The Effects of Personality Factors on Value Change in an Inpatient Psychiatric Setting

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LOYOLA UNIVERSITY CHICAGO

THE EFFECTS OF PERSONALITY FACTORS ON VALUE CHANGE IN AN INPATIENT PSYCHIATRIC SETTING

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY
DEPARTMENT OF PSYCHOLOGY

BY
PAUL YAVORNITZKY

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CHAPTER I
INTRODUCTION

The earliest views of psychotherapeutic process maintained that the analyst should remain neutral and objective in order to successfully negotiate the transference neurosis (Freud, 1912/1961). An emotional reaction on the part of the analyst, a signal of failed objectivity, should be realized and "overcome" (Gorkin, 1987).

Most contemporary theorists maintain that absolute therapeutic neutrality, as originally postulated by Freud to be the necessary and attainable role of the analyst, is simply not possible. The personal values of the therapist are generally believed to enter into the therapeutic relationship (Arnstein, 1986; Bergin, 1991; Beutler, 1972; Dragan, 1974; Giglio, 1993; Grant, 1985; Grimm, 1994; Grosch, 1985; Hankoff, 1979; Joyce, 1977; Kessel & McBrearty, 1967; Kovel, 1982; Meehl, 1959; Norcross & Wogan, 1987; Parloff, Iflund, & Goldstein, 1960; Pently, 1966; Schwehn & Schau, 1990; Smyrnios, Schultz, Smyrnios, & Kirkby, 1986; Strupp, 1980; Walker, Ulissi, & Thurber, 1980; Welkowit, Cohen, & Ortmeyer, 1967). Some have even suggested that therapists may be actively persuading or coercing patients in line with their own values and ideals (Bergin, 1985; Beutler, 1979; Beutler, Arizmendi, Crago, Shanfield, & Hagaman, 1983; Corey,
Many investigators appear to favor the assumption that a patient participating in individual psychotherapy is likely to be "shaped" by their respective psychotherapist into endorsing the latter's personal values. Research demonstrating greater post-treatment versus pre-treatment value correspondence between patient and therapist is consistent with this assumption. Indeed, such an approach has been frequented to demonstrate that many patients do report a change in their values during the course of individual psychotherapeutic treatment (e.g., Beutler, 1981; Beutler & Bergan, 1991; Kelly, 1990; Pentony, 1966; Schwehn & Schau, 1990).

Moreover, it appears that the values of patients often tend to approximate the values of their respective therapists, that a patient "becomes like the therapist." This phenomenon has been termed value convergence, the "increasing similarity of patients' values with therapists' values during therapy" (Kelly, 1990, p. 171). Such value convergence has been associated with favorable psychotherapeutic outcome (Arizmendi, Beutler, Shanfield, Crago, & Hagaman, 1985; Kelly, 1990; Kelly & Strupp, 1992).

Although studies of value convergence have been somewhat fruitful, it remains possible that the notion of value
convergence may not accurately describe or fully account for the value change reported by many psychotherapy participants. Although some form of patient value change does seem to regularly occur during treatment, there remain many unanswered questions regarding the mechanism(s) or process(es) underlying such value change. Perhaps this is because patient value change has historically been measured or interpreted relative to the values of a corresponding therapist (again, because the implicit assumption seems to be that the therapist is somehow shaping the patient’s values). However, it may also prove informative to investigate patient value change without necessitating a comparison to some external criterion. In other words, there may be multiple factors affecting patient value change other than the patient’s personal values relative to those of the therapist, including factors that the patient may bring to the treatment situation. When posed outside of value convergence theory, such questions as "Under what sorts of conditions does patient value change occur?" or "For whom will value change most likely occur?" are certainly important in their own right.

Little is known, for example, about the role of subject variables in patient value change. Shaughnessy and Zechmeister (1990) define subject variables as "a characteristic or trait that varies consistently across subjects" (p. 9). Examples of subject variables include age,
gender, socio-economic status, and intelligence level. An examination of select subject variables would lead to increased research attention focused on the patient's contributions to the value change process.

One subject variable that has been empirically linked to value preference is that of personality traits. The personality construct of Psychoticism, for instance, has been connected to the endorsement of achievement-oriented values (Brown, 1975). Additionally, personality variables including introversion-extraversion have been related to value change in non-clinical settings (Hoge & Bender, 1974). It is unknown, however, to what extent personality traits may be likewise related to the process of patient value change (as opposed to value preference) during psychotherapeutic intervention.

