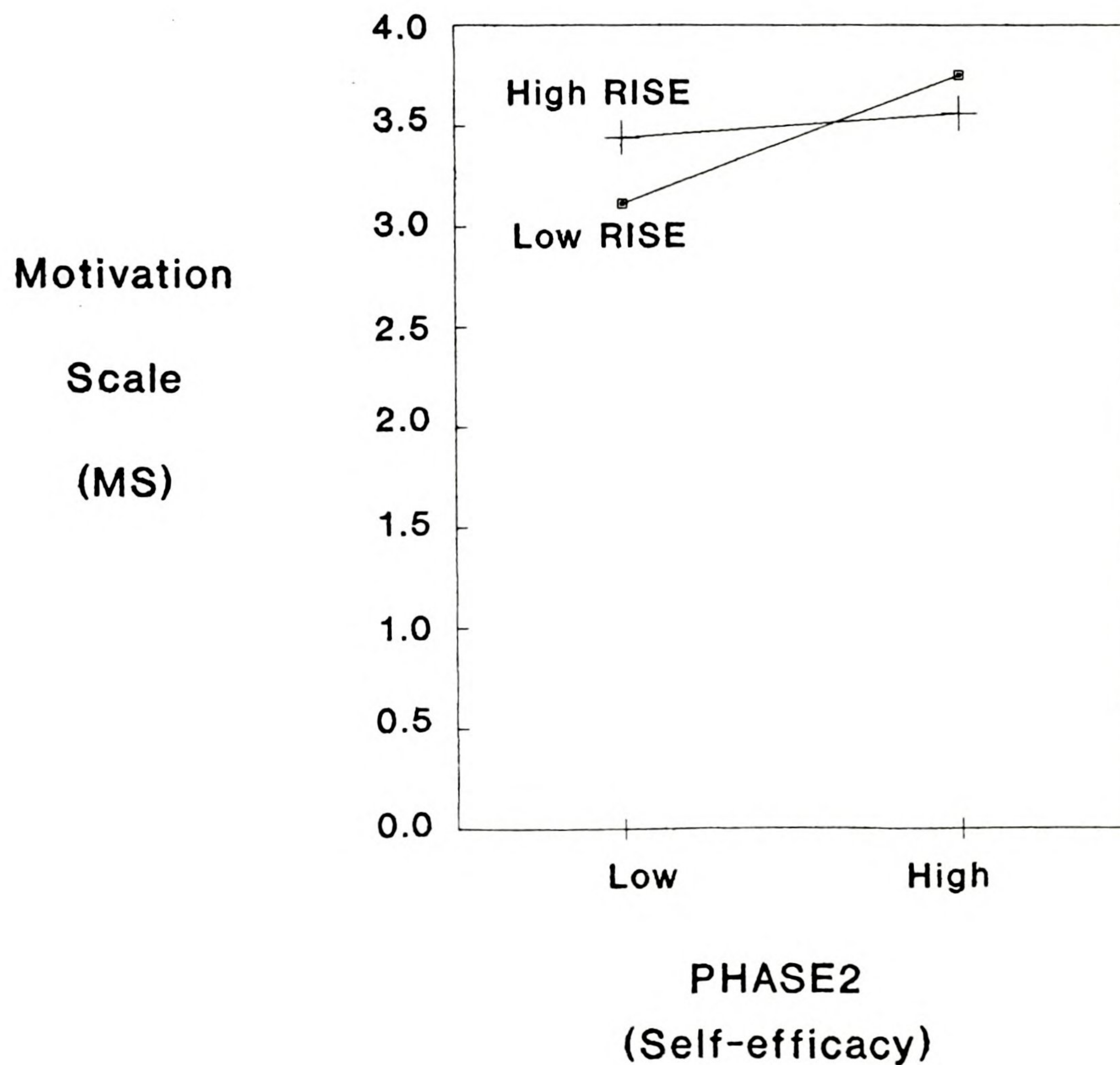


Figure 4.1. Relation of reflected efficacy (RISE) and self-efficacy (PHASE2) to adjustment motivation (MS). ($N = 100$)

groups: and Figure 4.1 depicts the self-efficacy x reflected efficacy interaction. High self-efficacy subjects appeared to report comparable adjustment motivation, regardless of the level of RISE beliefs. However, RISE beliefs appeared to "compensate" for low self-efficacy; i.e., subjects with high RISE scores but low self-efficacy demonstrated motivation scores that were similar to those of high self-efficacy subjects.

The 2-Way ANOVA produced four sub-groups which were either congruent or discrepant for the two types of efficacy beliefs. It had been decided a priori to explore whether congruence and discrepancy between self-efficacy and reflected efficacy related differently to the outcome variables. Since the possible relationships between congruent and discrepant efficacy beliefs and the outcome variables were pursued for exploratory purposes and were not the main focus of the study, the results of that investigation are being presented as supplementary analyses.

To see if self-efficacy (PHASE2) was a better predictor of adjustment motivation (MS) at low versus high levels of reflected efficacy (RISE) beliefs, the sample was divided into high ($n=52$) and low ($n=48$) RISE groups based on a median split. The PHASE2 scores of each RISE group were then correlated separately with the adjustment motivation scores. Finally the difference in correlation magnitude was tested using Fisher's r to z' transformation

groups and there is a significant difference in the
collected data between the two groups.
The results of the study are as follows:

1. The results of the study are as follows:

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Table 4.11. Relation of self-efficacy (PHASE2) to adjustment motivation (MS) by subjects' high and low level of reflected efficacy (RISE) beliefs

	High RISE			Low RISE			<u>z</u>	<u>p</u>
	<u>r</u>	<u>p</u>	<u>n</u>	<u>r</u>	<u>p</u>	<u>n</u>		
Adjustment Motivation (MS)	.30	.03	52	.62	.001	48	-2.01	.023

(Cohen & Cohen, 1983) (see Table 4.11).

It was found that the correlation between PHASE2 and adjustment motivation was significant for both the high ($\underline{r}=.30$, $\underline{p} < .03$) and low ($\underline{r}=.62$, $\underline{p} < .001$) RISE groups. The Fisher transformation analysis showed the difference in the magnitude of these correlations was significant at the .05 level, $\underline{z} = -.2.01$, $\underline{p} < .02$. Results suggest that self-efficacy (PHASE2) is a better predictor of motivation to adjust for patients in the low reflected efficacy (RISE) group.

Moderator Effects

Research Question 8:

Is the relation of RISE to symptom distress and adjustment motivation moderated by whether the patient exhibits psychotic vs. non-psychotic behavior?

Prior research with the PHASE (Lent et al., 1992; Mikolaitis, 1989) and with the PHASE2 (Harris, 1991) suggests that patients' self-cognitions may be a more valid predictor of psychological distress and adjustment motivation for non-psychotic rather than psychotic

patients. To see if subjects' reality-testing capacities moderated the relation of reflected efficacy to the criterion measures, the sample was first divided into psychotic ($n=16$) vs. non-psychotic ($n=84$) subjects. The reflected efficacy scores of each group were then correlated separately with the criterion measures. Finally, the difference in correlation magnitudes was tested using Fisher's r to z transformation (Cohen & Cohen, 1983) (see Table 4.12).

It was found that the correlation between RISE and symptom distress was significant for the non-psychotic group ($r = -.31$, $p < .01$) but it was not significant for the psychotic group ($r = .09$, $p < .72$). However, the difference in the magnitude of these correlations fell just short of significance at the .05 level, $z = -1.41$, $p < .08$. The correlation between RISE and adjustment motivation was significant for both non-psychotic ($r =$

Table 4.12. Relation of Reflected Efficacy to symptom distress (GSI) and adjustment motivation (MS) by subjects' reality-testing status

	<u>Non-Psychotic</u>			<u>Psychotic</u>			<u>Z</u>	<u>p</u>
	<u>r</u>	<u>p</u>	<u>n</u>	<u>r</u>	<u>p</u>	<u>n</u>		
Symptom Distress (GSI)	-.31	.004	84	.09	.73	16	-1.41	.08
Adjustment Motivation (MS)	.27	.013	84	.56	.02	16	-1.19	.12

.27, $p < .05$) and psychotic ($r = .56$, $p < .05$) subjects.

The difference between these correlations was also non-significant ($z = -1.19$, $p < .12$), though psychotic patients tended to show larger RISE-MS relations than did non-psychotic patients. Thus, the results of these analyses suggest that patient reality-testing capacities did not significantly moderate the relation of RISE scores to symptom discomfort and adjustment motivation.

Supplementary Analyses

A few supplementary analyses were performed, for theoretical and exploratory purposes. In particular, (a) an effort was made to further explore self-efficacy and reflected efficacy interactions by investigating the effects of PHASE2-RISE congruence and discrepancy on symptom distress (GSI), adjustment motivation (MS), and relationship satisfaction (RS); and (b) the ability of RISE to predict GSI and MS scores for a sub-sample of married subjects was also investigated.

PHASE2-RISE Congruence and Discrepancy

Given the exploratory nature of this study and its potential clinical import, the decision was made to follow up the SE-RISE interaction question with some targeted analyses that could help to illuminate the joint operation of self-efficacy and reflected efficacy beliefs.

Lopez and Lent (1991b) had speculated that "...discrepancies between SE and RISE may arouse considerable distress" (p.22) and motivate people to

change in order to reconcile the two differing perceptions. They had encouraged expansion of their tripartite model to include investigating how "discrepancies or mismatches" between the types of interactive efficacies affect outcomes.

There are two general types of Self-efficacy (SE) -- Reflected efficacy (RISE) congruency; high SE - high RISE and low SE - low RISE; and two types of discrepancy; high SE - low RISE and low SE - high RISE. From the subject's phenomenological viewpoint, each of the SE-RISE combinations is qualitatively different. It was therefore expected that subjects in the different groups would score differently on the criterion measures. To explore whether congruence and discrepancy between the two efficacy beliefs (SE-RISE) related differently to symptom distress (GSI), adjustment motivation (MS), and relationship satisfaction (RS), post-hoc comparisons were performed on the means for the four SE-RISE combinations on each of the criterion measures.

To create the four SE-RISE groups, subjects were divided into high and low groups on the PHASE2 and RISE based on the median split procedure used in research question seven. It is recognized that this method is not very strict but it provides a reasonable criterion for exploratory research, retains all subjects for the analysis, provides reasonable cell sizes, and is logically based on the subjects' own qualitative experience of

congruent and discrepant interactive efficacy beliefs.

This technique produced four unequal cells consisting of:

(a) group 1, congruent, low PHASE2 - Low RISE, $n = 34$; (b) group 2, discrepant, low PHASE2, high RISE, $n = 16$; (c) group 3, discrepant, high PHASE2 - low RISE, $n = 14$; and (d) group 4, congruent, high PHASE2 - high RISE, $n = 36$ (see Table 4.13).

Means for each group on each criterion measure (GSI, MS, RS) were then computed. Scheffe's S procedure, which is appropriate for use in post-hoc contrasts with unequal n 's, was used to test the significance of mean differences on each of the criterion measures (Kirk, 1982).

Scheffe contrasts on symptom distress (GSI)

The regression analysis for the interaction term of PHASE2-RISE on symptom distress (GSI) was not significant. However, when the GSI means for the four SE-RISE groups were compared, the Scheffe S procedure indicated that group 4 (congruent, high PHASE2 - high RISE) was significantly different from groups 1 (congruent, low PHASE2 - low RISE) and 2 (discrepant, low PHASE2 - high RISE) (see Table 4.14) Figure 4.2 depicts these results graphically. The results indicate that congruent high expectancy subjects reported less distress than congruent low expectancy subjects and the discrepant/low self-efficacy group.

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The following are the results of the
analysis of the data obtained from the
test group of subjects. The results are
shown in Table 1. The results are
shown in Table 2. The results are
shown in Table 3.

