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Psychometric Development and Validation of the Zahn-Given Recovery Beliefs Questionnaire in an Adult Psychiatric Sample

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Philadelphia College of Osteopathic Medicine

Department of Psychology

PSYCHOMETRIC DEVELOPMENT AND VALIDATION OF THE ZAHN-GIVEN
RECOVERY BELIEFS QUESTIONNAIRE IN AN ADULT PSYCHIATRIC SAMPLE

By Dennis R. Given

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Psychology

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**PHILADELPHIA COLLEGE OF OSTEOPATHIC MEDICINE
DEPARTMENT OF PSYCHOLOGY**

Dissertation Approval

This is to certify that the thesis presented to us by Dennis Given on the 13th day of April, 2004, in partial fulfillment of the requirements for the degree of the Doctor of Psychology, has been examined and is acceptable in both scholarship and literary quality.

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Abstract

The purpose of this study was to develop and validate the Zahn-Given Recovery Beliefs Questionnaire (RBQ). The RBQ is a formal measure designed to assess specific underlying beliefs and expectations that relate to treatment non-adherence and recidivism in adult psychiatric patients. A total of 100 subjects were administered the RBQ, the Beck Hopelessness Scale (BHS), the Dysfunctional Attitudes Scale (DAS); included as well are self and clinician-rated compliance with treatment measures. Factor analysis of the RBQ reveals a factor structure that includes four factors: Embarrassment/ Stigma, Unrealistic Optimism, Hopelessness/ Pessimism and Concerns About Side Effects. A total scale alpha reliability of .82 indicates stability of the instrument. The RBQ demonstrates construct validity as evidenced by positive correlations with the BHS and DAS, which also measure distorted styles of thinking. Furthermore, the Pessimism/ Hopelessness factor of the RBQ correlates positively with the BHS. Recidivists (n = 31) did not significantly differ from non-recidivists (n = 69) on total RBQ score, although non-recidivists endorsed more concerns related to the use of psychiatric medications as measured by the Concerns About Side Effects Factor of the RBQ. Treatment implications and recommendations for future research are discussed.

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Psychometric Development and Validation of the Zahn-Given Recovery Beliefs Questionnaire In an Adult Psychiatric Sample

Introduction

Among those admitted to psychiatric hospitals are a subgroup of psychiatric patients who are sometimes referred to as "revolving door" patients. This term refers to those patients who have a high number of hospital admissions compared with other psychiatric patients. Researchers have identified patients with three or more admissions within a twelve to eighteen month period as recidivists; that is those frequently utilizing inpatient psychiatric services. This phenomenon is frequently related to non-adherence to prescribed medication or to treatment. Nelson, Maruish and Axler (2000) report that patients who fail to engage in outpatient treatment, post discharge, are two times more liable to be rehospitalized than patients who keep at least one outpatient appointment. Aggregated annual rates from this study indicate that patients who kept their outpatient appointments had a one in ten chance of being rehospitalized, and there was a one in four chance for those who did not. Furthermore, Casper, Romo and Fasnacht (1991) report that 24% - 43% of patients who do not adhere to treatment will be routinely readmitted to psychiatric facilities. Current estimates on recidivism rates for psychiatric patients are not well documented, although it is believed that 30-60% of patients receiving medical care do not adhere to recommended treatment (Meichenbaum & Turk, 1987).

In reviewing the research on recidivism, several explanations have been proposed. Demographic data suggest that utilization of inpatient services tends to occur more frequently

in patients who are male, are younger than 40 years old and have never married (Casper & Donaldson, 1990; Green, 1988; Carpenter et al., 1985). Some researchers speculate that recidivism is the result of housing problems, financial problems, or other psychosocial stressors (Surber et al., 1987; Harris, Bergman, & Bachrach, 1986). These characteristics, however, do not seem to identify or to predict readmission reliably because they are common problems for many psychiatric patients. In fact, Goodpastor and Hare (1991) found that fewer than 5% of hospitalized patients have any identifiable psychosocial stressors that preceded hospitalization.

Two factors that have been consistently identified with recidivism are non-compliance with medication and aftercare, and drug or alcohol use (Owen et al., 1996; Haywood et al., 1995; Goodpastor & Hare, 1991; Casper & Donaldson, 1990; Green, 1988; Surber, et al., 1987; Geller, 1986; Harris, Bergman, & Bachrach, 1986; Carpenter, et al., 1985). Therefore, it important to understand the cognitive factors underlying these behaviors in an effort to reduce the need for frequent admissions to psychiatric facilities.

Although non-compliance is a common reason for hospitalization, many psychiatric patients require re-admission to psychiatric facilities despite adherence to recommended treatment. This can be the result of a an exacerbation of psychiatric symptoms caused by specific life stressors, such as financial problems, marital problems, unemployment, chronic medical conditions, loss of loved ones, etc. Relapse rates for major depression, for instance, have been estimated at 50% for patients with one prior depressive episode and 80-90% for those with two prior episodes (Delgado, 2000). Despite these numbers, the majority of clinically depressed patients discontinue their medication within the first six months of

treatment (Delgado, 2000). Many patients discontinue treatment because of specific beliefs they have about their depression or its treatment.

Patients' beliefs about the recommended treatment itself are considered to be important in understanding treatment non-adherence and recidivism. Using a cognitive behavioral perspective based on Beck's (1976) Cognitive Therapy for depression, clinicians are able to formulate a meaningful conceptual model for understanding treatment non-adherence. One premise of Cognitive Therapy is that thoughts or interpretations of events influence feelings and behaviors. Beck (1976) observed that the thoughts of depressed patients were often distorted or exaggerated. These errors in logic or cognitive distortions have been seen in patients with a variety of clinical disorders (see Table 1). Cognitive Therapy asserts that modification of distorted or irrational beliefs can result in improvements in one's mood and changes of behavior.

In understanding treatment non-adherence, it is important to identify quickly the beliefs that may influence patients to discontinue treatment. The decision to stop treatment may result from distorted beliefs patients have about the treatment itself. For example, some patients may think, "Taking medication for my depression means I am weak." (labeling) or "I should be able to handle this on my own" (should statement). Others may think, "Medications that have side effects can't be good for you" (overgeneralization). Identifying, evaluating and modifying these types of distorted beliefs is believed to be an important process in enhancing treatment adherence by allowing patients to have more realistic expectations regarding psychiatric treatment.

Table 1
Commonly Observed Cognitive Distortions

Cognitive Distortion	Definition
<i>Dichotomous thinking</i>	Things are seen in terms of two mutually exclusive categories with no “shades of gray” in between.
<i>Overgeneralization</i>	A specific event is seen as being characteristic of life in general rather than as being one event among many.
<i>Selective abstraction</i>	One aspect of a complex situation is the focus of attention, and other relevant aspects of the situation are ignored.
<i>Disqualifying the positive</i>	Positive experiences that would conflict with the individual’s negative views are discounted, declaring that they “don’t count.”
<i>Mind reading</i>	The individual assumes that others are reacting negatively without evidence that this is the case.
<i>Fortune telling</i>	The individual reacts as though his or her negative expectations about future events are established facts.
<i>Catastrophizing</i>	Negative events that might occur are treated as intolerable catastrophes rather than being seen in perspective.
<i>Minimization</i>	Positive characteristics or experiences are treated as real but insignificant.
<i>Emotional reasoning</i>	Assuming that emotional reactions necessarily reflect the true situation.
<i>“Should” statements</i>	The use of <i>should</i> and <i>have-to</i> statements to provide motivation or control behavior.
<i>Labeling</i>	Attaching a global label to oneself rather than referring to specific events or actions.

Personalization Assuming that one is the cause of a particular external event when, in fact, other factors are responsible.

Note. Adapted from Freeman, Pretzer, Fleming & Simon (1990). *Clinical applications of cognitive therapy* (p. 5). New York: Plenum Press.

Statement of the Problem

There is little research exploring the attitudes and beliefs of psychiatric patients that lead to noncompliance with treatment. Such beliefs about illness and the process of recovery are believed to be important in understanding noncompliance with aftercare. Meichenbaum and Turk (1987) discussed the importance of assessing patient beliefs in facilitating treatment adherence. They contended that non-adherence may be the result of distorted thinking, misconceptions, lack of understanding, faulty information and cultural myths. Additionally, fear, guilt, shame, and “paralysis of will” often contribute to non-adherence (Meichenbaum and Turk, 1987). Paralysis of will is a term “first used by Beck to describe extreme depression and it was used to convey an amotivational state with severe perceived barriers to initiating any efforts” (D. Meichenbaum, personal communication, August 2, 2003). Table 2 describes common reasons related to treatment non-adherence.

Horne (1997) identifies two types of non-adherence: unintentional and intentional non-adherence. Unintentional non-adherence results from patients forgetting, from poor understanding of treatment instructions, or from specific illness-related deficits (e.g., impaired cognitive functioning). On the other hand, intentional non-adherence results from a "rational" decision made by patients, which is typically justified by a variety of reasons. For

example, patients may deny the existence of a problem or minimize the fact that they have a psychiatric condition that warrants continued treatment. They may blame others as the source of the problem while denying any personal responsibility. Some patients may have faulty expectations regarding the course of treatment (e.g., thinking that an anti-depressant medication will work in a few days, or thinking that feeling better is an indication that treatment is no longer needed, etc.). Often inpatient psychiatric patients will report that they stopped taking their medication prior to being re-hospitalized. The reason frequently given is that they were feeling better so they thought that they no longer needed their medication (e.g., "Why should I take medication if I'm feeling better?"). Such distorted beliefs and cognitions, if made the primary focus of treatment for psychiatric recidivists, could potentially reduce the need for readmission as the result of treatment noncompliance.

Table 2

Factors Related to Treatment Non-Adherence

Uncertainty about the efficacy of treatment

Prior experience with illness and changes in patient's health

Expectations about symptoms, illness, health care providers, and treatment

Past experiences with health care providers

Concerns about possible side effects

Determination that costs outweigh benefits

Embarrassment about being in treatment

Pessimism or skepticism about the effectiveness of treatment

Impatience with the level of progress or the treatment process

Competing demands that are deemed more important

Paralysis of will

Viewing treatment as interfering with future plans, relationships, self-concept or daily life

Note. Adapted from Meichenbaum & Turk, (1987). Facilitating treatment adherence: A practitioner's guidebook. New York & London: Plenum Press.