There may also be additional patient contributions to the value change process that have been largely underemphasized in the existing literature. An important aspect of post-positivistic scientific philosophy, for example, includes an appreciation of the phenomenological experience of the research participants (Gorkin, 1987). There is, however, little information available concerning the patient's perceptions of the value change process. It is uncertain whether a patient would even acknowledge or agree with the notion that he or she is "becoming like the therapist."
It is also unclear whether or not patient value change is context specific. The vast majority of studies have addressed patient value change within the framework of individual adult outpatient psychotherapy. There have been few investigations of patient value change associated with alternative therapeutic settings or modalities. Relatively less information is therefore available concerning the process of patient value change in inpatient settings, for example.

The primary goal of the present study was to understand more fully the patient’s role in the process of value change. This was accomplished through an investigation of the relationship between patient value change (but not necessarily convergence) and clinical improvement in an inpatient psychiatric setting. In this context, the contributions of select personality factors to the value change process were also examined. A related goal was to explore the patient’s phenomenological experience of the value change process.

Participants were asked to complete the NEO-FFI, the Rokeach Value Survey, and the Brief Symptom Inventory upon psychiatric hospital admission. These three questionnaires served as measures of personality factors, values, and symptom severity, respectively. The latter two instruments were re-administered prior to discharge, along with a
questionnaire assessing the patient's perceptions of both treatment and value system satisfaction.

It was anticipated that differential response patterns on the NEO-FFI would be associated with varying degrees of patient value change. It was also expected that self-reported clinical improvement would be positively related to the degree of value change, or personal value re-organization, reported by patients. These predictions allowed for consideration of patient value change as a therapeutic phenomenon, and whether the process of value change reflected a curative experience.
CHAPTER II
REVIEW OF THE LITERATURE

Value Convergence

The standard methodology applied to value convergence and outcome literature involves administering a pre-treatment measure of both patient and therapist values followed by a post-treatment measure of patient values, thereby allowing investigators to compute the degree of pre- and post-treatment patient and therapist value similarity as well as the magnitude of observed convergence. The therapist's values are typically thought to remain stable by virtue of the nature of his or her role in the therapeutic relationship, yet this is often not validated through consideration of a post-treatment measure of therapist values\(^1\). Various outcome measures may be employed so as to evaluate treatment effectiveness, which can then be correlated, for instance, with pre-treatment value similarity, degree of value convergence, and/or post-treatment value similarity. In addition, other measures used to control for confounding variables may also be administered

\(^1\)Tjeltveit (1986) objects to the term "convergence," maintaining that this wording suggests both patient and therapist moving toward one another, whereas in actuality the therapist's value system appears to remain stable (Kelly, 1990).
(e.g., a pre-treatment measure of adjustment may be used to rule out a systematic effect for psychopathology).

A variety of value measures were employed in the early studies of value convergence (e.g., Beutler, Pollack, & Jobe, 1978; Cook, 1966; Rosenthal, 1955). The majority of recent value convergence studies, however, have drawn upon the programmatic work of Milton Rokeach concerning the nature of human values. Rokeach (1973) defines a value as "...an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5). A value system is defined as "...an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance" (p. 5).

Values, according to Rokeach (1973), are hierarchically more important to the individual than attitudes or interests, the latter of which are dependent on values. It is the evaluative aspect, the judgment of that which is "personally or socially preferable," that further distinguishes values as a special class of enduring beliefs. Others have emphasized the affective investment afforded values in contrast to attitudes or beliefs (Beutler & Bergan, 1991; Ehrlich & Wiener, 1961; Gazda & Sedgwick, 1990). Values transcend specific situations and serve as fundamental motivational concepts which lead to cognitive, affective, and behavioral
sequelae (Beutler, 1979). A change in values, compared to a change in attitudes, would therefore lead to more pronounced differences in thoughts, feelings, and actions. Rokeach's definition further allows values to be differentiated from "norms (which refer only to specific situations), and traits (which are not subject to change)" (Kelly & Strupp, 1992, p. 34).

While underscoring the pervasiveness of the value construct, Rokeach (1973) suggested that many forms of human change (including change through psychotherapy) may be reflected in a shift in values or value systems. He therefore developed the Rokeach Value Survey (hereafter referred to as the RVS) as a means of operationalizing the value construct and measuring value modification.