Table 4.13. The PHASE2-RISE congruent and discrepant groups, with phenomenological descriptions

		RISE	
		Low	High
PHASE2 (SE)	Low	Group 1 Congruent <u>n</u> =34 "I don't believe in me, and my partner doesn't believe in me."	Group 2 Discrepant <u>n</u> =16 "I don't believe in me, but my partner believes in me."
	High	Group 3 Discrepant <u>n</u> =14 "I believe in me, but my partner doesn't believe in me."	Group 4 Congruent <u>n</u> =36 "I believe in me, and my partner believes in me."

Table 4.14. Results of the Scheffe test comparing the symptom distress (GSI) means of the four SE-RISE groups ($N=100$)

Group	Mean	Groups			
		1	2	3	4
1	1.16				*
2	1.28				*
3	.81				
4	.62				

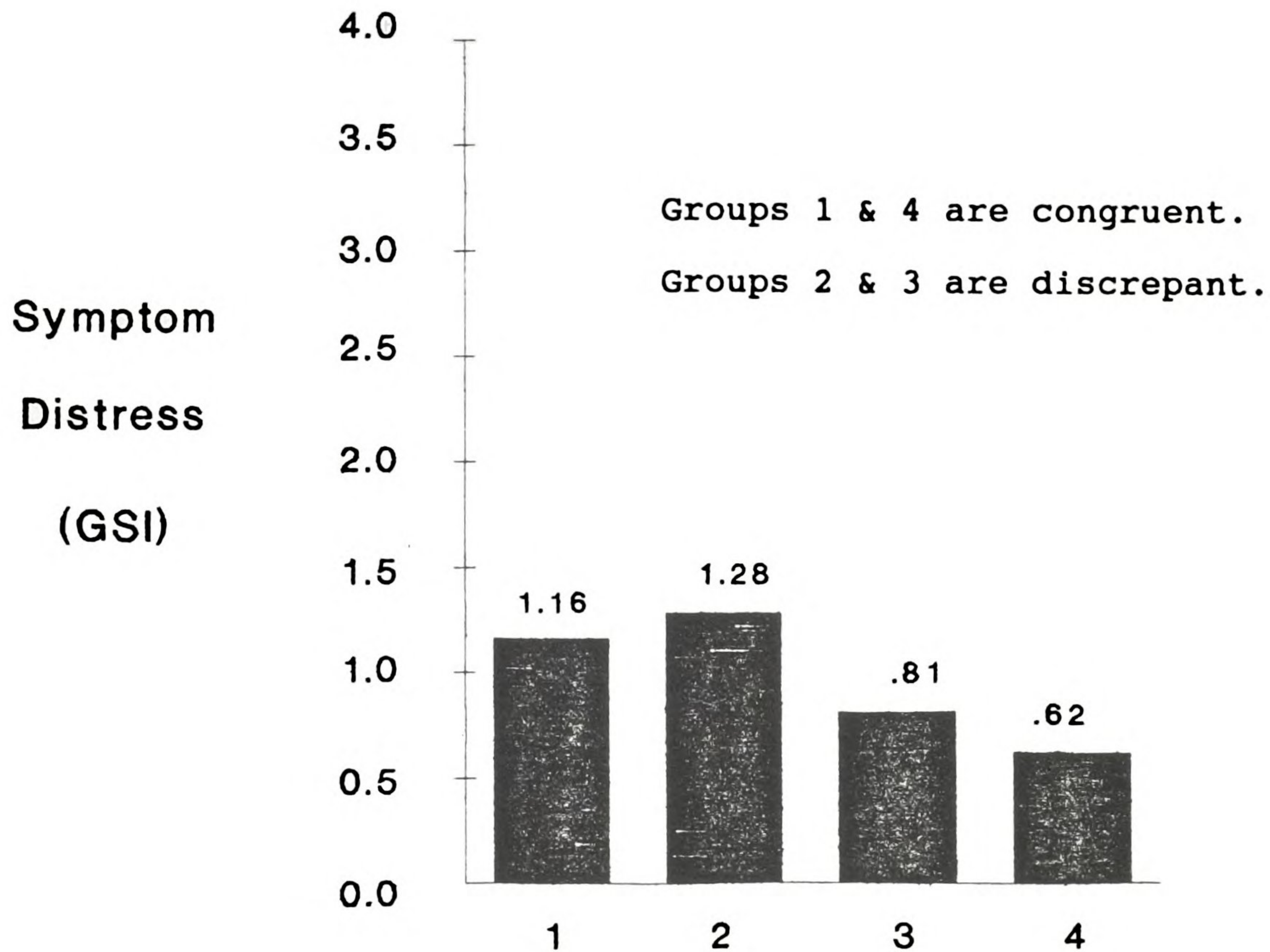
Note. * denotes pairs of groups significantly different at the .05 level.

Group 1 = Congruent, low PHASE2 - low RISE

Group 2 = Discrepant, low PHASE2 - high RISE

Group 3 = Discrepant, high PHASE2 - low RISE

Group 4 = Congruent, high PHASE2 - high RISE



Group 4 was significantly different from groups 1 and 2 at the .05 level.

Note: Group 1 = low PHASE2 - low RISE
Group 2 = low PHASE2 - high RISE
Group 3 = high PHASE2 - low RISE
Group 4 = high PHASE2 - high RISE

Figure 4.2. Bar graph depicting the differences in the symptom distress (GSI) means of the four SE-RISE groups.

Scheffe contrasts on adjustment motivation (MS)

When the adjustment motivation (MS) means for the four SE-RISE groups were compared, the Scheffe S procedure indicated that group 1 (congruent, low PHASE2 - low RISE) was significantly different from groups 3 (discrepant, high PHASE2 - low RISE) and 4 (congruent, high PHASE2 - high RISE) (see Table 4.15). This suggests that the congruent low expectancy group experienced less adjustment motivation than did the congruent high expectancy and discrepant/high self-efficacy group. Figure 4.3 depicts this result graphically.

Scheffe contrasts on relationship satisfaction (RS)

Lopez and Lent's (1991b) conceptual paper on interactive efficacy particularly focuses on possible ways that the three types of interactive efficacy can affect relationships. They state "...SE-RISE discrepancies may be especially likely to occur during periods of relationship crisis or instability, or may themselves prompt such strife...Under most circumstances, we assume that relationship participants strive to minimize SE-RISE discrepancy and to maximize SE-RISE congruence, thereby promoting a consistent view of self in relation to other" (p. 22).

In order to investigate the relationship of the SE-RISE congruences and discrepancies to the measure of relationship satisfaction (RS), the RS means for the four SE-RISE groups were subjected to the Scheffe S procedure.

Table 4.15. Results of the Scheffe test comparing the adjustment motivation (MS) means of the four SE-RISE groups ($N=100$)

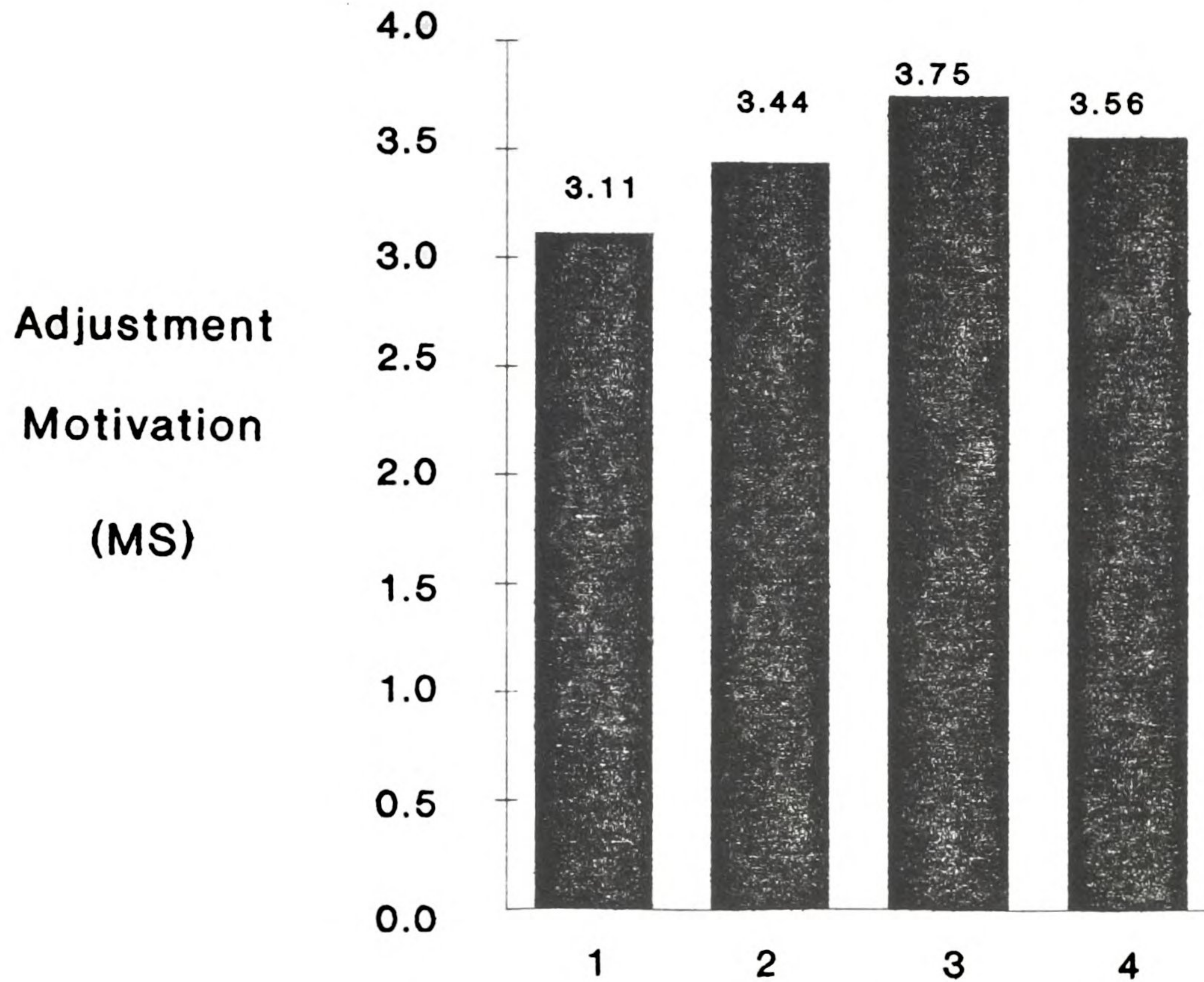
		Groups			
		1	2	3	4
Group Mean		<hr/>			
1	3.11				
2	3.44				
3	3.75	*			
4	3.56	*			

Note. * denotes pairs of groups significantly different at the .05 level.

Group 1 = Congruent, low PHASE2 - low RISE
 Group 2 = Discrepant, low PHASE2 - high RISE
 Group 3 = Discrepant, high PHASE2 - low RISE
 Group 4 = Congruent, high PHASE2 - high RISE

Groups 1 & 4 are congruent.

Groups 2 & 3 are discrepant.



Group 1 was significantly different from groups 3 and 4 at the .05 level.

Note: Group 1 = low PHASE2 - low RISE
 Group 2 = low PHASE2 - high RISE
 Group 3 = high PHASE2 - low RISE
 Group 4 = high PHASE2 - high RISE

Figure 4.3. Bar graph depicting the differences in the adjustment motivation (MS) means of the four SE-RISE groups.

Results show that congruent high expectancy subjects reported more relationship satisfaction than did either congruent low expectancy or discrepant/low RISE groups. Further, differences between the two discrepant groups favored those with high reflected efficacy beliefs (see Table 4.16). These findings suggest that congruency alone between SE and RISE does not predict high relationship satisfaction. Figure 4.4 depicts the findings graphically.

Regressions With Married Subjects

To further explore the predictive contribution of RISE and its interaction with self-efficacy, it was decided to examine the group of subjects who identified a spouse as their significant other. As noted in the literature review on Symbolic Interactionism, some writers (Schafer & Keith, 1985; Schafer et al., 1984) have suggested looking at close, long-lasting relationships in order to gain a better understanding of how perceptions of significant others' judgments affect the perceiver's own self-judgments. In addition, Bandura (1986) has also encouraged looking at close relationships to investigate how interactive efficacy develops.