Theoretical Background & Related Research

The health belief model.

One theoretical construct for understanding health-related behaviors (e.g., treatment compliance) is the Health Belief Model (HBM) (Rosenstock, 1966, 1974). The HBM postulates that treatment compliance is related to patients' beliefs about personal vulnerability or susceptibility to the illness, the perceived severity of the illness, beliefs about the efficacy and benefits of treatment, and the costs associated with compliance (Rosenstock, 1966, 1974). Contemporary researchers have explored the utility of the HBM in understanding medication compliance. For example, Budd, Hughes and Smith (1996) found that perceived severity of the illness, personal susceptibility and benefits of treatment are related to compliance although beliefs about the costs of treatment are not. This study also found that insight in to one's psychiatric condition is not a significant predictor of compliance with treatment. Similarly, other researchers have found that compliance with medication for patients with schizophrenia is independent of level of insight (Garavan et al., 1998); others report, however, that compliance is strongly related to attitudes to treatment and insight

(Kemp et al., 1996). Furthermore, Meichenbaum and Turk (1987) report that knowledge about one's illness is not significantly related to treatment adherence.

The self-regulation model.

Other researchers have postulated a “common-sense model of illness cognition”, which represents a conceptualization of the processes involved in adapting to illness-related threats (Leventhal, Diefenbach & Leventhal, 1992, p. 144). They postulate that treatment adherence or non-adherence results from an interaction among representations of health threats, emotional reactions and coping procedures. They suggest that there are two largely independent processing systems, one comprising the objective representations of health threats and coping procedures and the other the subjective or emotional processing system, which is geared toward the management of emotions. Together these two processing systems compose the self-regulation model (SRM) (Leventhal, Diefenbach & Leventhal, 1992). They suggest that representations of the illness heavily influence health-related behavior and coping responses. The SRM identifies representations or beliefs about illness into five components: Identity (What caused it?), Time-line (How long will it last?), Consequences (How has it/will it affect me?), and Cure/Control (Can it be controlled or cured?). The authors suggest that adherence to treatment is high when both the patient and practitioner have similar representations of the illness and agree upon treatment methods and criteria for evaluating outcome. Conversely, adherence is low when differences in beliefs exist between patient and practitioner.

The working alliance & adherence.

One method for increasing adherence is to understand the importance of the therapeutic alliance. In 1976, Edwin Bordin published a paper on the therapeutic alliance that addressed the importance of the therapeutic relationship across all types of therapy. Bordin believed that the concept of the alliance was generic to all forms of therapy. He stated that the alliance involved agreement between patient and therapist, making it a more collaborative relationship than those that others have reported (Rogers, 1951). Bordin (1976) describes the alliance in terms of three components: agreement on goals, on tasks, and on developing an interpersonal bond. Agreement on treatment goals consists of both short-term and long-term expectations between patient and therapist. Bordin (1994) also states that negotiation is an integral part in this process. The treatment goals need to be realistic and should be mutually agreeable to both patient and therapist.

The establishment of goals is crucial in determining the effectiveness of treatment. Goals must be measurable and realistic for patients, yet provide a focus for treatment. Once meaningful goals have been established the therapeutic tasks are negotiated. The tasks refer to the methods that will be employed throughout the course of treatment to help patients achieve their goals. Bordin (1994) describes the therapeutic tasks as, "the specific activities that the partnership will engage in to instigate or facilitate change" (p.17). This would include such things as frequency of visits, time limits, homework, specific techniques and so on. Bordin pointed out that the patient must understand the relevance of these tasks to their goals in order to remain an active partner in treatment. Also, both patient and therapist must

assume responsibility for these acts and their own behaviors as they relate to the goals of treatment.

The third component of the working alliance is the establishment of an interpersonal bond between patient and therapist. This bond develops out of trust, respect and a sense of common purpose. Obviously, this can be a slow and delicate process for some patients who have a weak capacity for forming relationships. If a bond is not formed with patients then they may withhold important information that would otherwise be revealed. Developing a positive working alliance allows patients to be committed to treatment while enhancing adherence and treatment efficacy (Bordin, 1976; Horvath & Luborsky, 1993).

Stages of change.

Another model for understanding adherence to treatment is Prochaska & DiClemente's (1982) transtheoretical model of change. This model has shown success in applications to smoking cessation, weight loss, and alcoholism; however, its usefulness extends to understanding premature termination of psychiatric treatment. As previously mentioned, non-adherence to recommended treatment is highly correlated with psychiatric recidivism.

The stages of change model includes five stages: precontemplation, contemplation, preparation, action and maintenance. In pre-contemplation the individual is not aware of the problem or has no desire to change the behavior. In contemplation, however, the individual is aware that a problem exists but has made no formal decision to change. Preparation involves the decision to take action on a particular problem, as opposed to the action stage in

which the person begins to change his or her behavior effectively. Preventing relapses or consolidating previous changes is the aim of the maintenance stage.

Evaluating patients' readiness to change at the onset of treatment may help determine how effective the treatment will be. The person's particular stage of change will, in part, influence his or her ability to follow through on treatment recommendations. Individuals in the preparation, action, or maintenance stage may be more likely to remain compliant than those in the pre-contemplation or contemplation stage because they have already implemented the change process. In fact, Smith, Subich, and Kalodner (1995) found that premature termination of therapy among college students is more likely for those in the pre-contemplative stage. This finding may have applications in explaining frequent treatment failures among psychiatric inpatients. Knowledge of patients' readiness to change is an important factor in evaluating appropriate treatments and predicting adherence.

The role of beliefs.

Horne (1999) stresses the importance of patient beliefs in treatment outcome. He suggests that treatment outcome is the result of an interaction between patients' beliefs about the illness, beliefs about treatment and perceived outcome from treatment. Furthermore, he states that patients' beliefs about illness influence their decisions regarding the necessity of treatment, and that negative beliefs about medication are linked with noncompliance. For instance, many patients view medications as harmful and overused by doctors. Others may have overly positive views of medication that can lead to inappropriate demands for medication or to its inappropriate use. In an earlier study, Horne (1997) found that concerns

about medication were related to non-adherence even when medication was believed to be necessary and effective. Some of the medication-related concerns refer to their actual or perceived potential for addiction or dependence, beliefs that medications are unnatural and overused by physicians, and concerns about their long-term negative or harmful effects. Horne points out that such medication-related beliefs might influence patients' decisions about other auxiliary treatments. He suggests using the necessity-concerns construct as a way of understanding patient beliefs. This involves evaluating patients' beliefs about the necessity of treatment yet eliciting any concerns related to the treatment. Although this construct seems to be useful in understanding patient beliefs, there appears to be no formal way of assessing these beliefs with psychiatric patients.

Weinman and Petrie (1997) also discussed the importance of assessing patient' beliefs about their illnesses. They believe that it is important to assess these beliefs or illness perceptions early in treatment because of their relationship to adherence, emotional distress and illness related disability. Similarly, others have found that distorted or irrational health related beliefs can influence adherence to treatment or discounting of medical advice (Christensen, Moran & Wiebe, 1999). Others have suggested a self-regulatory model in understanding treatment adherence. This includes cognitive representations of the illness, including beliefs about the etiology of the illness, its symptoms, personal consequences of the illness, perceived duration, and the amenability of the illness to control or to cure (Leventhal, Nernez & Steele, 1984; Leventhal, Diefenbach & Leventhal, 1992). These underlying cognitive representations help patients make sense of their own experiences and guide their coping responses. Similarly, Marlatt and Gordon (1985) have discussed the importance of cognitive factors in the process of recovery from substance abuse or

dependences, which includes self-efficacy (e.g., subjective sense of control or ability to cope), outcome expectancies (e.g., anticipated effects) and attributions about lapses and relapses.

Other cognitive and personality factors influencing health related behaviors are health locus of control (Wiebe & Christensen, 1996), trait conscientiousness (Booth-Kewly & Vickers, 1994) and unrealistic optimism (Weinstien, 1982, 1983, 1984). According to Locus of control, a social learning theory construct (Rotter, 1966), peoples' expectations of desirable outcomes may be contingent, in varying degrees, upon their own behavior or as the result of external factors. Because locus of control appears to be a generalized and stable personality characteristic, it can be a useful concept in understanding health-related behavior. A number of studies have looked at the association between locus of control and adherence with mixed results, although some studies find that medical patients with higher internal locus of control are more likely to adhere to treatment (Wiebe & Christensen, 1996). Conscientiousness refers to the tendency to be goal and future oriented, responsible and reliable. Conscientious individuals are able to delay immediate gratification and are disciplined in the pursuit of long-term goals. Not surprisingly, conscientiousness has been found to be a strong predictor of health-related behaviors (Booth-Kewly & Vickers, 1994). Additionally, cognitive appraisals of susceptibility to health risks are believed to be important in understanding adherence to treatment. Studies have shown that some people are unrealistic about their vulnerability to health risks and demonstrate an optimistic bias (Weinstien, 1982, 1983, 1984). This unrealistic optimism can lead to premature termination of treatment, or can result in an expectation that professional treatment is not needed. The

ability to identify and correct such distorted cognitive representations of illness and recovery is an important component in increasing patient compliance with treatment.

Purpose of the Study

The purpose of this study is to develop the Zahn-Given Recovery Beliefs Questionnaire (RBQ) originally developed by B. Zahn (personal communication, October 2001), and to show that it has adequate psychometric properties. The RBQ is being developed to assess beliefs and attitudes toward recovery and aftercare in psychiatric patients. Similar instruments have been developed within the addiction field (Myers, Martin, Rohsenow, & Monti, 1996; Miller & Tonigan, 1996) as well as for use with medical patients (Christensen, Moran, & Wiebe, 1999; Horne, 1999; Weinman, Petrie, Moss-Morris & Horne, 1996). Cochran and Gitlin (1988) developed a scale to assess specific beliefs related to Lithium compliance in patients with bipolar disorder; however, to date, no scales have been developed to assess the general recovery beliefs of psychiatric patients. The proposed scale will be used to assess how well patients understand the process of recovery for their psychiatric condition, as well as their need for ongoing aftercare.