The RVS is comprised of two sets of 18 values with instructions that the respondent provide a rank ordering of each independent set. The first set is made up of "Terminal values," while the second set consists of "Instrumental values." Terminal values are defined as "desirable end-states of existence." Instrumental values are defined as "desirable modes of conduct" or means to ends (Rokeach, 1973, p. 7, italics in original). Examples of Terminal values include "A Comfortable Life" and "True Friendship," while examples of Instrumental values include "Logical" and "Polite."
There has been wide-spread use of the RVS in studies of value change associated with psychotherapeutic treatment. Early value convergence studies using the RVS focused on change in Terminal and Instrumental values as a whole, but findings were often equivocal. A recent trend has been to investigate change in the individual values comprising these sets, but again, the results are difficult to interpret.

To date, research on values in psychotherapy has progressed in a piecemeal fashion, with a great deal of uncertainty remaining about the isolated process of value convergence, let alone the interdependent relationships between pre-therapy value similarity, subsequent value convergence, post-therapy value similarity, and psychotherapeutic outcome. The complex relationships between these variables may become increasingly evident as studies are reviewed and considered. What follows is a summary of various research findings.

Pre-therapy Value Similarity and Convergence. Early literature suggested a curvilinear relationship between pre-therapy patient and therapist similarity and value convergence (Cook, 1966; Parloff, Waskow, & Wolfe, 1978, as cited in Schwehn & Schau, 1990). Strong pre-therapy similarity or dissimilarity did not seem to lead to value convergence, whereas moderate similarity did. However, in a systematic review of the existing literature, Beutler (1981) determined that the likelihood of value convergence was
positively associated with pre-therapy dissimilarity. This finding was supported in a later study with better design quality (Beutler, Arizmendi, Crago, Shanfield, & Hagaman, 1983), and also reaffirmed by Kelly (1990) in a subsequent literature review.

Convergence and Outcome. Rosenthal (1955) is generally credited with the first systematic investigation of value convergence in psychotherapy. Of interest to Rosenthal were moral values [i.e., "values thought to involve behavior which is seen as right or wrong, good or bad, permissible or not permissible, worthy of reward or punishment" (p. 433)], in contrast to general life values. Although both moral and general life values were assessed, evidence of convergence was found solely in the former.

Rosenthal administered several questionnaires and Q-sort procedures early in treatment and again at termination to nine inpatients and three outpatients of a psychiatric clinic. Duration of therapy averaged five months with a range of three weeks to one year. Instruments included Frank's Symptom-Disability Check List; the Butler-Haigh Self Concept items; the Allport-Vernon-Lindzey Scale of Values; and a Q-sort addressing moral values concerned with "behavior around which psychological conflicts commonly arise: sex, aggression, and authority" (p. 432). Therapists also completed the latter two instruments. In addition, three
independent judges rated patient improvement on the basis of a post-treatment interview report prepared by the author.

Rosenthal concluded that improvement, particularly when defined by judges' ratings, was related to patients becoming increasingly similar to their therapists in moral values. Lack of improvement (or worsening) was related to patients becoming increasingly dissimilar to their therapists in moral values. Rosenthal reported that the actual changes in patient moral values were fairly small. Additionally, one third of the patients became similar to their therapists in general life values, as measured by the Allport-Vernon-Lindzey Scale of Values, whereas two thirds of the patients became increasingly dissimilar than their therapists. Increased patient-therapist similarity in general life values was not significantly related to improvement.

Beutler, Pollack, and Jobe (1978) found evidence of value convergence being positively correlated with the patient's estimation of global improvement. A total of 13 clinical psychology graduate students and 13 patients were compared, prior to treatment and again following session 12, on a questionnaire designed to measure values regarding such areas as Christianity, Communism, social laws, and premarital sexual behavior. Beutler et al. (1978) noted that the restrictive sample of graduate student therapists limited generalizability. Unfortunately, it is also difficult to extend these findings to the construct of values as defined
and assessed by the RVS. Beutler (1981) later concluded, on the basis of an extensive literature review, that there is fairly consistent evidence of value convergence being related to positive outcome.

Martinez (1991) examined convergence in both religious values and religious fundamentalism. The Religious Values Scale of the Study of Values and a measure of religious fundamentalism were administered to 30 university counseling center patients and 16 therapists. Participants were assessed prior to treatment and again at termination or session eight. Outcome was measured with a nine point global improvement scale completed by both therapists and patients. In this manner, Martinez found evidence of religious value convergence and religious fundamentalism convergence being associated with therapist (but not patient) ratings of improvement. The relationship between religious value convergence and therapist outcome ratings was most robust when therapists had initially higher religious values than their patients.