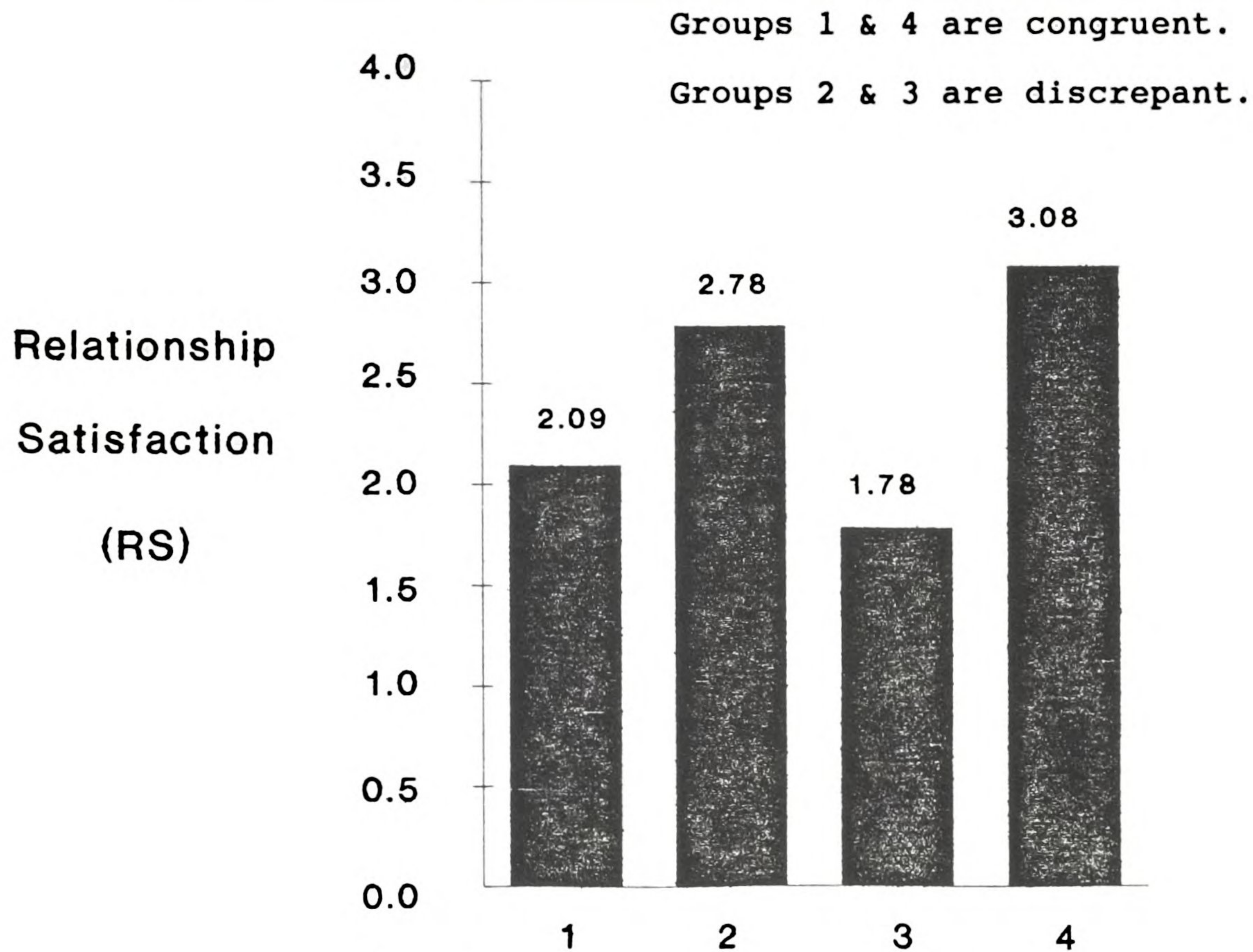
Since this research project allowed subjects to identify the type of relationship they had with their "RISE partner," a wide variety of relationship statuses were listed (e.g., spouse, parent, sibling, friend). The single largest identified group was "spouse." Of the 59

Table 4.16. Results of the Scheffe test comparing the relationship satisfaction (RS) means of the four SE-RISE groups ($N=100$)

		Groups			
		1	2	3	4
Group Mean		<hr/>			
1	2.09				
2	2.78			*	
3	1.78				
4	3.08	*		*	

Note. * denotes pairs of groups significantly different at the .05 level.

Group 1 = Congruent, low PHASE2 - low RISE
 Group 2 = Discrepant, low PHASE2 - high RISE
 Group 3 = Discrepant, high PHASE2 - low RISE
 Group 4 = Congruent, high PHASE2 - high RISE



Group 3 was significantly different from groups 2 and 4 at the .05 level.
Group 1 was significantly different from group 4 at the .05 level.

Note: Group 1 = low PHASE2 - low RISE
Group 2 = low PHASE2 - high RISE
Group 3 = high PHASE2 - low RISE
Group 4 = high PHASE2 - high RISE

Figure 4.4. Bar graph depicting the differences in the relationship satisfaction (RS) means of the four SE-RISE groups.

married subjects in the research sample, 49 of them chose their spouse as their most "important person" concerned about their adjustment after discharge. Although this is a small N for regression analysis, the decision was made, for exploratory purposes, to see if the results suggest that further analysis with a larger sample of intimate dyads would be fruitful. It was thought that the measure of reflected efficacy would be more predictive for this group since spouses are often recognized as having a substantial impact on the patient's well-being (Coyne et al., 1990; Coyne et al., 1987; Kahn et al., 1987)

Symptom distress and the married sub-sample

In predicting symptom distress among subjects listing their spouse on the RISE, results (see Table 4.17) indicated that demographic and psychological functioning did not contribute significantly to the equation, though self-efficacy did (R^2 change = .24). When RISE was entered as the fourth block it added little (R^2 change = .03) to the equation. However, when the order of PHASE2 and RISE were alternated, RISE (block 3) added a significant increment (R^2 change = .19) beyond demographics and psychological factors. In block 4, PHASE2 also contributed significant additional variance (R^2 change = .09). The interaction term of RISE and PHASE2 also contributed a substantial increment to the equation (R^2 change = .17). The final regression equation for symptom distress using the married sub-sample yields

Table 4.17. Hierarchical regression predicting General Severity Index scores for married subjects who identified their spouse as their "RISE partner" ($N=49$)

Predictor Set	Step	r	B	R^2 Change	Adj. R^2	F Change
Demographics	1			.08	.04	1.90
Race		-.09	-.08			
Gender		.26	.26			
Clinical Funct.	2			.06	.03	.43
Psychotic Beh.		.13	.18			
Prior Hosp.		.14	.14			
Days in Hosp.		-.03	-.21			
Self-Efficacy	3	-.55	-.53	.24	.28	16.12***
Reflected Efficacy	4	-.41	-.23	.03	.31	2.32
Reflected Efficacy	3	-.41	-.45	.19	.22	11.56**
Self-Efficacy	4	-.55	-.39	.09	.31	6.01*
Interaction of Self-Efficacy/Reflected Efficacy	5	-.48	2.91	.17	.49	16.06***

Note. $N=49$. The following variables were dummy coded: Gender (0 = male, 1 = female); Race (0 = white, 1 = non-white); Psychotic behavior (0 = absent, 1 = present).

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

an R^2 of .58 (adjusted $R^2 = .49$).

In order to explore the interaction results, the married sub-sample's data were divided into high and low reflected efficacy (RISE) scores and high and low self-efficacy (PHASE2) scores based on a median split. The symptom distress (GSI) scores for the married sub-sample were then subjected to a 2 (high, low self-efficacy) x 2 (high, low reflected efficacy) analysis of variance. Table 4.18 presents the results of the 2-way ANOVA; Table 4.19 presents the symptom distress (GSI) cell means for the four groups; and Figure 4.5 depicts the nature of the interaction. It may be seen that low self-efficacy subjects appeared to report similar levels of psychological distress at the time of discharge, regardless of the level of RISE beliefs. However, RISE beliefs appear to "bolster" high self-efficacy; i.e., subjects with both high RISE and high self-efficacy scores demonstrated the lowest level of symptom distress.

Adjustment motivation and married sub-sample

In predicting motivation to adjust after discharge in the "spouse" sub-sample (see Table 4.20), demographic and psychological functioning variables once again did not provide significant contributions to the equation. Self-efficacy, in the block 3 position, did provide a significant addition (R^2 change = .25) and RISE, in block 4, explained little additional variance. When the order of the blocks was reversed, RISE (block 3) yielded

Table 4.18. Results of 2 (high, low PHASE2) x 2 (high, low RISE) ANOVA on symptom distress (GSI) for the married sub-sample

Source of Variation	Sum of Squares	<u>d.f.</u>	Mean Square	<u>F</u>	Signif of <u>F</u>
Main Effects	4.372	2	2.186	5.820	.006**
RISE	.339	1	.339	.904	.347
PHASE2	3.007	1	3.007	8.006	.007**
2-Way Interaction	.021	1	.021	.055	.816
RISExPHASE2	.021	1	.021	.055	.816
Explained	4.393	3	1.464	3.898	.015
Residual	16.904	45	.376		
Total	21.297	48	.444		

n=49

Note. ** $p < .01$

Table 4.19. Symptom Distress (GSI) cell mean scores for low and high self-efficacy (PHASE2) and reflected efficacy (RISE) groups for the married sub-sample ($\underline{n}=49$)

PHASE2	RISE	
	LOW	HIGH
GSI cell means		
LOW	1.13 (0.89) $\underline{n}=13$	1.13 (0.33) $\underline{n}=7$
HIGH	.95 (0.68) $\underline{n}=10$.57 (0.46) $\underline{n}=19$

Note. Numbers in parentheses are standard deviations.