Importance of study

There are a number of reasons why it is important to develop interventions to reduce psychiatric recidivism. The costs of recidivism are many, including its impact upon individuals, families, communities, and society; these costs also extend to its economic

impact. On an individual level, patients who are routinely readmitted to hospitals may have significantly diminished self-esteem or self-worth. They may also possess feelings of inadequacy, inferiority, hopelessness and helplessness. Many recidivists may develop dependence on others, including families and institutions, believing that they are incapable of managing life on their own. Family relationships may become strained from the frustration that many might feel towards patients who are seemingly incapable of leading productive lives. As patients perceive that their support systems diminish, they may become more desperate and more liable to be re-hospitalized in the future as their only safe haven. Once hospitalized, discharge planning becomes complicated by the fact that some of the supports that the patients once had are no longer available to them. The result may be that patients whose families refuse to take them back are discharged with inadequate housing, and find it necessary to live in a boarding home or a shelter. This change in housing and disruption of family support makes it more likely for these patients to require re-hospitalization in the future.

More broadly, the community and societal impact is that recidivism may help to promote the stigma of mental illness, reinforcing the belief that people with mental illness are incapable of leading functional lives. The economic impact can be seen by the decreased reimbursement rates, the denial of covered services and shorter lengths of inpatient stay, resulting in an overall reduction in the quality of care given to these patients. Furthermore, many psychiatric patients are unemployed or disabled and may not have sufficient financial resources available to them. In fact, mental illness ranks as the number one cause of disability in the United States, Canada and Western Europe (WHO, 2001). Of those receiving disability benefits, many have little to no disposable income to put back into the

economy. The Department of Health and Human Services (1999) has estimated that the economy's loss of productivity from mental illness amounts to \$63 billion annually. Given the many costs of recidivism, it is important to develop interventions aimed at reducing non-adherence and recidivism among psychiatric patients. The present study aims to investigate cognitive factors related to recidivism that may be amenable to psychological interventions.

Specific Hypotheses

1. The Zahn-Given Recovery Beliefs Questionnaire (RBQ) will demonstrate content validity as established by a panel of independent experts.
2. The RBQ will demonstrate construct validity as evidenced by a factor structure that includes pessimism or negative expectations about treatment, concerns about side effects, perceived disadvantages of treatment, embarrassment, and unrealistic optimism.
3. Total score of the RBQ as well as its subscales will possess a coefficient alpha of at least .70.
4. Recidivists will significantly differ from non-recidivists on total RBQ scores.
5. Total RBQ scores will be positively correlated with Beck Hopelessness Scale (BHS) scores. In addition, high unrealistic optimism scores on the RBQ will show an inverse relationship to BHS scores.
6. Total RBQ scores will be positively correlated with total Dysfunctional Attitude Scale (DAS) score.
7. Total RBQ scores will be negatively correlated with treatment compliance scores.

8. Total RBQ scores for patients who are non-compliant with treatment will be significantly higher from those who seek treatment and drop out prematurely, regardless of the number of previous psychiatric admissions.
9. The cognitive variables that correlate the highest with recidivism will be hopelessness (total BHS score) and unrealistic optimism (RBQ subscale score).

Method

Participants

Subjects were recruited from a group of psychiatric inpatients from Friends Hospital in Philadelphia, PA. The primary unit patients were selected from was East 2, an acute inpatient adult unit serving male and female patients ranging in age from 18-65. Demographic data was obtained including age, gender, psychiatric diagnosis, level of education, degree of compliance with outpatient care and number of hospitalizations in the previous year. All subjects volunteered to participate in the study and were able to withdraw at any time.

Participants eligible for the study were those with a primary diagnosis of major depressive disorder, bipolar disorder, schizophrenia, schizoaffective disorder, obsessive-compulsive disorder, post-traumatic stress disorder, panic disorder, generalized anxiety disorder, borderline personality disorder and other mood and psychotic disorders. Subjects with a co-morbid diagnosis of substance abuse or dependence were also included. Patients excluded from the study were those who had a primary diagnosis of delirium, dementia, mental retardation or other cognitive disorders. These patients were not included in the study because of their impaired cognitive functioning. The admission psychiatric evaluation was used to determine eligibility using DSM-IV-TR criteria (APA, 2000). Patients who left the hospital before completing treatment (e.g., elopement, discharged against medical advice, etc.) were not included in the study.

Subject variables were used to determine recidivists and non-recidivists. Criteria for recidivists included those patients who have had three or more inpatient admissions in the

previous 12 months, or those readmitted to a psychiatric hospital within 90 days of their last discharge. Hospital records were used to verify admission data. Additionally, dates of admission to other psychiatric facilities were obtained from the patient as well as from the patient's insurance carrier (if applicable) to capture hospitalizations at other institutions. Non-recidivists were those patients with fewer than three psychiatric admissions within the prior year, or those with more than 90 days between two separate admissions. Hospitalization information was verified whenever possible to establish the reliability of the data.

Overview of Research Design

The present study is correlational by design and consists of two separate phases. The first phase involved using a panel of independent experts to formally develop the RBQ. The second phase involved administering the RBQ to patients to establish its psychometric properties. Subjects were administered the RBQ upon admission to the hospital and one week later, or on the day of their discharge, whichever came first. Subject responses to the RBQ were correlated with several patient factors, including compliance with outpatient treatment, adherence to prescribed psychiatric medication, number of hospital admissions in the previous year, and total number of days hospitalized in the previous year. Additional measures were correlated with RBQ scores, including the Beck Hopelessness Scale (Beck et al., 1974) and the Dysfunctional Attitudes Scale (Weissman, 1979).

Development of the RBQ

Item generation and selection.

Test items were derived from a review of relevant literature. Several sources were used to generate scale items, including discussions with patients, psychologists, psychiatrists, social workers and psychiatric nurses in inpatient settings who were experienced in working with this patient population. Furthermore, the factors involved in non-adherence as proposed by Meichenbaum & Turk (1987) were used as a basis for generating scale items. Content areas were presented in an effort to reflect the “universe” of cognitive factors leading to treatment non-adherence or to subsequent treatment failure. Some of the content areas under investigation included uncertainty about treatment, past experience with symptoms, past experience with health care providers, expectations about treatment, concerns about side effects, perceived disadvantages of treatment, embarrassment, pessimism, impatience, and unrealistic optimism. . Appendix A reflects the proposed scale items prior to expert review.

Scale construction & expert review.

Three independent experts were used to review the proposed content areas and scale items. Each expert reviewer was a doctoral-level mental health professional, having a minimum of five years experience with inpatient psychiatric patients. The expert review process involved several steps. The first step was to review the proposed variables or content areas (See Table 3). The task of the reviewers was to decide whether or not the proposed variables reflected the “universe” of cognitive factors believed to be important in the process of recovery. An additional category regarding the “therapeutic alliance” was proposed for inclusion by one of the reviewers; however, the two other experts believed that this was

subsumed under other variables. Two variables, “paralysis of will and “hostility” were eliminated during the review process. Of the major content areas selected for final inclusion in the instrument, a criterion of 100% agreement between independent experts was achieved (see Table 4).

Table 3

Proposed Variables Prior to Expert Review

Uncertainty about the efficacy of treatment

Prior experience with illness and changes in patient’s health

Expectations about symptoms, illness, health care providers, and treatment

Past experiences with health care providers

Concerns about possible side effects

Determination that costs outweigh benefits

Embarrassment about being in treatment

Pessimism or skepticism about the effectiveness of treatment

Impatience with the level of progress or the treatment process

Competing demands that are deemed more important

Paralysis of will

Viewing treatment as interfering with future plans, relationships, self-concept or daily life

Unrealistic Optimism

Hostility

Once agreement was achieved on the content areas, the reviewers examined the definitions of each content area to assure that each definition accurately reflected the proposed cognitive domain. Reviewers indicated this by a “Yes” or “No” response. Definitions were reviewed and modified based upon input from the review process. This process was repeated until a criterion of 100% agreement on the definitions of the content areas was achieved. (see Table 5).

Table 4

Selected Variables Following Expert Review

Uncertainty about the efficacy of treatment

Prior experience with illness and changes in patient’s health

Expectations about symptoms, illness, health care providers, and treatment

Past experiences with health care providers

Concerns about possible side effects

Determination that costs outweigh benefits

Embarrassment about being in treatment

Pessimism or skepticism about the effectiveness of treatment

Impatience with the level of progress or the treatment process

Competing demands that are deemed more important

Viewing treatment as interfering with future plans, relationships, self-concept or daily life

Unrealistic Optimism

Table 5

Variables and Definitions Following Expert Review

Variable	Definition
1. Uncertainty about the efficacy of treatment	Not being sure that treatment will do what I want it to.
2. Prior experience with illness and changes in patient's health	Beliefs about recovery that arise out of past improvements and setbacks.
3. Expectations about symptoms, illness, health care providers, and treatment	Beliefs related to the course of an illness, control over related symptoms and generalized beliefs about therapists, psychologists, psychiatrists and psychiatric/psychological treatment.
4. Past experiences with health care providers	Beliefs that arise out of positive and negative experiences with therapists, psychologists, and psychiatrists that influence the likelihood of seeking psychiatric/psychological treatment and/or staying with the current course of treatment.
5. Concerns about possible side effects	Fears or worries about experiencing negative outcomes from medication or psychotherapy (e.g., physical discomfort, emotional distress, relationship difficulties, etc.)
6. Determination that costs outweigh benefits	Deciding that there are more disadvantages to psychiatric or psychological treatments than there

- are advantages (e.g., cost, stigma, time constraints, shame, etc.)
7. Embarrassment about being in treatment
Resistance or reluctance to engage in treatment based on fear of negative evaluation from others.
 8. Pessimism or skepticism about the effectiveness of treatment
Thinking that treatment (medication or therapy) is not very likely to help or won't help at all.
 9. Impatience with the level of progress or the treatment process
Feeling frustrated with a lack of significant progress within an expected time frame, which influences a person's willingness to stay with the treatment.
 10. Competing demands that are deemed more important
Thinking that your time and energy is better spent on things other than treatment (e.g., work, childcare, household responsibilities, etc.)
 11. Unrealistic optimism
Having overly simplistic and naïve beliefs about how stay emotionally healthy, well and/or stable.