Beutler, Arizmendi, Crago, Shanfield, and Hagaman (1983) attempted to elucidate the complex ties between the degree of introductory patient-therapist value correspondence, subsequent value convergence, and final therapeutic outcome. Working from the perspective that psychotherapy is essentially a means of "interpersonal persuasion" in which the therapist strives to affect the "beliefs, behaviors,
and/or feelings of the patient in a way that will lead to increased personal adjustment" (p. 231), the authors hypothesized that the patient’s degree of susceptibility to persuasive influence might also prove relevant to value convergence and outcome. Susceptibility was thought to be related to locus of control, with individuals demonstrating an external locus of control being more persuadable than their internal locus counterparts.

A sample of 45 psychiatric outpatients receiving individual psychotherapy through a university clinic were administered the RVS, the SCL-90-R, and a measure of locus of control prior to receiving treatment. The Eysenck Personality Inventory was also administered at this time, not as a predictor of convergence or outcome, but as a control for non-random assignment (i.e., ensuring independence of patient personality style and therapist orientation). Outcome was assessed with the SCL-90-R, as well as patient and therapist ratings of global improvement.

Patients participated by and large in weekly individual psychotherapy with an emphasis on fostering insight. Psychotherapists were comprised of 22 advanced students representing several mental health disciplines. A lower-limit of three completed sessions was required for study participation. The mean length of treatment was 16.5 sessions with a standard deviation of 8.26. Patients
completed the outcome measures and the RVS at termination or withdrawal from treatment.

Although Beutler et al. (1983) failed to find support for their persuadability hypothesis, the study did reaffirm earlier notions of value convergence being positively associated with outcome, particularly in regard to Terminal values as assessed by the RVS. However, therapist ratings of patient gain was again the sole outcome indicator related to convergence. Patient ratings of either global change or specific symptom reduction were unrelated to convergence. Initial degree of patient-therapist value similarity was also unrelated to final outcome.

More recently, Schwehn and Schau (1990) hypothesized that a process of value stabilization, or the solidification of relatively diffuse patient values in accordance with relatively secure therapist values, is in itself a curative force underlying psychotherapy. Administering the RVS to their sample of psychotherapy participants (13 multi-disciplinary therapists and 62 patients) both before treatment onset and at termination or six months, Schwehn and Schau derived average pre- and post-treatment rankings for all patients paired with a given therapist. In this manner, the authors found evidence of patients "realigning" their values in accordance with the relatively constant values of their therapists, as well as increased patient value
stabilization as inferred by patients' likert-type confidence ratings of the validity of their stated value rankings.

Although Schwehn and Schau's findings are consistent with their value stabilization perspective in terms of psychotherapy process, the study lacks any component of outcome assessment and is therefore limited in its ability to advance the notion that patient value stabilization is indeed curative. In other words, the relationship between stabilized values and psychosocial adjustment is unknown. Moreover, the absence of follow-up data leaves open the question as to whether the observed patient value stability was truly an enduring change reflecting increased patient value solidification, or perhaps an artifact of the therapy process and/or timing of assessment. Additional difficulties include a limited description of the therapeutic process, both quantitatively and qualitatively.

In his assessment of the empirical literature, Kelly (1990) suggested that the only reasonable and empirically grounded conclusion is that therapist ratings of improvement stand as the single reliable indicator of beneficial outcome following convergence. Beutler and Bergan (1991) concede that the relationship between value convergence and treatment outcome appears most robust when outcome is measured by therapist ratings. They nevertheless maintain that occasional support is found across multiple outcome measures.
Pre-therapy Value Similarity and Outcome. Martini (1978) hypothesized that therapeutic approach (i.e., theoretical orientation and intervention) might influence the relationship between pre-therapy similarity and outcome. Several therapeutic approaches emphasizing treatment of alcohol dependence were conducted in group format with 24 couples and 14 singles (N=62) during a single weekend. When collapsing across therapeutic approach, Martini found an overall positive correlation between the degree of initial patient-therapist value similarity, as measured by the Terminal value scale of the RVS, and subsequent therapist ratings of patient improvement. A break-down by therapeutic approach revealed significant positive correlations for rational emotive and psychodrama approaches, but not for behavior modification.

The emphasis on brief treatment of alcohol dependence of course limits the generalizability of these findings to therapies of longer duration and/or alternative emphasis. Moreover, the author noted that the differential participation of couples in particular groups may have also biased the results. That is, only singles participated in rational emotive therapy, whereas only couples participated in psychodrama and behavior modification treatments. This study is further hampered by a choice of outcome data demonstrating questionable reliability and sensitivity: "Therapists rated all clients at termination of treatment
with respect to achieved and anticipated progress on seven-point rating scales" (p. 26).