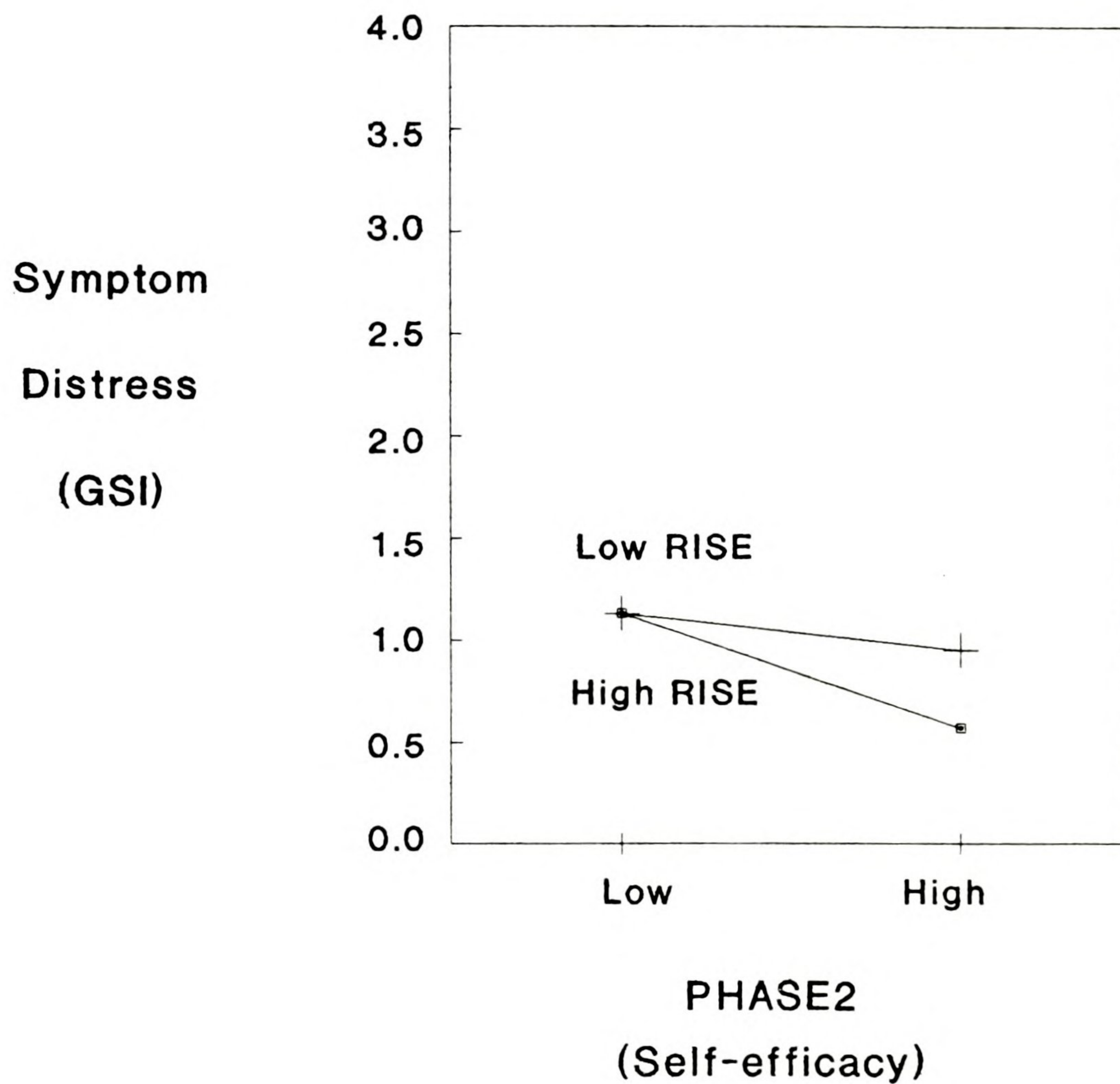


Figure 4.5. Relation of reflected efficacy (RISE) and self-efficacy (PHASE2) to symptom distress (GSI) for the married sub-sample. ($n = 49$)

Table 4.20. Hierarchical regression predicting Motivation Scale scores from married subjects who identified their spouse as their "RISE partner" ($n=49$)

Predictor Set	Step	\underline{r}	\underline{B}	\underline{R}^2 Change	Adj. \underline{R}^2	\underline{F} Change
Demographics	1			.05	.00	1.09
Race		.05	.06			
Gender		.21	.21			
Clinical Funct.	2			.04	-.03	.55
Psychotic Beh.		-.01	-.05			
Prior Hosp.		-.13	-.18			
Days in Hosp.		.12	.11			
Self-Efficacy	3	.49	.53	.25	.23	15.33***
Reflected Efficacy	4	.38	.13	.01	.22	.65
Reflected Efficacy	3	.38	.38	.14	.11	7.34**
Self-Efficacy	4	.49	.46	.12	.22	7.39**
Interaction of Self-Efficacy/Reflected Efficacy	5	.44	-2.12	.09	.31	6.26*

Note. $N=49$. The following variables were dummy coded: Gender (0 = male, 1 = female); Race (0 = white, 1 = non-white); Psychotic behavior (0 = absent, 1 = present).

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

significant additional variance (R^2 change = .13) and so did PHASE2 (R^2 change = .12). The interaction of RISE and PHASE2 produced a significant increment (R^2 change = .09). The final regression equation for married subjects yielded a R^2 of .43 (adjusted R^2 = .31).

To further explore the interaction term, the married sub-sample's motivation scores were subjected to a 2 (high, low self-efficacy) by 2 (high, low reflected efficacy) analysis of variance. Table 4.21 shows the results of the 2-Way ANOVA; Table 4.22 presents the adjustment motivation (MS) cell means for the four groups; and Figure 4.3 depicts the self-efficacy x reflected efficacy interaction. It may be seen that high self-efficacy subjects appeared to report similar levels of motivation, regardless of level of RISE beliefs. However, RISE beliefs appeared to "compensate" for low self-efficacy, i.e., subjects with high RISE scores but low self-efficacy demonstrated motivation scores that were similar to those of high self-efficacy subjects.

Table 4.21. Results of 2 (high, low PHASE2) x 2 (high, low RISE) ANOVA on adjustment motivation (MS) for the married sub-sample

Source of Variation	Sum of Squares	<u>d.f.</u>	Mean Square	<u>F</u>	Signif of <u>F</u>
Main Effects	158.364	2	79.182	6.281	.004**
RISE	48.037	1	48.037	3.811	.057
PHASE2	62.157	1	62.157	4.931	.031*
2-Way Interaction	88.618	1	88.618	7.030	.011*
RISExPHASE2	88.618	1	88.618	7.030	.011*
Explained	246.982	3	82.327	6.531	.001***
Residual	567.263	45	12.606		
Total	814.245	48	16.963		

n=49

Note. * p<.05
 ** p<.01
 *** p<.001

Table 4.22. Adjustment Motivation (MS) cell mean scores for low and high self-efficacy (PHASE2) and reflected efficacy (RISE) groups for the married sub-sample ($\underline{n}=49$)

PHASE2	RISE	
	LOW	HIGH
<hr/>		
MS cell means		
LOW	3.07 (0.55) $\underline{n}=13$	3.62 (0.31) $\underline{n}=7$
HIGH	3.68 (0.23) $\underline{n}=10$	3.65 (0.34) $\underline{n}=19$
<hr/>		

Note. Numbers in parentheses are standard deviations.

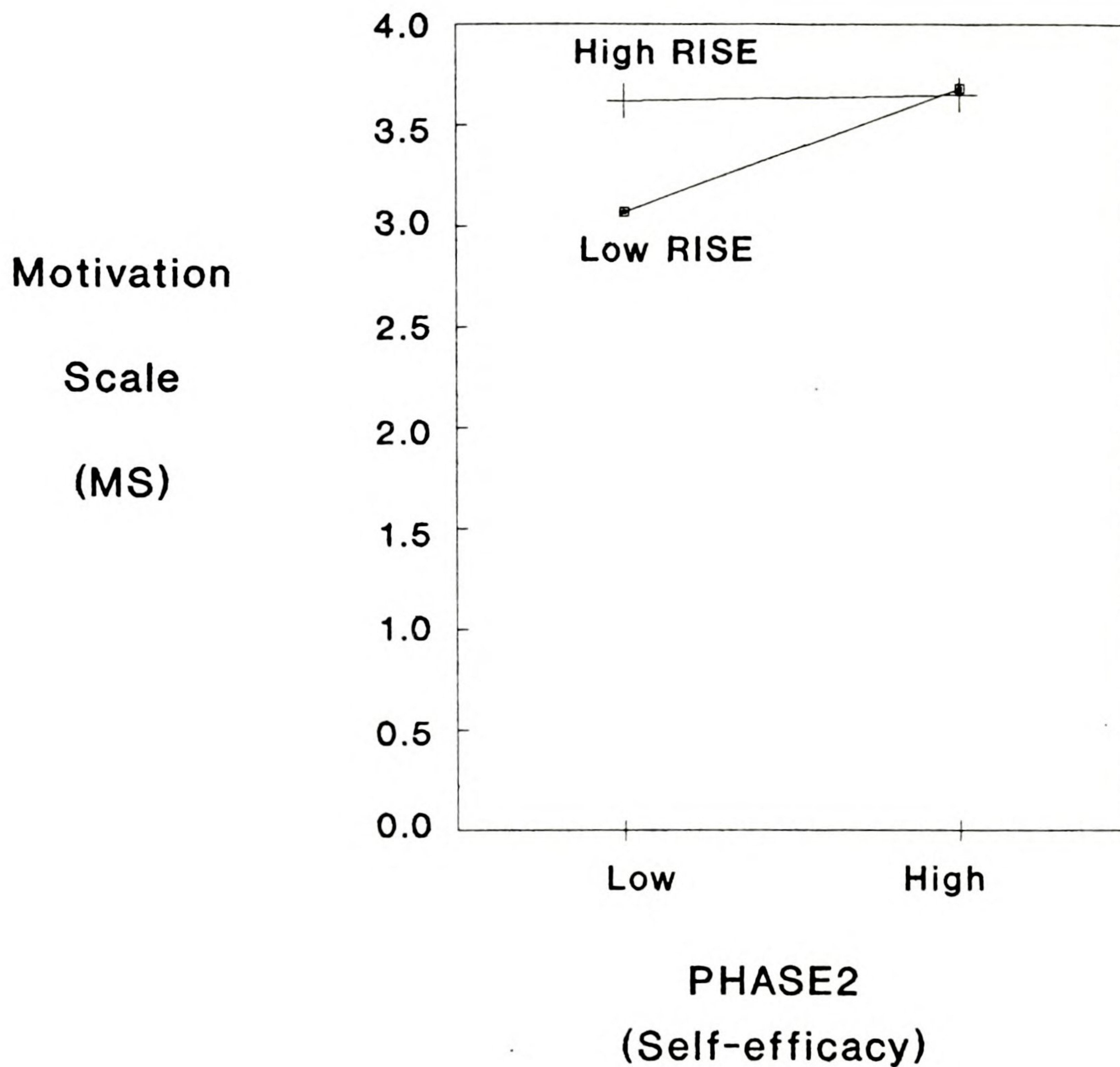


Figure 4.6. Relation of reflected efficacy (RISE) and self-efficacy (PHASE2) to adjustment motivation (MS) for the married sub-sample. ($n = 49$)

CHAPTER FIVE: DISCUSSION

Summary and discussion of the findings of this research are presented in Chapter Five. In addition, limitations of the study are noted, and suggestions for future research and clinical practice are offered.

Discussion of Results

This exploratory study on reflected efficacy was an extension of previous research on cognitive factors that relate to post-hospital adjustment (Harris, 1991; Lent et al., 1992; Mikolaitis, 1989). Research questions and findings are summarized below.

Reliability of the RISE Measure

Research question 1 addressed the reliability of the RISE scale in terms of its internal consistency.

Research Question 1: What is the internal consistency of the RISE measure for post-hospital adjustment? Is this reliability sufficient to warrant its use for further research purposes?

The obtained Cronbach alpha coefficients for the modified version of the RISE scale used in this study were .91 in the pilot sample and .92 in the main sample, which compares favorably with the alpha of .92 obtained by Lent and Lopez (1991) with the original version of the RISE scale. These findings suggest that errors due either to the sampling of items or to chance situational variables (random measurement error) minimally affected the measure (Nunnally, 1978). The high alpha coefficients also suggest that the RISE is measuring a unidimensional construct (Cronbach, 1951), thereby supporting use of the

modified version of this scale in clinical research.

Construct Validity of the RISE

"Construct validity is the extent to which a particular test can be shown to measure a hypothetical construct" (Borg & Gall, 1989, p.255). One way to determine the construct validity of an instrument is to explore its relationship to other variables with which the construct is expected to relate on the basis of theory. Research questions 2-4 investigated the relationship of the RISE measure to other variables of theoretical interest. Research question 5 investigated the RISE scale's relationship to patient demographics and clinical functioning indices.

Research Question 2: What is the relation of the post-hospital adjustment RISE measure to the PHASE2 measure?

Research Question 3: What is the relation of the RISE to social support as measured by the Social Provisions Scale?

Research Question 4: What is the relation of RISE to relationship satisfaction as measured by a modified version of Lopez and Lent's (1991a) Relationship Satisfaction Scale?

Research Question 5: What is the relation of RISE to demographics and indices of clinical functioning?

Based on theoretical accounts of interactive efficacy (Bandura, 1986; Lopez & Lent, 1991b) and previous pilot data (Lent & Lopez, 1991), the measure of reflected efficacy (RISE) was expected to relate to measures of self-efficacy (PHASE2), social support (SPS), and relationship satisfaction (RS). Consistent with

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expectations, it correlated significantly with all three measures (PHASE2, $r=.58$, $p < .001$; SPS, $r=.37$, $p < .001$; RS, $r=.65$, $p < .001$).