Once the content areas had been established, the proposed scale items were subjected to expert review. The first step in this process was to have the proposed items examined for grammar and clarity. Items were presented in a random sequence rather than under a presumed category. Reviewers decided if an item was clear, understandable and grammatically correct by indicating "Yes", "No" or "Reword". Items were retained, discarded or reworded as needed. Items receiving 100% agreement were automatically kept. Eleven items were judged to be acceptable by two out of three reviewers. These items were

reworded and resubmitted for review and 100% agreement among reviewers was achieved for the revised items. However, four items were discarded because only one of the three reviewers found those items acceptable.

The next step in the review process was to have each of the reviewers independently sort the items into the proposed content areas. Reviewers were provided with a list of the proposed categories, including their definitions. The task of the reviewers was to read each item carefully and to decide into which category to place the item. Items were printed on individual cards so that they could be sorted into piles corresponding to the proper category. Once completed, the items were reviewed to ascertain that they had placed them in the proper category. Reviewers were instructed to include only those items that should be retained for the final instrument. A “discard” category was included as an option during this sorting process. The 20 items retained for the final instrument reflect 100% agreement in the sorting of items. These items were then randomly sorted, thus making up the final instrument (See Appendix B).

Scale Administration

Subjects were administered the Zahn-Given Recovery Beliefs Questionnaire (RBQ), the Dysfunctional Attitude Scale- A (DAS-A) (Weissman, 1979) and the Beck Hopelessness Scale (BHS) (Beck et al., 1974). The scales were administered in the above order within 24 to 48 hours of admission to the hospital. Informed consent was obtained for all participants before collecting any data. Demographic data and hospitalization history was also collected in collaboration with the hospital utilization review staff. Compliance with treatment scales

were completed by both the subject (Appendix C) and a treating clinician (i.e., psychiatrist, therapist, social worker or psychiatric nurse) (Appendix D). A total compliance with treatment score was calculated for each scale based on these data.

Measures

Zahn-Given Recovery Beliefs Questionnaire (RBQ)

The Zahn-Given Recovery Beliefs Questionnaire (Zahn & Given, 2002) is a 20 item self-report measure of beliefs related to recovery from psychiatric illness. The RBQ is composed of short statements that reflect beliefs related to psychiatric treatment and recovery. Responses are made on a 5 point Likert scale from 0 = not at all to 4 = totally. Additionally, respondents had the option of selecting “does not apply” for each individual item.

Beck Hopelessness Scale (BHS)

The Beck Hopelessness Scale (BHS) (Beck, et al., 1974) is being used to establish construct validity. The BHS, a self-report measure, consists of 20 true-false items that assess patients' level of hopelessness about both short term and long term future events. It has been shown to be both a reliable and valid measure of hopelessness having high internal consistency (.87—.93) and a 6-week test—retest reliability of .66 (Beck & Steer, 1988). The BHS predicts suicidal intent and behavior much better than self-report measures of depression alone (Beck & Steer, 1988). It is believed that high BHS scores will correlate

with items of the RBQ that assess hopelessness about recovery. Furthermore, low scores on the BHS should show an inverse relationship to high unrealistic optimism scores on the RBQ.

Dysfunctional Attitudes Scale (DAS).

The Dysfunctional Attitudes Scale, Form A (DAS-A) (Weisman, 1979) is being used to establish construct validity. The DAS is a 40-item instrument that measures cognitive distortions that underlie depression. Responses to items are made using a 7-point Likert scale ranging from “totally agree” to “totally disagree”. Two versions of the DAS are available (Forms A and B) with inter-test correlations between total score and parallel forms ranging from .84 to .97. High scores on the DAS indicate the presence of a distorted thinking style, whereas low scores indicate a more adaptive cognitive style. Six-week test-retest reliability is .73 and DAS and BDI scores have a correlation coefficient of .41 (Oliver & Baumart, 1985). It is believed that high scores on the DAS will correspond to items on the RBQ that reflect a similar distorted thinking style.

Number of previous hospital admissions.

The number of previous hospitalizations was calculated upon the patient’s admission to the hospital. This number represented hospitalizations within 12 months of the current hospital admission. Data was collected from the patient and verified whenever possible by

hospital records or by contacting the patient's insurance carrier (if applicable) to capture hospitalizations at other institutions.

Total days hospitalized.

The total number of days a patient was hospitalized was calculated for one calendar year using the same process as above. This number was determined after the patient was discharged from his or her current hospital admission. The day of discharge from the current hospitalization determined the preceding 12-month period. For example, the number of days hospitalized for a person discharged on 6/5/03 would be calculated starting from 6/5/02. Again, an attempt was made to establish the reliability of the data using the method described above.

Compliance with treatment.

A total treatment compliance score was calculated, using patient and clinician ratings of statements regarding compliance with outpatient care and adherence with prescribed psychiatric medication (See Appendix C & D). Compliance with outpatient care was based on self and other-reports, using a 5 point Likert Scale to assess degree of adherence to psychiatric appointments and medication. Subjects were asked to rate statements regarding their compliance with outpatient care and degree of adherence to their psychiatric medication using the following scale: 0 = does not apply, 1 = totally agree, 2 = agree somewhat, 3 = neutral, 4 = disagree somewhat, 5 = totally disagree. (See Appendix C). Similarly, clinician ratings (i.e., psychiatrist, therapist, social worker or psychiatric nurse) were also used to

assess degree of adherence. (See Appendix D). These assessments were also aimed at differentiating between patients who did not comply with recommended aftercare compared with those who terminated treatment prematurely. Treatment non-compliance will be indicated for patients who did not attend any of their previously recommended aftercare appointments (e.g., outpatient therapy, psychiatric appointments, partial hospital, intensive outpatient program, etc.) within the previous six months or since their last hospitalization (if fewer than 6 months). Premature termination differs from non-compliance, which is defined for patients who attended only a few sessions before dropping out altogether. This is an important distinction because it is believed that different cognitive variables influence those who decide to seek treatment and then drop out, as opposed to those who never seek treatment when it is recommended. Similarly, non-compliance with medication and medication misuse need to be differentiated. Non-compliance with medication will be indicated for patients who failed to take any of their prescribed medications in the 6 months prior to their current hospitalization or since their last hospitalization (if fewer than 6 months). This contrasts with misuse of medication, which is designated for patients who have taken their medications in a way that is inconsistent with the way in which it is prescribed (i.e., reducing or increasing the dose, skipping doses, taking it inconsistently, etc.).

Results

In this section the demographic and diagnostic characteristics of the sample will be reviewed. Compliance with treatment data is also presented here, followed by a factor analysis of the RBQ. Correlational analyses were conducted and the findings are reviewed. Furthermore, a reliability analysis of the RBQ is presented.

Descriptive Statistics

A total of 100 subjects were used for this study. Descriptive statistics for the sample are presented below. Table 6 presents demographic data regarding gender, employment status, marital status, educational level, housing and ethnicity; and table 7 shows the diagnostic characteristics of the sample.

Age. Ages ranged from 18 to 63 years old. The mean age for the sample was 37.86 years with a standard deviation of 10.98. No significant difference in age was found between recidivists and non-recidivists ($t = -1.35$, $df = 98$, $p < .18$).

Gender. Males composed 73% ($n = 73$) of the total sample compared with 23% ($n = 23$) for females. Recidivists were comprised of 25 males (81%) and 6 females (19%), compared to 48 males (70%) and 21 females (30%) for non-recidivists.

Marital status. Marital status distribution consisted of 52 % who were single (n = 52), 14% who were married (n = 14), 14% who were separated (n =14), 16% who were divorced (n =16), and 4% who were widowed (n = 4).

Employment status. The employment status of the sample reflects that 24% were employed full-time (n = 24), 8% were in part-time employment (n = 8), 31 % were unemployed (n = 31), and 37% were disabled (n = 37).

Educational level. The level of education subjects achieved reflects 22% of the sample who never finished high school (n = 22), 31% were high school graduates (n = 31), 9% had a GED (n = 9), 18% had some college experience (n = 18), 12 % were college graduates (n = 12), and 8% had a graduate or advanced degree (n = 8).

Housing condition. The housing condition of the sample reflects a distribution of 75% who lived independent housing (n = 75), 8% were in supported housing (n = 8), 6% were homeless (n = 6), 9% lived in a recovery house (n = 9) and 1% lived in a shelter (n = 1).

Ethnicity. The ethnic distribution of subjects revealed 15% of the sample was African American (n = 15), 75% Caucasian (n = 75), 8% Hispanic (n = 8), and 2% were of other ethnic origin (n = 2).

Table 6

Demographic Data

<i>Age</i>		<i>Educational level</i>	
Range	18-63	Never finished high school	22 %
Mean	37.86	High school graduate	31 %
<i>Gender</i>		GED	9 %
Male	73 %	Some college	18 %
Female	27 %	College graduate	12 %
<i>Employment status</i>		Graduate/ advanced degree	8 %
Full time	24 %	<i>Housing condition</i>	
Part time	8 %	Independent housing	75 %
Unemployed	31 %	Supported housing	8 %
Disabled	37 %	Homeless	6 %
<i>Marital status</i>		Shelter	1 %
Single	52 %	Recovery house	9 %
Married	14 %	<i>Ethnicity</i>	
Separated	14 %	African American	15 %
Divorced	16 %	Caucasian	75 %
Widowed	4 %	Hispanic	8 %
		Other	2%

Recidivists. Recidivists accounted for 31 % of the sample (n = 31) compared with 69 % of non-recidivists (n = 69). Recidivists were more frequently male (81%, n = 25), single (42%, n = 13), and Caucasian (81%, n = 25). Also, they were more frequently disabled (48%, n = 15), high school graduates (35%, n = 11), and lived in independent housing (55%, n = 17).