In a secondary analogue study, Martini (1978) found that initial patient-therapist value similarity was again associated with therapist ratings of patient improvement, when the degree of value correspondence between therapist and a fictitious patient was systematically manipulated. This finding was stable across therapeutic approach, yet Martini acknowledged the difficulty in extending these results to a genuine therapeutic interaction.

Martinez (1991) found that patient (but not therapist) ratings of improvement were associated with initial patient-therapist dissimilarity in religious values, regardless of whether therapists were higher or lower in such values compared to the patients. A similar relationship was found between both patient and therapist improvement ratings and dissimilarity in initial fundamentalism, but only when therapists ascribed more fundamentalist religious beliefs than their patients (see above for overview of methodology).

A somewhat confusing picture was obtained by Beutler et al. (1983) (see above for study description) concerning pre-therapy similarity and outcome. The authors found that pre-therapy similarity predicted convergence, and convergence in turn predicted outcome (i.e., therapist ratings of patient gain), but pre-therapy similarity alone did not predict outcome.
Arizmendi and colleagues, however, had discovered a trend toward global therapist rated outcome being a function of initial similarity on Instrumental value orientation, and initial dissimilarity on Terminal value orientation, as measured by the RVS (Arizmendi, 1983, as cited in Arizmendi, Beutler, Shanfield, Crago, & Hagaman, 1985). Moreover, the authors provided evidence suggesting that "centrality" or "personal relevance" (p. 17) of certain values may mediate the relationship between similarity, convergence, and outcome, with both similarity and dissimilarity on respective individual or isolated values (as opposed to the typically investigated global value orientation) being differentially related to outcome. They also pointed out that this relationship may further depend on whether outcome is assessed generally or in terms of specific symptoms. It was concluded that an investigation of specific values and specific symptoms, rather than general value systems and global outcome, might therefore prove informative. As such, the authors apparently re-analyzed data from the Beutler et al. (1983) study to explore these possibilities.

As a result of this re-analysis, a significant relationship between pre-therapy similarity and outcome was thus found when relatively precise variables were considered (Arizmendi et al., 1985). It appeared that individual RVS values were differentially related to a reduction in discreet symptoms as measured by the Symptom Checklist-90-Revised (a
comprehensive self-report inventory of symptom severity), as well as general improvement ratings by both patients and therapists (see Arizmendi et al. for a detailed break-down of these relationships). In conclusion, the authors suggested that:

treatment outcomes are facilitated either when patients and therapists are initially dissimilar in values related to social attachment and separation [i.e., Rokeach values of Friendship, Social Recognition, Independent, Responsible, & Self-Control], or when they hold similar views of humanistic, abstract or philosophical values [i.e., Rokeach values of Courageous, Forgiving, An Exciting Life, & National Security]. (p. 20)

Kelly (1990) appealed to numerous methodological difficulties which detract from the findings in the value convergence literature. Most notably, Kelly implicated a lack of "specificity" in terms of the precision and sensitivity of both value measurement and outcome measurement. He therefore conducted a literature review of studies concerned with the involvement of values in the process or outcome of psychotherapy.

A total of 10 studies examined by Kelly were judged to bear correspondence with the Rokeach construct of values. These studies were then evaluated in terms of "value definition and measurement, process and outcome perspective
and measurement, design quality, and results" (Kelly, 1990, p. 176). Commenting by and large on the Arizmendi et al. (1985) study, Kelly offered the following:

The relationship between patient/therapist initial values similarity and improvement is complex... Arizmendi et al. (1985) reported significant results with 13 of Rokeach's 36 individual values. They found that the initial similarity of some values and the initial dissimilarity of others is associated with either: (a) the therapist's rating of improvement or, to a lesser extent, (b) pre-post improvement on a standardized symptom checklist (the SCL-90R). (p. 182)

Kelly concluded that conceivably there exists a sub-class of therapy relevant values from amongst the totality of values assessed in the research.

The status of introductory patient-therapist value positions seems to suggest, tentatively, that similarity or dissimilarity contributing to outcome must be considered on an individual value basis (and perhaps even interacting with other therapist or patient subject variables). There is no uniform prescription concerning classes of values, at least as measured by the RVS. If indeed therapeutic outcome is a function of a pattern of similarity and dissimilarity on individual values, previous research using conglomerates of values (e.g., collective values comprising the Instrumental or Terminal dimensions of the RVS) may have been misleading.
Intra-dimension comparisons, at least using the RVS, may prove most fruitful.