RISE's relation to self-efficacy

Bandura (1977) proposed that an individual's perception of self-efficacy (SE) for a specific task is formed by four sources of information or modes of influence: (a) past performance, (b) vicarious experience, (c) persuasion or social encouragement, and (d) physiological arousal. Lopez and Lent (1991b) conceptualized reflected efficacy as an example of feedback based on past relationship performance. RISE can also be seen as a source of social encouragement. A patient's perception of reflected efficacy, as measured by the RISE scale, may be an indicator of the encouragement that he or she senses from important others. Therefore, a relationship between the measures of reflected efficacy and self-efficacy would be expected.

Bandura (1986) has also hypothesized that the strength of the relationship between self-efficacy and relevant actions is moderated by several factors, such as performance disincentives or social constraints posed by the interpersonal milieu. If a patient perceives his or her significant other as not "believing" in his or her ability to cope, then this lack of confidence may serve as a disincentive or constraint to adjustment.

Lopez and Lent's (1991b) formulations about the nature

of RISE and its interrelationship with self-efficacy also help to explain the strong correlation between reflected efficacy and self-efficacy. They write:

"...RISE acts as a source of personal efficacy information or represents a personal standard-setting function. That is, an individual judges his or her self-efficacy, in part, by appraising the cues that significant others provide, such as direct feedback or nonverbal responses" (p.20-21).

They also speculated that RISE has the potential to "bolster" self-efficacy and that it is likely to play an important role in self-efficacy formation during times of crisis or at turning-points because, at such periods of upheaval,

"...the usual sources of efficacy information may be either temporarily destabilized or of limited generalizability to the current performance situation.Under these conditions, RISE beliefs may help bolster or reformulate self-efficacy, reduce stress, assist the individual to cope with discrepant self-information, and thus provide a sense of relationship support -- outcomes which collectively should facilitate adaptation" (p.21-21).

It is reasonable to assume that psychiatric hospitalization is a crisis or turning point in the lives of most patients and therefore, if Lopez and Lent's (1991b) assumptions about RISE are correct, one would expect RISE perceptions to play an active role in the formation of post-hospital adjustment self-efficacy.

RISE's relation to social support

As the literature review on the role of social support indicated, the presence of social support relates to successful recovery for psychiatric patients (Brier & Strauss, 1984) and can have a "buffering" effect,

protecting people under extreme stress (Cohen & Wills, 1985). Conversely, negative or overly solicitous messages from significant others has been found to relate to relapse in psychiatric patients (Coyne & Bolger, 1990; Coyne & DeLonges, 1986; Coyne et al., 1988). To the extent that RISE reflects perceptions of being "believed in" and, hence, social encouragement, it was expected that the RISE measure would correlate with a measure of social support (SPS). Findings revealed that the two measures did correlate significantly, $r = .37$, $p < .001$.

RISE's relation to relationship satisfaction

It was anticipated that RISE would relate strongly to relationship satisfaction (RS) since the RS scale focused on the patients' degree of satisfaction with the person identified as the "RISE partner." It was found that RISE and RS did correlate highly, r of .65 ($p < .001$).

The literature on attributions in intimate relationships would suggest that reflected efficacy should relate to relationship satisfaction. As Baucom et al. (1989) reported, relationship satisfaction can be affected by a couple's perceptions and inferences about each others behavior and these perceptions can be a "distorted and dissatisfying version of reality" (p.32). As noted in the attribution literature, distressed couples display negative and uneven communication patterns (Hautzinger et al., 1982), feel emotionally distant and alienated (Heim &

Snyder, 1991), tend to make global, stable, and internal attributions for negative marital events (Bradbury & Fincham, 1990), and are very reactive to each other's displeasing behaviors (Jacobson et al., 1980). The literature on "expressed emotions" in families of psychiatric patients (Halford et al., 1991; Leff & Vaughn, 1985) also suggests that criticism and negative communications from significant others might affect how the patient thinks that the others evaluate his or her ability to cope after discharge.

RISE's relation to patient demographics

Research question 5 concerns the RISE scale's relationship to patient demographics and clinical functioning indices. Previous research on post-hospital adjustment self-efficacy (Harris, 1991; Lent et al., 1992; Mikolaitis, 1989) has found that self-efficacy did not relate definitively to patient demographics.

Based on this previous research, there were no clear expectations about the RISE scale's relation with patient demographic variables. However, it was observed that the RISE scale did correlate to a modest degree ($r=.18$; $p<.05$) with subject age, indicating that RISE scores tended to increase with subject age. It is possible that this relationship is due to older subjects having longer and more supportive "biographical" histories with their identified RISE partner than did the younger subjects. Parenthetically, some researchers (Coyne & DeLongis, 1986;

Kahn et al., 1989, Schafer et al., 1985) have advocated that, when a study requires measuring a subject's perception of another person, it is better to use significant others who have a "biographical" history with the respondent, rather than to use strangers or hypothetical persons.

RISE's relation to clinical functioning indices

Previous research on post-hospital adjustment self-efficacy has produced differing results concerning the relationship of self-efficacy to clinical functioning indices. Mikolaitis (1989) had hypothesized that the number of previous hospitalizations, past and present levels of clinical functioning, and presence of psychosis would all correlate negatively with self-efficacy. She conjectured that these indices would be perceived by subjects as examples of poor past performance. Based on Bandura's (1986) hypothesis that the most important source of feedback for forming self-efficacy percepts is past performance, Mikolaitis had expected that poor past psychological performance would correlate negatively with self-efficacy. Instead she found no such relationship, which she attributed to distortions in patients' cognitive appraisal processes (e.g., poor reality-testing).

Harris (1991) reported finding positive correlations between self-efficacy and the clinical indices of psychosis and length of stay, indicating that psychotic subjects and those with longer hospitalizations reported

higher levels of self-efficacy. Like Mikolaitis, he attributed the finding about psychotic patients to their impaired reality-testing capacities. He attributed the higher self-efficacy scores for patients with longer stays to the assumption that those who had stayed longer had more time to heal and, thus, perceived themselves as better able to cope after discharge.

In the current study, RISE did not relate significantly to indices of clinical functioning, psychotic behavior, number of previous psychiatric hospitalizations, number of previous suicide attempts, or current suicide status. However, there was a significant negative relationship between RISE and length of hospital stay ($r = -.18$, $p < .05$). This indicated that the longer a patient was hospitalized, the more likely the patient was to believe that his or her significant other had little confidence in the patient's ability to cope after discharge. Interestingly, length of stay also correlated negatively with the Relationship Satisfaction (RS) measure ($r = -.19$, $p < .05$), indicating that partner satisfaction tended to decrease as hospitalization increased.

Although these results are only correlational and the effect sizes are small, it is possible that the sense of support engendered by high RISE beliefs promote quicker recovery. By the same token, it may have been that longer hospital stays prompted greater relationship distress. That is, RISE beliefs and length of stay may affect one

another reciprocally.

In sum, the construct validity of the RISE scale was supported by the scale's theory-consistent relations with self-efficacy, social support, and relationship satisfaction. A few interesting relations with patient age and length of hospitalization were also observed.

Other demographic and clinical correlations

In addition to the bivariate relations between RISE and other variables noted above, several additional significant correlations were noted among the various measures. For example, the self-efficacy measure (PHASE2) correlated with gender ($r = -.26$, $p < .01$), with males tending to report higher self-efficacy percepts than did females. Women also had significantly longer hospital stays ($r = .21$, $p < .05$) and reported more symptom distress at discharge ($r = .29$, $p < .01$) than did men.

Previous studies of post-hospital adjustment self-efficacy did not find any such self-efficacy/gender relationships. This discrepancy may be due partly to demographic and clinical differences between the current sample and those of prior studies. For instance, the current sample had fewer males, more employed subjects, fewer subjects with psychotic behavior (only one subject was schizophrenic), and more married subjects than did the prior studies. Although the basis for the gender differences in clinical functioning is unclear, these differences have been replicated in a separate sample at

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the same hospital (Piersma, 1991).

Interestingly, self-efficacy was found to correlate with the number of previous psychiatric hospitalizations ($r = -.20$, $p < .05$), indicating that as the number of previous hospitalizations increased, perceptions of coping self-efficacy decreased. This is the pattern that

Mikolaitis (1989) had hypothesized, but did not obtain, in her study. In the current sample only 16% of patients had evidenced psychotic behavior, compared with 70% in Mikolaitis' study. She had argued that the number of prior hospitalizations should act as a source of feedback about past performance and, according to Bandura's (1986) model, this information about poor past performance should negatively affect formation of coping self-efficacy. Her conclusion that her subjects' self-ratings may have been distorted by their impaired reality-testing capacities seems plausible.

There was also a significant correlation between length of hospital stay and psychotic behavior, indicating that patients who evidenced symptoms of psychosis tended to have longer hospitalizations ($r = .32$, $p < .001$). In the current sample the majority of psychotic subjects were diagnosed as having an affective disorder with psychotic features. Given the complex treatment needed to help patients with these types of diagnoses, it was not unexpected that psychotic patients would have longer stays.

Finally, perhaps not surprisingly, social support (SPS) correlated significantly with employment status ($r = -.24$, $p < .01$), indicating that employed subjects tended to perceive themselves as receiving more social support than did those subjects on government assistance. The work setting may afford a wider support network and more opportunities to receive support than that available to patients who are not employed outside the home.

Concurrent Validity of the RISE Scale

Research questions 6 and 7 addressed the concurrent validity of the RISE scale.

Research Question 6: Does reflected efficacy (RISE) complement self-efficacy (PHASE2) in regression predictions of the patients' concurrent scores on (a) General Severity Index (GSI, the global symptom distress score from the Brief Symptom Inventory, Derogatis & Spencer, 1982) and (b) perceived adjustment motivation (Motivation Scale, Lent et al., 1992), controlling for demographic variables and clinical functioning?

Research Question 7: Does the interaction of reflected efficacy (RISE) and self-efficacy (PHASE2) explain unique variation in symptom distress and motivation?

Research question 6 extends the work of Harris (1991) and Lent et al. (1992) in two ways: first, by adding reflected efficacy to the prediction equation of concurrent symptom distress and, second, by comparing the two efficacy measures' explanatory power for predicting levels of concurrent adjustment motivation.

RISE in the explanation of symptom distress

Findings indicated that reflected efficacy (RISE) did not explain additional significant variance in symptom

distress after controlling for self-efficacy. Similar to Harris (1991) and Lent et al. (1992), however, the measure of self-efficacy (PHASE2) accounted for significant and unique variation in symptom distress, over and above that explained by demographics and clinical functioning indices. Specifically, self-efficacy contributed an additional 22% of the variance beyond demographics and clinical functioning variables. When reflected efficacy was added to the equation ahead of self-efficacy, it contributed an additional 7% beyond that contributed by demographics and psychological functioning. Self-efficacy then explained an additional 16% of symptom variation. Therefore, self-efficacy explained more unique variance in symptom distress than did reflected efficacy, and the latter did not appear to complement self-efficacy in predicting this criterion.

Bandura's (1986) theory postulates that self-efficacy should relate to affective outcomes, and two prior data sets have produced a significant relation between self-efficacy and emotional functioning (symptom distress) in psychiatric patients (Harris, 1991; Mikolaitis, 1989). Thus, the PHASE2/symptom distress relationship appears to be fairly robust. However, the failure of the RISE construct to complement self-efficacy appears to contradict Lopez and Lent's (1991b) assertions.

RISE in the explanation of adjustment motivation

Self-efficacy provided a significant and sizeable increment beyond that accounted for by demographics and psychological functioning in predicting concurrent levels of motivation to adjust to community living. Once again, however, reflected efficacy did not contribute explanatory power to the regression equation beyond self-efficacy. When the order was transposed with reflected efficacy entered before self-efficacy, reflected efficacy explained 10% additional variance, while self-efficacy explained another 18% of the variance. Thus, self-efficacy appeared to account for more unique variance in motivation scores than did reflected efficacy.

Self-efficacy was expected to predict concurrent motivation scores based on theory. Bandura (1986) proposed that self-efficacy percepts partly determine a person's initiation of a given behavior and help to sustain efforts in the face of obstacles and challenging conditions. Thus, self-efficacy should relate to one's motivation to adjust to community living, an expectation that is supported by the present findings and those of Lent et al. (1992).