Psychiatric Diagnosis. The diagnostic characteristics of the sample are presented in Table 7 and include mood disorders 75% (n = 75), psychotic disorders 18% (n = 18), anxiety disorders 3% (n = 3), and other psychiatric disorders 4% (n = 4). A secondary diagnosis was coded for 46% of the total sample (n = 46), including substance abuse/dependence 34% (n = 34), personality disorders 5% (n = 5), mood disorders 2 % (n = 2), anxiety disorders 2% (n = 2) and other psychiatric disorders 3% (n = 3). Mood disorders were most common among recidivists (71%, n = 22) followed by psychotic disorders (26%, n = 8). Non-recidivists were more frequently being treated for mood disorders (77%, n = 53) followed by psychotic disorders (14%, n = 10). Co-morbid substance abuse/dependence accounted for 45% of recidivists (n = 14) and personality disorders were present in 10% of this group (n = 3). Recidivists did not differ from non-recidivists on primary diagnosis (Chi square = 3.03, df = 3, p < .386) or secondary diagnosis (Chi square = 2.27, df = 4, p. < .686).

Table 7

Diagnostic Characteristics of the Sample

<i>Primary Diagnosis</i>	Frequency	%
Major Depression	29	29 %
Bipolar disorder	22	22 %
Depressive Disorder NOS	15	15 %
Schizophrenia	10	10 %
Schizoaffective Disorder	5	5 %
Mood disorder NOS	4	4 %
Psychotic Disorder NOS	2	2 %
Obsessive Compulsive Disorder	2	2 %
Panic Disorder	1	1 %
Adjustment Disorder NOS	1	1 %
Delusional Disorder	1	1 %
Impulse Control Disorder NOS	1	1 %
Substance Induced Psychotic Disorder	1	1 %
<i>Secondary Diagnosis</i>	Frequency	%
Substance abuse/dependence	34	34 %
Personality disorders	5	5 %
Major Depression	1	1 %
Obsessive Compulsive Disorder	1	1 %
Depressive Disorder NOS	1	1 %
Adjustment Disorder with Depressed Mood	1	1 %

Post Traumatic Stress Disorder 1 1 %

Number of hospitalizations. The total number of hospitalizations subjects had in the previous year ranged from 1 to 7 with a mean of 1.94 and a standard deviation of 1.41. Recidivists were hospitalized an average of 3.55 times (S.D. = 1.5) compared with 1.20 for non-recidivists (S.D. = .41)

Days hospitalized. Total days hospitalized for the previous 12 months ranged from 2 to 121 with a mean of 15.93 and a standard deviation of 19.33. The median was 9.0 days. Recidivists were hospitalized an average of 36.48 days (S.D. = 27.23) compared with 8.66 for non-recidivists (S.D. = 6.89)

Table 8

Comparison of Mean Number of Hospitalizations and Total Days Hospitalized

	Recidivist		Total
	Yes	No	
Number of Hospitalizations	3.55	1.20	1.94
	(N=31)	(N=68)	(N=99)
SD	1.5	.41	1.41
Total Days Hospitalized	36.48	8.66	15.93
	(N=23)	(N=65)	(N=88)
SD	27.23	6.89	19.33

Compliance with treatment. Table 9 presents data regarding subjects' compliance with treatment. 68% of subjects (n = 68) stated that they had taken psychiatric medication in the previous six months or since their last discharge, compared with 32% (n = 32) who did not. 50% of the people (n = 16) not taking medication answered "yes" when asked, "Has anyone ever recommended that you take psychiatric medication?" 44% (n = 44) said that they had not attended outpatient treatment (e.g., therapy, intensive outpatient treatment, partial hospitalization, etc.) in the previous 6 months or since their last hospitalization even when it had been recommended to 71% of this group (n = 31). 23% said that they did not complete their treatment (n = 13) compared with 13% who did (n = 7). 64% (n = 34) said that their treatment was still in progress at the time of their hospitalization.

Table 9

Compliance with Treatment

	Frequency	%
Taking medication prior to hospitalization	68	68%
Not taking medication prior to hospitalization	32	32%
<i>Medication previously recommended</i>	16	50%
Not in outpatient treatment prior to hospitalization	44	44%
<i>Treatment previously recommended</i>	31	71%
Did not complete treatment	13	23%
Completed treatment	7	13%
Treatment still in progress	34	64%

Factor Analysis of the RBQ

A principal components, varimax rotated factor analysis using Kaiser's Criterion was conducted. The 20 items of the RBQ were analyzed and 6 factors were extracted, accounting for 70.06 % of the total variance. A total scale Coefficient Alpha of .82 demonstrates acceptable levels of internal consistency. Using a factor loading criteria of .55 or greater, 4 factors were retained, accounting for 56.14 % of the total variance. These factors are 1) Embarrassment/ Stigma ($\alpha = .85$), 2) Unrealistic Optimism ($\alpha = .61$), 3) Pessimism/ Hopelessness ($\alpha = .79$), and 4) Concerns About Side Effects ($\alpha = .76$). Table 10 presents the distribution of the items to corresponding factors and factor loadings for each item. Results indicate that items that loaded on these factors closely reflect 4 of the hypothesized subscales of the RBQ.

The first factor, Embarrassment/ Stigma ($\alpha = .85$), consists of five items. This factor accounts for the largest single variance of all factors on the scale. This factor appears to measure subjective feelings of shame, embarrassment, and fear of negative evaluation by others related to the need for psychiatric treatment. High scores on this factor reflect higher levels of embarrassment, shame, and fear on negative evaluation.

The second factor, Unrealistic Optimism ($\alpha = .61$), consists of four items. This factor appears to measure overly simplistic and naïve beliefs about how to stay emotionally healthy, well and/or stable. This factor would benefit from further development given its lower alpha score. High scores on this factor reflect more simplistic and naïve beliefs related to recovery from mental illness.

The third factor, Pessimism/ Hopelessness ($\alpha = .79$), consists of three items. The items on this factor appear to measure negative expectations regarding the efficacy of psychiatric treatment; that is, the extent to which subjects believe that treatment is not likely to help them. High scores on this factor reflect higher levels of hopelessness and pessimism related to treatment.

The fourth factor, Concerns About Side Effects ($\alpha = .76$), consists of two items. Items on this factor reflect worries related to the possibility of negative effects or side effects from taking psychiatric medication. High scores on this factor reflect higher levels of worry related to the side effects of taking prescribed psychiatric medication.

A Factor Analysis of Variance was also conducted for the RBQ. Table 11 presents variance data using Rotated Sums Squared Loadings of the individual factors of the RBQ. Percentage of variance and cumulative variance are presented for each factor. Factor 1 accounts for the largest percentage of variance at 19.63 % of the total variance (56.14 %).

Table 10

Factor Loadings of the of the RBQ

Factor 1: Embarrassment/ Stigma ($\alpha = .85$)	Item	Item Loading
	15. I am embarrassed about being in treatment, even though I know I need it.	.85
	16. People will think I'm crazy if I tell them I am under psychiatric care.	.81

17. I feel ashamed when I talk about my problems.	.72
18. I worry about people in my life knowing that I am in psychiatric treatment.	.77
20. I'm too busy to follow up with aftercare. I've got a lot of other priorities that come first like family, work and childcare.	.56

Factor 2: Unrealistic Optimism ($\alpha = .61$)	Item	Item Loading
	6. I might need to take psychiatric medication even when I am feeling better. (reversed item)	.59
	11. My discharge from this program means that I am fully recovered from my problems.	.76
	12. I feel better now, so I <i>must</i> be better. I don't need to do anything else like going to appointments, taking medication, or doing self-help homework.	.82
	13. All I have to do is stay away from the wrong people and I'll be OK.	.68

Factor 3: Pessimism/ Hopelessness ($\alpha = .79$)	Item	Item Loading
	2. Having a mental illness means I'll never get better.	.75
	3. I have little faith in getting better, no matter what kind of treatment I receive.	.82
	4. Nothing can ever help me.	.82

Factor 4: Concerns About Side Effects ($\alpha = .76$)	Item	Item Loading
	7. Taking medication will probably make me feel like a zombie.	.65
	8. I worry about becoming too dependent on my medication.	.69

Table 11

Explanation of Variance by Factors using Rotated Sums of Squared Loadings

Factor	% of Variance	Cumulative %
1	19.64	19.64
2	15.27	34.91
3	12.76	47.67
4	8.47	56.14

Correlation of the RBQ Factor Scores

Table 12 presents the intercorrelation of the RBQ factors. Pearson Product Moment Coefficients were computed and are presented. The most highly correlated factors were Factor 4, Concerns About Side Effects, with Factor 1, Embarrassment/ Stigma ($r = .478$, $p < .01$). The second highest correlated factors were Factor 1, Embarrassment/ Stigma with

Factor 3, Pessimism/ Hopelessness ($r = .396, p < .01$). Factor 3, Pessimism/ Hopelessness was also correlated with Factor 4, Concerns About Side Effects ($r = .294, p < .05$).

Table 12

Pearson Inter-correlation Matrix of RBQ Factors

	Factor 1	Factor 2	Factor 3	Factor 4
Factor 1	-	.172	.396*	.478*
Factor 2	-	-	.153	-.020
Factor 3	-	-	-	.294*
Factor 4	-	-	-	-

* Correlation significant at the 0.01 level (2-tailed)

Coefficient Alpha Reliability

Two measures of reliability were calculated to test the internal consistency of the RBQ, a total scale estimate of internal reliability and subscale reliability estimates.

Chronbach's coefficient alpha reliability analysis was conducted. Table 13 presents alpha scores for the total scale and for each factor.