**Post-therapy Value Similarity and Outcome.** Welkowitz, Cohen, and Ortmeyer (1967) had 38 therapists and 44 patients complete the Ways to Live Scale and the Strong Vocational Interest Blank during the course of psychotherapeutic treatment. Of the 44 patients, 29 had been in treatment between six and nine months at the time of assessment. Only two patients had been in treatment less than two months. The authors found that value similarity was significantly greater in actual therapist-patient dyads compared to dyads of randomly paired therapists and patients. Length of treatment was positively correlated with the degree of patient-therapist similarity. There also appeared to be a positive relationship between degree of patient-therapist similarity and degree of therapist-rated improvement. Although interesting, these findings are difficult to interpret in light of value convergence theory given the absence of pre-treatment patient-therapist similarity data. In addition, random case assignment did not take place, so it is unknown whether chance levels of initial similarity were achieved.

An analogue study was conducted by Mitchell (1993) to investigate whether the personal values of psychotherapists influenced their improvement ratings of value-laden clinical outcome vignettes. A total of 94 out of 229 psychologists completed two mailed surveys (30%). One mailing contained
the Survey of Interpersonal Values (SIV), an instrument assessing six values: Support, conformity, recognition, independence, benevolence, and leadership. The other mailing consisted of six clinical outcome vignettes in which the values of a fictitious patient were systematically manipulated to correspond to a given value from the SIV.

Of the six values measured by the SIV, a statistically significant positive correlation was found solely between clinicians' personal ratings of the conformity value and their ratings of outcome in the conformity value vignette. Subsequent multiple regression analyses supported this finding while also indicating that clinician gender accounted for significant variance, with women therapists being particularly inclined to assign relatively low ratings to both conformity as a personal value and the conformity outcome vignette.

In a similar fashion, there was a statistically nonsignificant trend toward a positive correlation between clinicians' personal ratings of independence (which received the highest mean rating) and their outcome ratings in the independence vignette (again, the highest mean rating). Mitchell noted that the values discussed thus far, conformity and independence, may be particularly relevant to mental health issues. He suggested the possibility that therapists may be inclined to "isolate their own values from their evaluations of client outcomes" (p. 163) where values not
related to mental health are concerned. Alternatively, Mitchell offered that the saliency of particular values, in this case both strongly held and strongly disavowed values, may be important to clinicians' ratings of improvement.

In an effort to delineate specific types of values which may be most influenced by the psychotherapeutic process, Kelly and Strupp (1992) had post-therapy patients retrospectively rate their degree of perceived value change. It was hypothesized that an assimilation effect (i.e., convergence) would be evidenced in values concerning "interpersonal morality," as measured by the RVS Morality subscale. More specifically, it was predicted that patient values concerning interpersonal morality would most readily shift toward the position of the therapist, given that morality values may underlie many topics frequently addressed in psychotherapy. The authors also predicted that therapist ratings of improvement would be the single outcome indicator positively associated with the assimilation effect. Finally, post-therapy patient-therapist similarity on ideologically related values (which would contribute to a healthy working relationship) and dissimilarity on "life-style" related values (which would foster cognitive dissonance) were hypothesized to be associated with beneficial outcome. This final hypothesis is inconsistent with the earlier views of Arizmendi et al. (1985) in which global therapist rated outcome was thought to be a function of initial similarity on
Instrumental values and initial dissimilarity on Terminal values.

Kelly and Strupp had 36 individuals complete the RVS at one or two year follow-up after undergoing outpatient psychotherapy treatment (additional instruments were also administered, as this assessment was part of a larger psychotherapy research study). These subjects were also instructed to rate the "change in importance" (p. 35, italics in original) of each value since the onset of their psychotherapy treatment. The therapists also completed the RVS after psychotherapy termination. Outcome assessment at follow-up included patient ratings of improvement, a global assessment of improvement completed by independent clinicians, and the Inferiority-Personal Discomfort subscale of the MMPI. Therapist ratings of improvement were obtained at termination and also used in outcome assessment.

Several notable strengths of the Kelly and Strupp study include the use of relatively experienced mental health professionals, as well as the use of multiple outcome measures involving both subjective and objective assessment. Nevertheless, the authors failed to find support for their morality values hypothesis. Although patients did indicate that change had occurred in some morality values, non-morality values by and large were thought to have undergone the greatest change. The authors suggested that values reflected in the RVS subscales of Personal Goals (e.g.,
"Family Security," "True Friendship") and Competency (e.g., "Capable," "Independent") may be most affected by the therapeutic process.