Reflected efficacy was also expected to predict some of the variance in motivation scores, because of what Lopez and Lent (1991b) termed the "commonsense notion" that someone "believing" in us helps us to stay motivated and persist in difficult tasks. There was some evidence

that reflected efficacy related to motivation ($\underline{r}=.32$), though it did not improve over self-efficacy in predictive equations.

At least two issues -- one methodological, one conceptual -- should be considered in relation to the RISE measure's inability to complement self-efficacy in predicting symptom distress and adjustment motivation. First, despite efforts to minimize common method variance, self-efficacy and RISE were, themselves, highly correlated ($\underline{r}= .58$). Thus, multicollinearity may have reduced RISE's ability to account for unique variance in the outcome criteria.

Second, from a theoretical perspective, if reflected efficacy serves as a source of self-efficacy (i.e., beliefs that others believe in us help to bolster our sense of what we can do), then it might be expected that RISE's effects on relevant outcomes would be mediated by (or operate through) self-efficacy beliefs. That is, the causal sequence may be as follows: reflected efficacy \rightarrow self-efficacy \rightarrow outcome. As Cohen and Cohen (1983) have noted, if variable \underline{x} mediates the effect of variable \underline{y} on a third variable (\underline{z}), then the relationship between \underline{y} and \underline{z} would be expected to approach 0 when \underline{x} is controlled. This pattern, in fact, emerges with respect to reflected efficacy and self-efficacy. Thus, it may be appropriate to think of RISE as a precursor to self-efficacy, rather than as a variable that exerts independent and additive

that reflected already related to business system

though it did not appear that will be likely to be

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operation

effects on symptom distress and adjustment motivation.

The interaction of reflected efficacy and self-efficacy in explaining outcome variables

The possibility that the interaction of the two efficacy variables (reflected efficacy and self-efficacy) might contribute to the hierarchical regression equations predicting symptom distress and adjustment motivation was explored by entering their interaction term as the fifth block in each equation. The interaction term did not contribute any unique significant variance in symptom distress, but it did add 6% of the variation in motivation.

The additional variance accounted for by the product term suggests that reflected efficacy moderates the relationship between self-efficacy and adjustment motivation. When this interaction is graphed (refer to Figure 4.1) it shows that high reflected efficacy (RISE) scores boost the motivation scores (MS) of those subjects with low self-efficacy. The MS scores of high self-efficacy subjects were relatively unaffected by the level of RISE beliefs. Thus, RISE beliefs may "compensate" for low self-efficacy, while high self-efficacy beliefs do not appear to be influenced by RISE beliefs.

Lopez and Lent (1991b) proposed that RISE may act as a moderator of self-efficacy perceptions. In particular, during life's turning points or periods of crisis, reflected efficacy "...beliefs may help bolster or

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reformulate self-efficacy, reduce stress, assist the individual to cope with discrepant self-information, and thus provide a sense of relationship support -- outcomes which collectively should facilitate adaptation" (p.22). The data suggest that high RISE beliefs can compensate for a patient's own low coping efficacy, and that this sense of "relationship support" may help bolster the patient's motivation to cope after discharge.

Moderator Effects

The last research question addressed the issue of whether psychotic symptomatology affected the RISE scale's relation to the outcome criteria.

Research Question 8: Is the relation of RISE to symptom distress and adjustment motivation moderated by whether the patient exhibits psychotic vs. non-psychotic behavior?

Prior research with the PHASE (Lent et al., 1992; Mikolaitis, 1989) and the PHASE2 (Harris, 1991) suggested that patient's self-cognitions may be a more valid predictor of psychological distress and adjustment motivation for non-psychotic rather than psychotic patients. The question posed here was whether the RISE's predictive utility would also be affected by patients' reality-testing capacities. The results did not show clear differences between the psychotic and non-psychotic groups in terms of RISE-criterion relations. However, it should be noted that patients exhibiting psychotic behavior comprised only 16% of the present sample, compared to Lent et al. (1992) and Mikolaitis (1989) who

had 70% psychotic subjects, and Harris (1991) who had 49% psychotic subjects. In particular, the small n (16) of psychotic patients in the current sample may have limited the power of the statistical contrasts to detect correlational differences.

Supplementary Analyses

Supplementary analyses were performed (a) to further explore SE-RISE interactions by investigating the relation of SE-RISE congruency and discrepancy to symptom distress (GSI), adjustment motivation (MS), and relationship satisfaction (RS), and (b) to investigate the ability of RISE to predict symptom distress (GSI) and adjustment motivation (MS) scores for a sub-sample of married subjects.

SE-RISE congruence and discrepancy

In order to further explore the nature of the SE-RISE interactions, analyses was performed on SE-RISE congruence and discrepancy. To explore the effects of congruence/discrepancy between the two efficacy beliefs (PHASE2-RISE) on the criterion measures, post-hoc comparisons of the means of the four PHASE2-RISE combinations were performed on the outcome measures (GSI, MS, RS).

On the criterion measure of symptom distress (GSI), the high congruent (high PHASE2, high RISE) group reported significantly fewer psychological symptoms than did the low congruent and low PHASE2 - high RISE/discrepant

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groups. Belief in oneself, buttressed by high RISE perceptions, may therefore have allowed subjects in group 4 to leave the hospital with less psychological distress than did those subjects who had low levels of self-efficacy. It may be that patients' with high-congruent efficacy beliefs may experience more hopefulness and thus have lower levels of symptom distress. What is not known is if this group is perceiving their situation accurately, or are overly optimistic with respect to their objective functioning.

On the criterion measure of adjustment motivation (MS), the high-congruent group reported significantly higher motivation than did the low-congruent group, the high PHASE2 - low RISE discrepant group also reported more motivation than did the low-congruent group. This suggests that those patients with little faith in themselves and who perceived their partner as lacking confidence in them, had lower motivation to cope than did those patients who had stronger beliefs in their own coping efficacy, with or without congruent RISE beliefs. It may be that low-congruent patients experience more hopelessness than do the other groups.

Two sets of contrasts were significantly different on the outcome measure of relationship satisfaction (RS). In particular, high-congruent subjects reported greater relationship satisfaction than did low-congruent and discrepant/low RISE subjects. The discrepant/high RISE

group also experienced more satisfaction than did the discrepant/low RISE group. This pattern suggests that high RISE beliefs may facilitate satisfaction across levels of self-efficacy, and that discrepant high self-efficacy/low partner beliefs may disrupt relationship satisfaction. It is possible that the latter group may experience anger or dissonance over the mismatch in efficacy beliefs. Whether such subjects may be motivated to change in order to reduce the degree of discrepancy, as Lopez and Lent (1991b) speculated, deserves further research attention.

In sum, the findings from the post-hoc contrasts indicate that there seem to be differences among the four SE-RISE groups. Importantly, the type of congruence made a difference, with high-congruent subjects generally achieving better outcomes than did low-congruent subjects. In a recent study that explored whether discrepancies in interpersonal perceptions among remitted depressed patients and their significant others predicted relapse, the data were divided into two groups -- congruent and discrepant perceptions (Segal, Adams, & Shaw, 1992). No significant differences were found between the groups on perceptions but this study only explored the magnitude of discrepant differences rather than the directionality of the misperceptions.

A problem with the current analysis is that, by using a median split to create the groups, it lacks some

group also experienced very significant loss of the
diversity, low birth rates, and other negative effects
and also the loss of the diversity of the group.

There is

171-172

precision in indexing the degree of SE-RISE fit. However, the current exploratory analysis does suggest that the direction of discrepant and congruent percepts may be an important feature to examine.

RISE's ability to predict outcomes among the married sub-sample

Based on the possibility that reflected efficacy (RISE) might be a better predictor of criterion outcomes among married subjects (i.e., where the significant other is involved with the subject in a long-term, committed relationship), it was decided to examine RISE's relationship to the outcome measures in the sub-sample of subjects who identified a spouse as their significant other ($n=49$). Given that this is a small N for regression analysis, the results might not prove stable and, hence, they require replication with a larger sample.

Within this sample, the interaction of RISE and PHASE2 accounted for a substantial amount (17%) of additional variance in symptom distress in contrast to the meager effects in the main sample ($N=100$) (1% added variance). Further investigation showed that subjects with both high RISE and high self-efficacy scored at the lowest levels of symptom distress.

In predicting the married sub-samples' motivation to adjust, the interaction of RISE and PHASE2 accounted for an added 9% of the variance. The interaction appears to indicate that high RISE beliefs bolstered the scores of those with low self-efficacy, perhaps giving them extra

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incentive or motivation to try to adjust after discharge. Thus, the analyses on the married sub-sample showed stronger RISE-PHASE2 interactions than noted in the main sample, suggesting that future research on reflected efficacy might profit from a focus on intimate dyads.

Limitations

In attempting to interpret this study's findings, and to speculate upon their implications for practice and research, it is necessary to consider those factors that might have diminished both the accuracy and the generalizability of these findings. Limitations upon external validity are presented first, followed by design and methodological considerations.

Threats to External Validity

The external validity of this study is circumscribed by characteristics of the research sample. Although care was taken to ensure that subjects were representative of the pool of patients at the hospital, they do not purport to represent psychiatric patients in general. The sample was taken from the population of patients at one midwestern psychiatric hospital over a six month period. The use of different time periods, hospitals, or geographic locations, along with patients with different psychological problems, might have produced different results.

Additionally, the results may have been affected by self-selection bias. Borg and Gall (1989) have indicated

that voluntary subjects tend to have a high need for social approval and are typically more enthusiastic, cooperative, and more likely to take risks than are non-volunteers. Non-responders may differ in their attitudes towards the hospital or in their willingness to self-disclose. In fact, a few patients who declined to participate said they were mad at the hospital and a few others refused because they were sure, in spite of reassurances to the contrary, that their responses would be used to delay their discharge.

Design and Methodological Limitations

The study's findings must be interpreted in light of their self-report nature. Borg and Gall (1989) cautioned that self-report data are subject to three related drawbacks: (a) they depend upon the accuracy of the subject's perceptions; (b) they may be biased due to subjects' tendencies to provide socially desirable responses; and (c) they may conform to some kind of "experimenter bias." Because of the concern that psychotic processing might distort respondents' self- and other-perceptions, analysis was performed to compare the responses of the psychotic and non-psychotic subjects. The possibility of subjects' biasing responses in socially desirable ways was not addressed; future research on this topic may profit from the inclusion of a measure of social desirability, such as the Crowne and Marlowe (1960) scale. In an attempt to minimize the



affects of "experimenter bias," only one experimenter was used. She refrained from revealing the specific nature of the research questions.

Subject response style can also be a source of variability on an instrument. Subjects' responses may have been affected by environmental distractions, time pressures, psychotropic medications, carelessness, confusion about task demands, or even residual paranoia or suspiciousness.

Instrumentation

Although efforts were made to use reliable and valid instruments, some of the measures (RISE, RS, MS) are relatively new and unproven. Though the revised RISE and RS instruments demonstrated acceptable internal reliability, they have only been used with the current sample. Further use with different populations will help to better establish their psychometric qualities. The Motivation Scale, which was used as an outcome measure, demonstrated negative skew (skew = -.56, mean = 3.42). The current sample tended to be very optimistic about their motivation to adjust after discharge. Revision may be needed to maximize the range of scores and lessen skew.

Implications for Future Research

The results of this study suggest that efficacy cognitions may help illuminate the complex process of psychiatric recovery. The findings indicate that both perceptions of one's own ability to cope and perceptions

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of one's significant other's beliefs may help to mediate certain adjustment outcomes in psychiatric patients. Reflected efficacy augmented self-efficacy in explaining patient adjustment motivation. Among married patients who identified their spouse as their significant other, reflected efficacy also augmented self-efficacy's ability to explain patients' symptom discomfort. Exploratory examination of SE-RISE congruence versus discrepancy suggested that the four subject groups may experience different recovery outcomes, with high congruent SE-RISE perceptions generally predicting positive outcomes.