Table 13

Coefficient Alpha Reliability for the RBQ

Factor	Description	Coefficient Alpha
1	Embarrassment/ Stigma	.85
2	Unrealistic Optimism	.61
3	Pessimism/ Hopelessness	.79
4	Concerns About Side Effects	.76
	Total Scale	.82

Test-Retest Reliability

Fifty-two subjects (52 %) were administered the RBQ one week later or on their discharge from the hospital, whichever came first. The mean length of time for the second administration of the RBQ was 5.7 days (SD = 2.27). Test-retest reliability for the RBQ is .62 ($p < .01$) indicating a possible influence of intervening treatment on distorted styles of thinking between the first and second administration of the scale.

Correlation of the RBQ with the DAS & BHS

To test whether or not the RBQ correlated with other measures of distorted thinking, a correlational analysis using the Pearson Product Moment Coefficient of Correlation was conducted. Total RBQ scores were correlated with total Beck Hopelessness Scale (BHS) scores and Dysfunctional Attitudes Scales (DAS) scores. Additionally, total BHS scores

were correlated with the Pessimism/ Hopelessness factor of the RBQ. Results are presented in Table 14.

The RBQ demonstrates construct validity as evidenced by positive correlations with the Beck Hopelessness Scale ($r = .29, p < .05$). This means that approximately 8 % of the variability on the BHS is attributable to differences on the RBQ; the other 92 % is attributable to other factors. A positive correlation was also obtained for the RBQ and the Dysfunctional Attitudes Scale ($r = .46, p < .01$), which also measure distorted styles of thinking. This means that approximately 21 % of the variability on the DAS is attributable to differences on the RBQ, and the other 79 % is due to other factors. Total BHS scores also correlate with the Pessimism/ Hopelessness (PES/HOP) factor of the RBQ ($r = .41, p < .01$). This factor was also highly correlated with total RBQ scores ($r = .65, p < .01$). Additionally, the unrealistic optimism factor (UNREAL) was negatively correlated with total BHS scores ($r = -.187, p < .05$).

Table 14

Correlation of the RBQ with other Measures

	UNREAL	BHS	DAS	PES/HOP
RBQ	-	.289*	.463*	.647*
BHS	-.187**	-	.478*	.414*
DAS	-	-	-	.377*
PES/HOP	-	-	-	-

*Correlation significant at the 0.01 level (one-tailed)

** Correlation significant at the 0.05 level (one-tailed)

Comparison of Recidivists and Non-Recidivists

A Chi Square analysis revealed no significant difference between groups on diagnosis, gender, marital status, ethnicity, employment status, housing condition and educational level; suggesting homogeneity of the two groups. Total RBQ scores for recidivists (mean = 15.74; SD = 9.9) did not differ significantly from non-recidivists (mean = 15.88; SD = 8.20). Although no significant difference was found between groups on total RBQ scores, non-recidivists scored significantly higher than recidivists on the Concerns About Side Effects factor of the RBQ ($t = 2.07$, $df = 91$, $p < .05$). The mean score on this factor for recidivists was .96 (SD = 1.09) compared with a mean score of 1.53 (SD = 1.26) for non-recidivists. Total BHS scores were significantly correlated with recidivism ($r = .263$, $p < 0.01$); however, no significant correlation was found for the Unrealistic Optimism factor.

Correlation of the RBQ with Compliance with Treatment Ratings

Subjects' self-reported compliance with treatment scores did not significantly correlate with total RBQ scores ($r = -.049$, $p < .763$). Furthermore, total RBQ scores did not significantly correlate with clinician rated treatment compliance scores ($r = .194$, $p < .258$). However, taking more medication than prescribed, as reported by treating clinicians, is positively correlated with total RBQ scores ($r = .38$, $p < .05$).

Discussion

The aim of this study was to design a self-report inventory that could measure the presence of specific types of distorted beliefs related to the process of recovery from psychiatric illness. The results of this study indicate that this has been accomplished. This chapter, in addition to summarizing the results of the study, and discussing the relevancy of the findings to the existing literature, will also cite the limitations of the current investigation. There is also a discussion of recommendations for future research.

Discussion of Research Findings

In this study the Zahn-Given Recovery Beliefs Questionnaire was developed and its psychometric properties were examined. A preliminary validation of the RBQ was conducted using a sample of 100 psychiatric inpatients. Positive psychometric properties were obtained, including (a) acceptable levels of internal consistency as evidenced by coefficient alpha reliability scores; (b) acceptable levels of content validity as evidenced by 100 % agreement in the retention and sorting of scale items through expert review; and (c) acceptable levels of construct validity as evidenced by a factor structure that includes four of the hypothesized subscales (Embarrassment/ Stigma, Unrealistic Optimism, Pessimism/ Hopelessness, and Concerns About Side Effects), as well as positive correlations with the BHS and DAS. In addition, a positive correlation between total BHS score and the Pessimism/ Hopelessness factor of the RBQ was noted; a negative correlation between the Unrealistic Optimism factor and the BHS was also obtained.

Demographic Characteristics

A preliminary validation of the RBQ was conducted using a sample of hospitalized psychiatric patients. A criterion was established to distinguish a subset of patients who were identified as recidivists. Results of demographic data analysis indicated that the two groups (e.g., recidivists and non-recidivists) were equally representative, with no significant differences found in diagnosis, gender, marital status, ethnicity, employment status, housing condition and educational level.

One purpose of this study was to identify whether or not recidivists endorsed more distorted recovery-related beliefs compared with non-recidivists as evidenced by total RBQ scores. It was hypothesized that recidivists would have a tendency to view recovery from psychiatric illness in more distorted ways, as evidenced by non-adherence to outpatient treatment and more frequent re-hospitalization. Results of the study indicated no significant difference on total RBQ scores between groups; therefore, this hypothesis was not supported.

Recidivists obtained a total RBQ mean score of 15.74 (S.D. = 9.9) and non-recidivists obtained a mean score of 15.88 (S.D. = 8.20). One possible explanation for this non-significant difference relates to the sample size and distribution of recidivists and non-recidivists. A sample size of 100 was used to obtain a ratio of 5:1 for number of subjects to number of scale items. Although this ratio was achieved, many validation studies of new psychometric instruments use much larger sample sizes. Additionally, less than a third of the total sample (31%, $n = 31$) was composed of recidivists. Using a larger sample size with a

more equal distribution of recidivists and non-recidivists may have revealed a statistically significant difference on total RBQ scores.

The only demographic variable that was significantly correlated with total RBQ scores was related to use of prescription medication. Subjects who were reported taking more medication than was prescribed, as evidenced by responses from treating clinicians, obtained a significant correlation with total RBQ scores ($r = .38, p < .05$). This suggests that patients who are liable to overuse their prescription medication possess more distorted views about the process of recovery from psychiatric illness than those who do not. One possible explanation for this may be a coping skills deficit, which causes individuals to have poorly developed responses to situational stress or affective disturbance. Such individuals may possess an external locus of control and underestimate their ability to affect positive change. As such these patients may have a tendency to “self-medicate” during times of increased stress.

Compliance with treatment data reveals that 68% ($n = 68$) of subjects reported taking medication within the previous six months or since their last hospitalization (if fewer than six months). Of the 32% ($n = 32$) not taking medication, half of this group (50%, $n = 16$) reported not taking medication even when it was recommended in the past. Furthermore, 44% ($n = 44$) of subjects were not attending any type of outpatient treatment at the time of their hospitalization even when it had been recommended to 71% ($n = 31$) of this group. Possible explanations for this include lack of resources (e.g., not having health insurance), concerns about side effects, embarrassment, stigmatization, or other distorted beliefs (e.g., “I should be able to handle my problems on my own”, or “Taking medication is a sign of weakness”). There was not enough data to determine whether or not total RBQ scores for

patients who were non-compliant with recommended treatment were significantly different from those who sought treatment and dropped out prematurely.

Content Validity

The RBQ appears to demonstrate acceptable content validity as established by a panel of experts and by factor analysis. The RBQ items were developed using clinical experience and relevant literature. The items were designed as self-statements that reflected distorted views related to recovery from psychiatric illness. Once a final item pool had been created, three independent experts assisted in the development of the scale items. All of the items and definitions were subject to a comprehensive review that included (a) cognitive factor definition for construct accuracy (b) item content for grammar and clarity and (c) independent sorting of items into related cognitive factors. Of the 62 originally pooled items only 20 items were retained, which reflect 100% agreement on the selection and sorting of scale items into related variables.

Construct Validity

A panel of three independent experts was used to establish the construct validity of the RBQ. Experts were asked to decide whether or not the 14 proposed variables reflected the “universe” of cognitive factors believed to be important in the process of recovery from psychiatric illness. One reviewer suggested an additional category regarding the “therapeutic alliance”. Although this is believed to be an important factor related to treatment adherence,

the two other experts believed that the alliance was subsumed under other factors. Two factors, “paralysis of will” and “hostility”, were eliminated during the review process due to lack of consensus among expert reviewers. A criterion of 100% agreement between independent experts was achieved for the 12 factors selected for final inclusion in the instrument. Although there may be many other factors related to the nature of the research question, there was an attempt made on the part of the researcher to limit the scope of the instrument. Failure to do so would have led to the development of a rather lengthy and impractical assessment tool.

To establish the construct validity of the RBQ, a correlational analysis was conducted using the BHS and the DAS. These two measures were used because they both reflect distorted and dysfunctional ways of thinking. The BHS was used primarily to determine whether or not the construct of pessimism and hopelessness as evident in the Pessimism/Hopelessness (PES/HOP) factor of the RBQ correlated positively with an established measure of hopelessness. A positive correlation was obtained ($r = .414, p < .01$) indicating that the PES/HOP factor reflects the construct that it was intended to measure. As predicted, the Unrealistic Optimism (UNREAL) factor of the RBQ correlated negatively with total BHS scores ($r = -.187, p < .05$). Because the UNREAL factor reflects overly optimistic, simplistic and naïve recovery-related beliefs, it stands to reason that subjects who score higher on this factor would also show lower levels of hopelessness.