One of the most noteworthy findings of the Kelly and Strupp study was that the majority of patient value change (64%) "tended to be in a direction away from the therapist's values" (p. 37, italics added). The authors suggested that it may not be so straightforward that a patient becomes like his or her therapist. Although significant patient value change did occur, and some values did tend to approximate the values of the therapists, the process of patient value change overall seemed to be quite complicated.

Kelly and Strupp did find support for their hypothesis that therapist ratings would be the single outcome indicator associated with the assimilation effect, yet this finding was restricted to the RVS Terminal values scale, and the Personal Goals subscale partially comprising the Terminal values scale (as well as the individual Personal Goal, "Family Security"). Kelly and Strupp renewed an earlier caveat (Kelly, 1990) in that therapists may tend to view increasing patient similarity to themselves as an important indicator of positive outcome.

Kelly and Strupp failed to find support for their hypothesis concerning post-therapy patient-therapist similarity on ideologically related values and dissimilarity on "life-style" related values being associated with
beneficial outcome. The authors suggested rather that generalized post-therapy value similarity may contribute to positive therapy outcome as defined by multiple outcome measures (regardless of any specific pattern of value correspondence, with the possible exception of similarity on religious values). The authors suggested that a modest degree of introductory patient-therapist value similarity ultimately yields significant improvement, while highly similar or dissimilar introductory value inclinations are unrelated or even negatively related to positive outcome. This finding hearkens back to the earliest research in this area suggesting a curvilinear relationship between pre-therapy similarity and value convergence (e.g., Cook, 1966; Parloff, Waskow, & Wolfe, 1978, as cited in Schwehn & Schau, 1990).

Overall, Kelly and Strupp suggested an idiosyncratic appraisal of value assimilation (i.e., convergence). Their study indicated that there may not be a typical pattern of value convergence, although value convergence, in some form, may be evidenced for certain psychotherapy participants; perhaps as a function of the personal attributes of the patient and/or therapist. Given the idiosyncratic nature of such convergence, it may be most prudent to match patients and therapists who demonstrate a modest degree of introductory value congruence.
The Role of Patient Perceptions in Value Change

Early research (Landfield & Nawas, 1964; Pentony, 1966) explored the notion that there may be some criterion other than the personal values of the therapist toward which the patient's values may converge. Pentony (1966), for example, acknowledged the possibility of multiple explanations which might account for patient value change including: 1) Therapist disclosure of values affects the patient in some unspecified manner, thereby leading to increased patient-therapist value correspondence, and 2) Increased patient-therapist value correspondence is an artifact of the extent to which both parties reflect some independent "mature and healthy approach to living" (p. 39). The second explanation is of particular interest because imbedded in this account is the suggestion that there may be some criterion other than the personal values of the therapist toward which the patient's values may shift.

The methodology employed by Pentony (1966) is likewise intriguing. Working with a patient and therapist population engaged in client-centered therapy, Pentony hypothesized that these therapists could be discriminated from the metropolitan community at large based on personal values presumably derived from the client-centered orientation. A second hypothesis was that patient values would converge with the values endorsed by the client-centered therapists.
Participants were thus administered a Q-sort comprised of presumed universal values. In addition to three independent sorts in which participants rated 1) values as lived day-to-day, 2) self in regard to the values one has been taught (and therefore "ought" to live), and 3) an ideal desired image of one's values, the therapy patients also generated a sort based on how they perceived their respective therapists [i.e., "...the way you think your therapist would sort them as most descriptive of his present actual way of living'" (Pentony, p. 41)]. Patients initially completed these four sorts prior to treatment, and repeatedly at session 10, termination (or session 50), and six month post-treatment.

Pentony reported no comparisons or correlations across groups, but rather, intercorrelations within groups across Q-sort administrations were provided (e.g., the congruence between patient ratings of day-to-day values and ideal values obtained after ten therapy sessions is significantly greater than the corresponding congruence prior to therapy). This finding suggests a shift in patient values in the direction of some patient-generated ideal image, yet the nature of this image remains unclear. It is noteworthy, however, that a trend, albeit statistically nonsignificant, may be observed in the direction of increased congruence between patient ratings of day-to-day values and patient perceptions of therapist at six month post-therapy follow up compared to
corresponding pre-therapy congruence; as well as increased congruence between patient ratings of ideal values and patient perceptions of therapist at either termination or 50 sessions compared to corresponding pre-therapy congruence.