The results of the current study raise questions as to how self-efficacy and reflected efficacy interrelate. Is reflected efficacy truly different from self-efficacy? Is reflected efficacy a "precursor" to self-efficacy? Do the two types of efficacy beliefs reciprocally effect each other? Future research could help answer these questions. A factor analysis of the PHASE2 and RISE scale items could help to determine if the two measures are actually tapping different constructs and could indicate which items are overlapping too much and therefore should be eliminated. An experimental study, where reflected efficacy percepts are manipulated, would help demonstrate if a change in RISE beliefs produce a change in SE beliefs, and thus show how reflected efficacy can be a precursor to self-efficacy. A path analysis study would help to show the complex relationships between RISE and SE and how each

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may modify the other. The supplementary analysis on congruence and discrepancy between RISE and SE percepts suggests that the two types of efficacy may be interrelated in meaningful but complex ways which path analysis could help to elucidate.

It would be useful for future research to replicate and extend this study, particularly by exploring how all three types of efficacy beliefs proposed by Lopez and Lent (1991b) -- self-efficacy, reflected efficacy, other efficacy -- relate to the post-hospital psychiatric recovery process. Such research would also profit from the use of path analysis procedures. In studies of the process of symbolic interactionism, Shafer and Keith (1985) have argued that path analysis is an appropriate way to study how reflected appraisals affect self-appraisals. Likewise, path analytic methods may clarify whether and how the three types of efficacy beliefs impinge on each other. Another improvement would be to incorporate study of the patient's significant other in order to measure the other's actual evaluations of the patient's capability to cope. This would necessitate developing an instrument related to the PHASE2 and RISE which taps the significant other's actual degree of confidence in the patient.

The current study helped extend previous research on post hospital recovery by recruiting more tractable patients with acute psychological problems rather than

exclusively chronic, lower functioning patients, as in earlier studies. Future research might also explore the relation of efficacy perceptions to patient outcomes in specific diagnostic categories, only married or single patients, or specific age groups, e.g., adolescent, geriatric. For instance, different Axis I diagnostic categories (Affective v.s. Anxiety Disorders) or Axis II categories (Narcissistic v.s. Paranoid Personality Disorders) may act as moderators to the formation of self- and reflected efficacy perceptions or they distort cognitive perceptions in different ways. It may also be useful to assess RISE beliefs regarding those with whom the patient interacts most intimately, and to explore possible RISE effects on hospital recidivism and other behavioral outcomes (cf. Harris, 1991).

Future research could investigate how other cognitive concepts relate to efficacy perceptions. Does Rotter's (1966) concept of Locus of Control interrelate with self- and reflected efficacy? Might self-efficacy be a more effective predictor of concurrent outcome measures for those patients with high scores for an internal sense of control, while reflected efficacy might be a more effective predictor for those with high scores for an external sense of control?

Future research could explore how personality factors relate to the formation of efficacy perceptions. Do aspects of Costa and McCrae's (1990) "Big Five"

essentially chronic, but limited to the
first stage of the disease, and the
existence of a chronic infection is
specific diagnostic evidence, and is
evidence of specific infection.

Specific evidence of infection is

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personality factors moderate the effect of self-efficacy and reflected efficacy on concurrent clinical outcomes for psychiatric patients? For instance, one might look at the dimension of Neuroticism which Costa and McCrae (1990)

define as "... the predisposition to experience psychological distress in the form of anxiety, anger, depression, and other negative affects" (p.363). If the researcher controlled for the level of patients' Neuroticism scores, it might be found that the tendency for negative affectivity moderates the efficacy/outcome relationships. The impact of Negative affectivity could also be explored by entering it into the regression equation to see if it has predictive ability to explain concurrent measures of clinical functioning and motivation.

The supplementary analysis on SE-RISE congruence versus discrepancy suggests another fruitful direction for research. In particular, it would be valuable to study further the relationship and adjustment implications of self-efficacy and reflected efficacy percepts that do and do not match. It would also be informative to examine how patients construct their reflected efficacy beliefs and how they reconcile SE-RISE discrepancies. The supplementary analysis on the married sub-sample suggest that the patient's degree of satisfaction with his or her partner may moderate the RISE/outcome relationship. With a larger sample it would be helpful to explore if

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relationship satisfaction scores (RS) moderate the RISE/GSI and RISE/MS relations. It is possible that it is not the relationship status (married) but rather the quality of the relationship attachment that invested RISE (reflected efficacy) with apparent predictive power among the married sub-sample.

Research on post-hospital adjustment self-efficacy has indicated that cognitive distortions due to psychosis may moderate self-efficacy/criterion relations. The current research did not replicate this finding with reflected efficacy beliefs. However, the small sample of psychotic patients, and statistical power limitations, may have affected this finding. It is possible that less severe cognitive distortions, such as the "pessimistic triad" typical of depressed patients (Beck, 1976), may affect reflected efficacy beliefs. Finally research can also pursue the relation to reflected efficacy of various other cognitive variables, such as causal and responsibility attributions (Baucom et al., 1989; Bradbury & Fincham, 1990; Holtzworth-Munroe & Jacobson, 1985) and irrational beliefs (Ellis & Greiger, 1978; Epstein & Eidelson, 1981).

Given the phenomenological nature of efficacy percepts, the current study relied heavily on self-report data in assessing SE and RISE beliefs. Nevertheless, it would be informative to study such percepts in relation to "objective" data, e.g., significant other, therapist, and clinical staff observations, or indices of social

functioning. Semi-structured interview and diary material would also add dimension to the self-report data, particularly in tapping the basis for the efficacy cognitions and in illustrating critical events that may modify them over time.

Clinical Implications

Although it is premature to translate the findings of this study directly into guidelines for counseling practice, the results do suggest that efficacy beliefs relate to symptom distress and adjustment motivation at the time of discharge. The assessment of efficacy beliefs may be helpful in identifying those at risk for relapse, and in suggesting which coping tasks and social skills need treatment intervention. It is also possible that SE-RISE discrepancy status would suggest treatment variations. Since this study indicated that RISE beliefs can offset or bolster the effects of low coping efficacy in certain instances, it may be helpful to design treatments to enhance RISE perceptions. For instance, a cognitive-behavioral treatment strategy could be developed to help clients examine the accuracy of their perceptions of their significant other's judgments. In addition, treatments could be developed which include the significant other in the therapy process, thereby helping each participant to form more accurate and facilitative perceptions of self and other.

Implications for Research on the Tripartite Efficacy Model

In addition to extending the prior research on efficacy perceptions relative to the post-psychiatric recovery process, this study serves as one of the first investigations to employ Lopez and Lent's (1991b) tripartite model of interactive efficacy. In Lopez and Lent's (1991a) initial effort at applying their model to research, they explored how the three types of efficacy beliefs relate to relationship adjustment criteria in one member of a romantic dyad. That application of the tripartite model studied a situation in which both relationship partners have to perform the same task -- to develop and maintain their relationship.

When research involves both members of a dyad performing the same task, only three efficacy measures are needed. However, greater complexity attends scenarios, such as the present one, wherein each member of the dyad has different, but related, performance tasks. In the current study, for example, the patient has the task of coping after discharge while the significant other has the task of coping with a recovering psychiatric patient. If the current study were extended to all three types of efficacy for both the patient and his or her significant other, six efficacy measures would be required. Specifically, to measure the patient's three efficacy beliefs, a study would need: (a) the PHASE2, to assess self-efficacy for coping after discharge; (b) the RISE, to

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Investigation of the effects of the
in addition to the other factors
efficiency perception related to the post-
recovery process. This study shows that the
investigation of coping styles and their effects

assess the patient's perceptions about the significant other's evaluations of the patient; and (c) a measure of "other efficacy," to assess the patient's evaluations of the other's ability to cope with the recovering patient.

To measure the significant other's three efficacy beliefs, a study would need: (a) a new measure of self-efficacy focusing on the other's beliefs about his or her own ability to cope with a recovering psychiatric patient; (b) a new measure of reflected efficacy to assess the significant other's perception of the patient's beliefs about the other's ability to cope with the patient; and (c) a new measure of other efficacy that focuses on the other's actual beliefs about the patient's ability to cope after discharge.

Many studies can be generated investigating the various combinations of interactive efficacy when the task confronting a dyad requires each of them to perform different, but related, tasks. The present study only investigated two types of efficacy -- self and reflected -- from the viewpoint of only one member of a dyad that had different tasks to perform. Lopez and Lent's (1991b) tripartite efficacy model is rich with possibilities for future research and can be used to explore a wealth of relationship situations both within, and outside of, the post-psychiatric hospital setting.

Among the various hypotheses about the origin of
the existence of the subject and the existence of
other entities, to assume the hypothesis of the
existence of the subject is to assume the
existence of the subject.

APPENDICES

1. Name of the person: _____

2. Date of birth: _____

3. Sex: _____

4. Age: _____

APPENDIX A

Personal Data Sheet

PERSONAL DATA SHEET

TEST DATE ___/___/___

I. Subject Data

Med. Rec. #: _____

Age: _____ Birth Date: ___/___/___

Sex: ___Male ___Female

Race: _____

II. Marital/Relationship Status

_____ Single

_____ Engaged

_____ Live w/ sig. other

_____ Divorced, _____ Years

_____ Married, _____ Years

_____ Separated, _____ Years

_____ Widowed, _____ Years

Children: Sex, Age

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

III. Living Status

_____ Independent living alone

_____ Independent living with others

_____ Living with parents

_____ Living with spouse and/or children

_____ Supervised group home

IV. Educational Status

Years Completed _____

Degree Earned _____

Currently in school/training:

_____No _____Yes _____Full Time _____Part Time

V. Occupational Status

Current Employment Situation: _____

How long: _____

Type of Work: _____

____ Part Time ____ Full Time

VI. Past Treatment Status

____ No previous treatment

____ Attended therapy or saw case manager
(If so, approx. months/years total _____)____ Attended day treatment
(If so, how often, _____)____ Previous Psychiatric Hospitalizations
(If so, how many _____)

Where (place)? Dates? How Long? What for?

VII. Current Treatment Status

____ MTC-E Date of Admission ____/____/____

____ MTC-W

____ MTC-PHP, ____ direct
 ____ transfer

Date of Discharge ____/____/____

DSM-III-R Diagnoses:

AXIS I: _____

AXIS II: _____

AXIS IV: _____

Axis V: _____

Suicidality: ____ Attempted ____ Ideation ____ Denies
 # of previous attempts _____

12345

Patient No. _____

Date: _____

Instructions: This questionnaire asks about some things that people often have when getting sick. Please read each item carefully and then say how true you are for each item by circling the number that best describes how true it is for you.