Total scores obtained on the RBQ were also correlated with total DAS scores ($r = .463, p < .01$). Additionally, BHS scores were correlated with total RBQ scores ($r = .289, p < .01$). This suggests that subjects with distorted recovery-related beliefs as measured by the RBQ tend to possess more global dysfunctional attitudes and levels of hopelessness.

Factor Analysis of the RBQ

A principal component, varimax rotated factor analysis was conducted using Kaiser's Criterion. Results obtained from the factor analysis yielded significant results for the internal structure of the scale. A total of six factors with eigenvalues greater than one were extracted. Using a factor loading criterion of .55 or greater, four factors were retained. Fourteen of the 20 items of the RBQ loaded on these factors. Of the total scale variance, 56.14% was accounted for by four factors: Embarrassment/ Stigma, Unrealistic Optimism, Pessimism/ Hopelessness, and Concerns About Side Effects. These factors reflect four of the originally hypothesized subscales of the RBQ. The following is a description of each factor.

Factor 1, Embarrassment/ Stigma included five items. This factor, accounting for the largest single variance of all the factors in the scale (See Table 11), appears to tap into fear of negative evaluation from others. High scores on this factor, as it relates to the need for psychiatric treatment, reflect higher levels of shame, embarrassment and fear of being judged by others. Those who score high on factor 1 believe that needing or seeking professional help is something to be embarrassed and ashamed about. Also, they may worry that others will think of them as "crazy" or defective if they reveal their need for treatment. The underlying distorted belief appears to be, "I should be able to handle my problems on my own". Factor 1 also correlated with Pessimism/ Hopelessness ($r = .396, p < .01$) and Concerns About Side Effects ($r = .478, p < .01$). This suggests that individuals who experience higher levels of shame and embarrassment also possess higher levels of hopelessness and more concerns related to treatment.

Factor 2, Unrealistic Optimism consists of four items. High scores on this factor reflect an overly optimistic and unrealistic view of recovery. Subjects endorsing items on this factor tend to view the recovery from psychiatric illness in a simplistic or naïve fashion. They may fail to anticipate any difficulties or to develop appropriate relapse prevention plans if such difficulties should arise. There may be a tendency for such individuals to seek treatment only when there is a crisis. In an exploratory analysis it was noted that Factor 2 correlates negatively with self-reported compliance with treatment scores ($r = -.348, p < .05$). This suggests that individuals with higher levels of unrealistic optimism tend to be less compliant with recommended treatment. Also, there is anecdotal evidence that many patients decompensate and require re-hospitalization because of these types of beliefs. For example, one patient recently said “I was feeling better so I stopped taking my medication...I thought I was better”. Indeed, this individual probably was doing better, not in spite of the medication, but *because* of the medication. Stopping her medication when she was feeling better reflects the type of thinking that factor 2 attempts to measure. Factor 2 would benefit from further development, given its lower alpha level.

Factor 3, Pessimism/ Hopelessness, consists of three items. This factor appears to measure overly distorted and negative views about recovery. Subjects who score high on this factor have little faith in getting better. They perceive treatment in a negative light and feel that nothing can help them overcome their current distress. High scores on this factor reflect high levels of pessimism and hopelessness related to treatment. This factor appears to be state-dependent, as is the BHS, and such beliefs might shift as patients experience subjective relief during the course of their treatment.

Factor 4, Concerns About Side Effects, consists of two items. High scores on this factor reflect worries related to side effects from psychiatric medication. The concerns reflected in these items involve impairment in functioning (e.g., feeling like a “zombie”) and dependency (i.e., not being able to cope without the medication). It is conceivable that individuals who score higher on this factor are less compliant with recommended medication.

In conclusion, factor analyses of the RBQ yielded four separate, underlying factors or subscales closely matching the originally hypothesized factors.

Reliability of the RBQ

Two measures were used to test the internal consistency of the RBQ. This included a total scale estimate of internal reliability as well as subscale estimates of internal reliability. The total RBQ scale had a Cronbach’s alpha of .82. Coefficient alpha levels for subscales are as follows: Embarrassment/ Stigma (.85), Unrealistic Optimism (.61), Pessimism/ Hopelessness (.79) and Concerns About Side Effects (.76). These results suggest that the RBQ demonstrates acceptable levels of internal consistency among items and overall scale content. Furthermore it suggests that the RBQ is a valid measure of four factors that are derived from relevant research in understanding treatment non-adherence. Factor 2, Unrealistic Optimism, would benefit from further development, given its lower alpha level. Future investigations should include additional scale items to boost the reliability of this factor.

The test-retest reliability of the RBQ was also analyzed. The total test-retest reliability for the RBQ was .62 ($p < .01$). An attempt was made to administer the RBQ one week after completing the first administration of the scale; however, this was not always possible due to some subjects having a length of stay less than a week. A total of 52 (52%) subjects completed the re-test of the RBQ. Subjects who left the hospital prior to the one-week interval were administered the scale on their day of their discharges. The mean number of days between the first and second administration was 5.7 days ($SD = 2.27$).

To understand the test-retest reliability of the RBQ, it is important to consider the influence of intervening treatment between administrations. Subjects who came into the hospital received intensive treatment, including medication, group therapy, individual therapy and activity based therapies. Many of the treatments may have directly impacted on the belief system of the individual, particularly as he or she began to experience symptom relief. For example, as levels of depression and hopelessness decreased with treatment, an associated decrease would also be expected on the Pessimism/ Hopelessness factor on the RBQ. Additionally, subjects who initially scored high on the Concerns About Side Effects factor might have had fewer concerns related to their medication at re-test because they had an opportunity to tolerate the medication for the preceding week. Again, a decrease in medication-related concerns would be expected, assuming the subjects did not experience any adverse reactions to their medication. Furthermore, embarrassment and stigmatization is typically reduced in an inpatient setting by having open discussions around these issues and by direct contact with others who have experienced similar symptoms or problems. Physicians, therapists and nursing staff may have influenced beliefs associated with the Unrealistic Optimism factor through direct discussion with subjects and through the

educational efforts of the treatment team. Family members or significant others may have been involved in the treatment process to help the patient develop an sense of increased support while having an opportunity to discuss relapse prevention once discharged from the hospital.

For these reasons it is understandable that the test-retest of the RBQ is lower than one would hope for in an instrument development and validation study. However, reductions in total RBQ scores from the first administration (mean = 15.78, SD = 9.36) to the second administration (mean = 12.77, SD = 8.19) may be a reflection of a treatment program that effectively impacts on distorted recovery-related beliefs. Also, lower test-retest reliability might be a reflection of state-related thinking rather than a more global and pervasive thinking style. The test-retest reliability of the RBQ is comparable to the re-test reliability of the Beck Hopelessness Scale (.66) (Beck & Steer, 1988), which is another state-dependent self-report instrument.

Implications for Treatment

The RBQ is the first measure of its kind aimed specifically at assessing recovery-related beliefs in psychiatric patients. The RBQ offers a formal way to assess the necessity-concerns construct as postulated by Horne (1999) with an inpatient psychiatric population. The RBQ allows clinicians working with these patients the use of a formal assessment tool to identify potential risk factors related to treatment non-adherence and potential relapse. One aim of the RBQ is to assess the patient's attitudes or beliefs related to recovery at the onset of treatment. Responses on the RBQ can be used by the treatment team to develop a focused and individualized treatment plan based on the patient's responses. In other words, the RBQ

can be used a first step in identifying distorted styles of thinking that may place the patient at risk of subsequent treatment failure and/or relapse. If such distorted thoughts are identified early in the course of treatment, they can then become a main focus of the patient's treatment. Individual therapy can help patients examine these beliefs and develop rational responses. Furthermore, group programming can be used as a vehicle for exploring and modifying those factors measured by the RBQ. By helping to modify or correct distorted recovery-related beliefs, it is hoped that patients who are discharged from the hospital will be more likely to comply with recommended aftercare, thus reducing the probability of relapse and re-hospitalization.

Limitations of the Study

Although the current study aims to produce a relevant and clinically useful assessment tool, there are several limitations in its design. The first relates to the sample size. Although a ratio of participants to number of items of 5:1 was used, many self-report instruments are developed using a much larger sample size. Furthermore, the number of recidivists ($n = 31$) in this study limits the ability to draw comparisons between groups, and may account for the lack of statistical significance on total RBQ scores.

Another limitation relates to how well the results can be generalized. Because an inpatient sample from one facility is being used, the results may not have captured all of the possible cognitive factors associated with treatment adherence and recidivism. It is possible that a larger sample of psychiatric patients from different areas may have revealed different beliefs about psychiatric illness and its treatment. Additionally, the proposed scale may not

fully capture all of the possible cognitive factors associated with treatment non-adherence and recidivism. To do so would require a rather extensive and perhaps impractical assessment tool. Thus, there has been some effort on the part of the researcher to limit what is included in the scale, based on relevant research and clinical judgment.

In addition to these limitations, the study does not include an outpatient sample primarily because of the nature of the research question. However, it may be useful to expand the current study to explore the recovery beliefs of an outpatient treatment group compared with those beliefs of psychiatric inpatients.

Recommendations for Future Research

Recommendations for future research include adding items to weaker factors to strengthen the content validity of the measure. This is especially true for the Unrealistic Optimism factor, given its lower alpha level. A reassessment of the psychometric properties of the RBQ, using a larger sample size that includes more recidivists, is needed to draw comparisons between groups and to identify areas of intervention. Also it would be interesting to test the factor structure of the RBQ further with both inpatient and outpatient populations. Doing so would enable researchers and clinicians to identify and to intervene with patients at risk of treatment failure and a pattern of relapse. Finally, it is hoped that the RBQ can be used as a predictive measure of recidivism.

Conclusion

Despite its limitations the Zahn-Given Recovery Beliefs Questionnaire provides a valid and reliable measure of distorted beliefs surrounding recovery from psychiatric illness. The RBQ possesses a factor structure that includes Embarrassment/ Stigma, Unrealistic Optimism, Hopelessness/ Pessimism and Concerns About Side Effects. A total scale alpha reliability of .82 indicates stability of the instrument. The RBQ demonstrates construct validity as evidenced by positive correlations with the BHS and DAS, which also measure distorted styles of thinking. Furthermore, the Pessimism/Hopelessness factor of the RBQ correlates positively with the BHS. Future studies are needed to further develop the psychometric properties of the instrument to make it useful tool in clinical practice.