APPENDIX B

Post-Hospital Adjustment Self-Efficacy Scale, Revised (PHASE2)

PHASE2

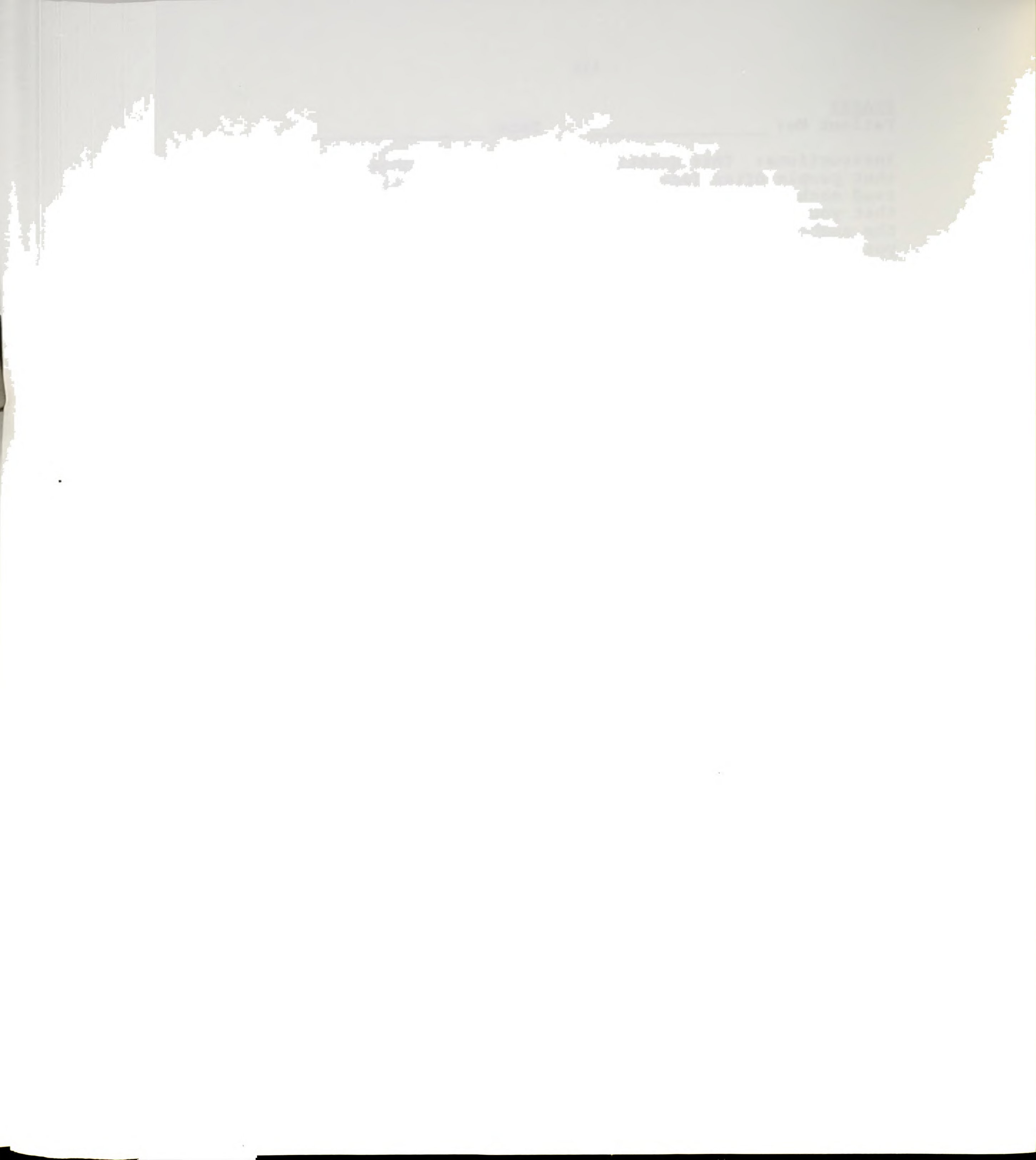
Patient No: _____

Date: _____

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 the hospital.	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

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Page

Patient No.

Date

Instructions: Most people have someone in their life who
is concerned about their personal adjustment and
open about opinions they rely. Think of one of
these important people in your life and write
the name of the person in the space below.

APPENDIX C

Relationship-Inferred Self-Efficacy Scale for Post-Hospital Adjustment (RISE)

RISE

Patient No: _____ Date: _____

Instructions: Most people have someone in their life who is concerned about their personal adjustment and upon whose opinions they rely. Think of one of these important people in your life and write that person's relationship to you (i.e., spouse, parent, sibling, child, grandparent, friend, etc.) and his or her gender on the blank lines below.

Who is the most important person in your life right now who is concerned about your adjustment and whose opinions you value?

List relationship to you _____

Note important person's gender ____Female ____Male

Now, read each task listed, and indicate how you think this person would rate your ability to do each task. Give your answer by circling the number that best describes how you think this person would rate you.

HOW SURE IS THIS PERSON THAT YOU COULD:

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
1. Take care of your health and eating habits, even when you are feeling depressed or anxious.	0	1	2	3	4
2. Handle the problems you were having before you came to the hospital.	0	1	2	3	4
3. Ask him or her for support when you need it.	0	1	2	3	4
4. Control your current fears and anxieties.	0	1	2	3	4
5. Set realistic goals for yourself during painful times in your life.	0	1	2	3	4
6. Resolve conflicts between the two of you, even when you are upset.	0	1	2	3	4

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HOW SURE IS THIS PERSON THAT YOU COULD:

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY
7. Avoid withdrawing or isolating yourself from others when you feel down or tense.	0	1	2	3	4
8. Cope with setbacks or crises that come up in your life.	0	1	2	3	4
9. Find ways on your own to work out "everyday problems."	0	1	2	3	4
10. Do your daily tasks or job effectively, even when you are dealing with emotional problems.	0	1	2	3	4
11. Cope with tension or anger between the two of you.	0	1	2	3	4
12. Keep yourself from behaving in ways that other people think are odd.	0	1	2	3	4
13. Manage or ignore the thoughts that upset you.	0	1	2	3	4
14. Offer him or her support, in spite of your own problems, if he or she was having a difficult day.	0	1	2	3	4
15. Do enjoyable activities on a regular basis, even when you are feeling upset or down.	0	1	2	3	4
16. Notice the start of changes in your own moods, thoughts, or behaviors that begin to give you trouble.	0	1	2	3	4
17. Offer reasonable solutions to problems that come up between the two of you, even when you are tense or angry.	0	1	2	3	4

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Subject No. _____

Examination Date _____
by _____

APPENDIX D

Motivation Scale for Post-Hospital Adjustment (MS)

MS

Patient No: _____ Date: _____

Instructions: Please say how much you agree with each of the following:

	NOT AT ALL	A LITTLE BIT	MODERATELY	QUITE A BIT	COMPLETELY AGREE
1. I have several good reasons for wanting to adjust to life outside of the hospital.	0	1	2	3	4
2. I intend to continue to spend time and energy on solving my problems.	0	1	2	3	4
3. I am eager to get back into the community and stay there.	0	1	2	3	4
4. I have a strong desire to continue therapy.	0	1	2	3	4
5. I plan to stay active and do things I enjoy.	0	1	2	3	4
6. I expect to take good care of my personal habits (like eating and sleeping well, avoiding alcohol and street drugs.)	0	1	2	3	4
7. I want to stay well to keep relationships with friends and family.	0	1	2	3	4
8. I will try hard to get along well with at least a few people.	0	1	2	3	4
9. I intend to discuss my ups and downs with others.	0	1	2	3	4

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APPENDIX E

Social Provisions Scale
(SPS)

SPS

Patient No. _____ Date: ____/____/____

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



	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
10. If something went wrong, no one would come to my assistance.	1	2	3	4
11. I have close relationships that provide me with a sense of emotional security and well-being.	1	2	3	4
12. There is someone I could talk to about important decisions in my life.	1	2	3	4
13. I have relationships where my competence and skill are recognized.	1	2	3	4
14. There is no one who shares my interests and concerns.	1	2	3	4
15. There is no one who really relies on me for their well-being.	1	2	3	4
16. There is a trustworthy person I could turn to for advice if I were having problems.	1	2	3	4
17. I feel a strong emotional bond with at least one other person.	1	2	3	4
18. There is no one I can depend on for aid if I really need it.	1	2	3	4
19. There is no one I feel comfortable talking about problems with.	1	2	3	4
20. There are people who admire my talents and abilities.	1	2	3	4
21. I lack a feeling of intimacy with another person.	1	2	3	4
22. There is no one who likes to do the things I do.	1	2	3	4
23. There are people I can count on in an emergency.	1	2	3	4
24. No one needs me to care for them.	1	2	3	4

APPENDIX F

Relationship Satisfaction Scale
(RS)

RS

Patient No: _____ Date: _____

Instructions: Most people have someone in their life who is concerned about their personal adjustment and upon whose opinions they rely. Think of one of these important people in your life and write that person's relationship to you (i.e., spouse, parent, sibling, child, grandparent, friend, etc.) and his or her gender on the blank lines below.

Who is the most important person in your life right now who is concerned about your adjustment and whose opinions you value?
List relationship to you _____

Note important person's gender ____Female ____Male

In general, how satisfied are you with the following aspects of your relationship with the above listed "important person." Please circle the appropriate numbers.

	NOT AT ALL SATISFIED	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY SATISFIED
1. I am satisfied with the level of communication between the two of us.	0	1	2	3	4
2. I am satisfied with the amount of emotional support my important person offers me.	0	1	2	3	4
3. I am satisfied with the level of trust between us.	0	1	2	3	4
4. I am satisfied with how compatible we are.	0	1	2	3	4
5. I am satisfied with our ability to resolve tension or conflicts between us.	0	1	2	3	4
6. I am satisfied with the amount of time we spend together.	0	1	2	3	4

	NOT AT ALL SATISFIED	A LITTLE BIT	MODERATELY	QUITE A BIT	EXTREMELY SATISFIED
7. I am satisfied with the amount of attention my important person shows me.	0	1	2	3	4
8. I am satisfied with how we solve problems between us.	0	1	2	3	4

APPENDIX G

Research Participation Request Form

RESEARCH PARTICIPATION REQUEST

I am helping out with a research project that is being conducted in partial fulfillment of the requirements for a Ph.D. by Peggy J. Burke, M.A. under the supervision of staff from Pine Rest Christian Hospital and Michigan State University. The people who are doing this research would like me to ask you 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 life once they leave the hospital. The purpose of this research is to understand how people see themselves, and how they think others see them, in terms of their ability to cope after discharge.

People who volunteer to participate in this study will be asked to fill out six brief questionnaires. Two of them ask about things people often face when they leave the hospital and another asks about determination to try and do certain tasks after discharge. Two instruments ask about your current relationships with important people in your life. The last questionnaire asks about problems and complaints people may have. All six questionnaires together should take you less than half an hour to complete.

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

This is the Consent Form, which I will ask you to sign if you agree to volunteer for this study. (Read Consent Form aloud.)

If you have any questions, I'd be happy to answer them.

I sincerely thank you for your cooperation, and I appreciate your time and input in this research.

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1. I have freely consented to participate in this study which is being conducted in accordance with the requirements for a Ph.D. degree in the Department of Psychology at the University of Illinois at Chicago. I understand that my participation in this study is voluntary and that I may withdraw at any time without penalty or loss of benefits to which I may be entitled.
2. The study has been approved by the Institutional Review Board of the University of Illinois at Chicago.

APPENDIX H

Consent Form

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CONSENT FORM

1. I have freely consented to take part in this study which is being conducted in partial fulfillment of the requirements for a Ph.D. by Peggy J. Burke, M.A. under the supervision of Dr. Harry L. Piersma, Ph.D., of Pine Rest Christian Hospital and Dr. Robert W. Lent, Ph.D., of Michigan State University.
2. The study has been explained to me and I understand the explanation that has been given and what my participation will involve. I understand this is a one-time request and there will be no re-test or other evaluation at some later time. My participation in this research is completely voluntary.
3. I understand that my participation or lack of participation will not change or alter my treatment program in any way.
4. I understand that my participation will pose no risks or discomfort to me, and that I am free to discontinue my participation in the study at any time without penalty. I understand such refusal will not in any way change my future medical care nor my relationship to my physician and therapists.
5. I understand I will be answering some questionnaires and that I should try to respond to every statement, but, I also understand I retain the right to skip individual questions if I choose.
6. I understand that my participation involves the release of the following information from my medical record to be used in the study: information from my social and medical history (i.e., gender, age, race, marital status, ages and gender of children [if any], education, occupational status, and previous psychiatric treatment), and information about my condition during this hospitalization (i.e., current diagnosis and presenting symptoms).
7. I understand that participation in this study does not guarantee any additional treatment benefit and that there is no known hazard to my participation.
8. I understand that the results of the study will be treated in strict confidence and that I will remain anonymous. Within these restrictions, results of the study will be made available to me at my request.
9. I understand that involvement in this study is not part of the usual treatment program at this hospital.

10. I understand that, at my request, I can receive additional explanation of the study after my participation is completed.

Participant _____ Date __/__/__

Witness _____ Date __/__/__

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