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Appendices

Appendix A: Proposed Scale Items Prior to Expert Review

Reasons Why Patients May Decide Not to Adhere to Treatment

(Adapted from Meichenbaum & Turk, 1987)

Uncertainty about the efficacy of treatment

- I am not sure that going to therapy or taking medication will do me any good.
- It's not likely that treatment will help me with my problems.
- I don't think that talking to a therapist will help.

Prior experience with illness and changes in patient's health

- I can usually get better on my own.
- I think this problem will go away by itself.
- Things will only get worse for me no matter what I do.
- I have not found treatment helpful in the past.
- Talking about my problems only makes me feel worse.

Expectations about symptoms, illness, health care providers, and treatment

- I will always experience emotional problems because I have a chemical imbalance.
- Having a mental illness means I'll never get better.
- Most therapists and doctors don't know how to help me.
- I might need to take psychiatric medication after I leave treatment here, even though I am feeling better now.

- Once I start feeling better, I might decide to stop taking my medication or going to my aftercare program.
- I expect to have a lot of ups and downs during my recovery.

Past experiences with health care providers

- Therapists cannot be trusted.
- Most people I've seen don't know how to help me with my problems.
- I have not found going to therapy very helpful to me.
- Therapists usually have their own agenda. They really aren't interested in what I have to say.
- I have a hard time speaking up when I am dissatisfied with my treatment.

Concerns about possible side effects

- I don't know if I can handle my feelings if I talk about them in therapy.
- I don't always follow my doctor's instructions because I am concerned about possible side effects.
- Taking medication will probably make me feel like a zombie.
- I worry about becoming too dependent on my medication.

Determination that costs outweigh benefits

- Therapy will probably only make things worse for me.
- I can't think of enough good reasons to stick with my outpatient treatment.

- I have more important things to do with my time other than going to my psychiatric appointments.

Embarrassment about being in treatment

- I am embarrassed about being in psychiatric treatment even though I know I need it.
- I feel ashamed when I talk about my problems.
- People will think I'm crazy if I tell them I am under psychiatric care.

Pessimism or skepticism about the effectiveness of treatment

- I am very doubtful about how helpful treatment is likely to be for me.
- I have little faith in ever getting better, no matter what kind of treatment I receive.
- Nothing can ever help me.
- My problems are always going to be there, whether or not I am in psychiatric treatment.

Impatience with the level of progress or the treatment process

- I get frustrated with my lack of progress.
- I don't know if I can wait that long for things to start improving.
- If things don't change soon, then what's the use?
- If I didn't feel better after a few appointments, I would probably stop going to treatment.

Competing demands that are deemed more important

- I have more important things to do with my time other than going to therapy.
- Going to treatment interferes with things that are more important to me.

- I don't have the time that it takes to keep going to my treatment sessions.
- I'm too busy to follow-up with aftercare. I've got a lot of other priorities that come first like family, work and child care.

Paralysis of will

- I don't have the desire or motivation to stay in treatment.
- It seems like I can't motivate myself to do things that might help me, like going to therapy or taking medication.
- I stopped caring about going to treatment sessions.
- I've been depressed for so long, there's nothing I can do about it.

Viewing treatment as interfering with future plans, relationships, self-concept or daily life

- Going to treatment sessions will only get in the way of my plans.
- I worry about people in my life knowing that I am in psychiatric treatment.
- If I was a stronger person I wouldn't need psychiatric care.
- Following my doctor's orders means that I'm really not in control of my life. It's better to do things my way.
- People should learn to help themselves.

I am concerned that treatment will change me in ways that I don't like or want.

Additional Items under Investigation

Unrealistic Optimism

- My discharge from this program means that I am fully recovered from my problems.
- I feel better now, so I *must* be better. I don't need to do anything else like going to appointments, taking medication, or doing self-help homework.
- I don't think I have to do anything else to stay healthy. I came to this program to get better, now I am better.
- All I have to do is to stay away from the wrong people and I'll be OK.

Hostility

- Other people should get their act together before expecting me to do the same.
- I can take care of my problems without other people telling me what to do.
- If the staff did their job while I was here in the hospital, I wouldn't have to follow-up with aftercare to keep myself healthy.

Appendix B: Final Instrument

ZAHN-GIVEN RECOVERY BELIEFS QUESTIONNAIRE

Name: _____

Date: _____

Directions: This questionnaire consists of 20 statements. Please read each statement carefully. Circle the number that **best** describes how strongly you believe each statement. Use the scoring key below to indicate your response. **Do not leave any statements blank.**

HOW MUCH DO YOU BELIEVE THIS STATEMENT?	Not at All	Slightly	Moderately	Very Much	Totally	Does Not Apply
1. I don't think that treatment will help me with my problems.	0	1	2	3	4	5
2. Having a mental illness means I'll never get better.	0	1	2	3	4	5
3. I have little faith in ever getting better, no matter what kind of treatment I receive.	0	1	2	3	4	5
4. Nothing can ever help me.	0	1	2	3	4	5
5. I've been depressed for so long, there's nothing I can do about it.	0	1	2	3	4	5
6. I might need to take psychiatric medication even when I am feeling better.	0	1	2	3	4	5
7. Taking medication will probably make me feel like a zombie.	0	1	2	3	4	5
8. I worry about becoming too dependent on my medication.	0	1	2	3	4	5
9. If I don't feel better after a few appointments, I'll probably stop going to treatment.	0	1	2	3	4	5
10. I have not found treatment helpful in the past.	0	1	2	3	4	5
11. My discharge from this program means that I am fully recovered from my problems.	0	1	2	3	4	5

HOW MUCH DO YOU BELIEVE THIS STATEMENT?	Not at All	Slightly	Moderately	Very Much	Totally	Does Not Apply
12. I feel better now, so I <i>must</i> be better. I don't need to do anything else like going to appointments, taking medication, or doing self-help homework.	0	1	2	3	4	5
13. All I have to do is stay away from the wrong people and I'll be OK.	0	1	2	3	4	5
14. I can take care of my problems without other people telling me what to do.	0	1	2	3	4	5
15. I am embarrassed about being in treatment, even though I know I need it.	0	1	2	3	4	5
16. People will think I'm crazy if I tell them I am under psychiatric care.	0	1	2	3	4	5
17. I feel ashamed when I talk about my problems.	0	1	2	3	4	5
18. I worry about people in my life knowing that I am in psychiatric treatment.	0	1	2	3	4	5
19. I don't have the time that it takes to keep going to my treatment sessions.	0	1	2	3	4	5
20. I'm too busy to follow-up with aftercare. I've got a lot of other priorities that come first like family, work and childcare.	0	1	2	3	4	5

Appendix C: Compliance with Treatment Form (Subject)

Section A

Please answer the following questions:

1. Have you taken *any* psychiatric medication (i.e., for mental health reasons) in the past 6 months, or since your last hospitalization? ____ Yes ____ No
 - 1A. If no, has anyone ever recommended that you take psychiatric medication? ____ Yes ____ No
2. Have you seen a therapist or attended an outpatient program (e.g., partial hospital, intensive outpatient program) within the past 6 months, or since your last hospitalization? ____ Yes (go to 2A) ____ No (go to 2B)
 - 2A. If yes, did you complete the treatment?
____ Yes ____ No ____ Still in progress
 - 2B. If no, has anyone recommended that you see a therapist or attend an outpatient program? ____ Yes ____ No

If you answered “yes” to question 1 or 2 proceed to Section B. If you answered “no” to both 1 and 2 you are finished.

Section B

Instructions: Read each item carefully and select the number that best describes your behavior in the *past 6 months or since your last hospitalization*. Please answer honestly since your responses will in not negatively affect your current treatment. Please use the following scale:

- 0 = does not apply**
1 = totally agree
2 = agree somewhat
3 = neutral
4 = disagree somewhat
5 = totally disagree

- _____ I *consistently* attend appointments with my outpatient psychiatrist.
 _____ I take my prescribed medication *consistently* and *as directed* by my doctor.
 _____ I forget to take my medication at times.
 _____ At times, I have taken more medication than what was prescribed for me.
 _____ At times I have taken less medication than what was prescribed for me.
 _____ I attend appointments with my therapist and/or program on a regular basis.
 _____ I have dropped out of treatment before completing it.

Appendix D: Compliance with Treatment Form (Clinician)

Section A

Please answer the following questions:

1. Has the patient taken *any* psychiatric medication in the past 6 months, or since their last hospitalization? ____ Yes ____ No
 - 1A. If no, has anyone ever recommended that the patient take psychiatric medication? ____ Yes ____ No
2. Has the patient seen a therapist or attended an outpatient program (e.g., partial hospital, intensive outpatient program) within the past 6 months, or since their last hospitalization? ____ Yes (go to 2A) ____ No (go to 2B)
 - 2A. If yes, did they complete the treatment?
____ Yes ____ No ____ Still in progress
 - 2B. If no, has anyone recommended that that the patient see a therapist or attend an outpatient program? ____ Yes ____ No

If you answered “yes” to question 1 or 2 proceed to Section B. If you answered “no” to both 1 and 2 you are finished.

Section B

Instructions: Please select the number that best describes your patient’s behavior in the *past 6 months or since their last hospitalization* using the following scale:

- 0 = does not apply**
1 = totally agree
2 = agree somewhat
3 = neutral
4 = disagree somewhat
5 = totally disagree

- _____ The patient is *consistent* in attending appointments with his/her outpatient psychiatrist.
- _____ The patient takes prescribed medication *consistently* and *as directed*.
- _____ The patient forgets to take medication at times.
- _____ The patient sometimes takes more medication than what is prescribed.
- _____ The patient sometimes takes less medication than what is prescribed.
- _____ The patient attends appointments with his/her outpatient therapist and/or program on a regular basis.
- _____ The patient drops out of treatment before completion.