The data analysis provided by Pentony (1966) does not address the correspondence between patient perceptions of therapist and therapist ratings of self. It is therefore possible that patient and therapist perceptions vary considerably, and the assumption of therapist ratings of self as the criterion toward which patient value convergence occurs remains unsubstantiated.

There is evidence in the Pentony study suggesting that patient perceptions may be important in the value change process. Patient ideal values, the only criterion toward which patient day-to-day values actually shifted in a statistically significant manner, tended to correspond relatively highly with patient perceptions of therapist. Again, the correspondence between patient perceptions of therapist and therapist ratings of self is not reported, so it is unknown whether patients accurately construed their therapists. Pentony does provide data suggesting that the criterion toward which patient value convergence does occur may actually be some independent "mature and healthy approach.

In and of itself, however, correspondence between patient perceptions of therapist and therapist perceptions of self does not validate the claim that the latter variable is the criterion toward which patient values necessarily converge.
to living" (p. 39), as depicted within the client-centered orientation.

All of Pentony's data analyses must be considered in light of the indeterminate psychometric properties and construct validity reflected in his Q-sort instrument, as well as a limited patient sample (N=20). Nevertheless, his findings support the notion of a criterion other than therapist ratings of self toward which patient value convergence may occur. It is quite possible that this criterion has more to do with patient perceptions than any objective or independent indices.

Influenced by George Kelly's Psychology of Personal Constructs (Kelly, 1955), Landfield and Nawas (1964) were keenly aware of the importance of the patient's frame of reference. They thus put forth the following hypothesis: "Improvement in therapy is accompanied by a shift in the present-self of the client towards the ideal of the therapist as described within the language dimensions of the client, rather than those of the therapist" (p. 337, italics in original).

Using an adjusted version of Kelly's (1955) Role Construct Repertory Test, Landfield and Nawas (1964) had 36 patients and six therapists rate themselves at present, their ideal selves, and their current perceptions of their respective counterparts in terms of rank-ordered personally relevant constructs (i.e., both patient and therapist
generated personally meaningful dimensions, rank-ordered the combined dimensions from least to most important, and then rated themselves, their ideal selves, and their respective therapists or patients on these same dimensions). This procedure was repeated at multiple points throughout the treatment. The data considered in this study included introductory and final ratings, with therapy continuing for a mean of eight sessions.

Landfield and Nawas (1964) found that in the subset of patients deemed most improved by independent judges (18 of 36 patients), there was significantly more realignment of patient ratings of self in the direction of patient ratings of therapist, compared to the subset of least improved patients. In other words, patient perceptions of therapist may have been the criterion toward which patient value change occurred, and such value change was associated with independent judges’ ratings of improvement. Unfortunately, the patients’ reflections on this change were either not assessed or not reported, so it remains possible that there was yet another criterion toward which patients, based on their own subjective account, were converging.

The most obvious shortcoming concerning the Landfield and Nawas study (1964), in terms of relevance to this project, is that personal construct dimensions are not
necessarily synonymous with values\(^3\). Surely the frame of reference of the patient is implicated as meaningful to the therapeutic process, yet in the Landfield and Nawas study it is a frame of reference concerning the patient’s construct dimensions "for understanding people" (p. 338), as in "‘warm-distant’" (p. 339). Although it is quite likely that the notion of values as considered thus far directly relates to or influences one’s repertoire of personally meaningful constructs, it may be unwarranted to treat values and personal constructs as interchangeable factors.

Parenthetically, Landfield and Nawas (1964) also found support for a second hypothesis in that patient gain may depend on at least some degree of similarity between patient and therapist personal construct dimensions. Such similarity theoretically allows for a common framework of understanding within which meaningful therapeutic interactions might occur. If patients incorporate the views of their respective therapists, perhaps they do so through actively lending their own subjectively construed meaning to the therapeutic experience, and not automatically ingesting the therapist’s frame of reference.

Surprisingly few studies have reported the degree of congruence between patient ratings of therapist and therapist ratings of self (Beutler, 1979). Keeping in mind the

\(^3\)Horley (1991), a current proponent of personal construct theory, argues that values and personal core constructs are indeed interchangeable.
standard methodology employed in the value convergence literature, it would appear to be unnecessary to measure patient ratings of therapist, yet this empirical question bears directly on the role of patient perceptions. In his review of the existing literature, Beutler (1981) questioned whether convergence might be related to perceived dissimilarity versus actual dissimilarity. According to Beutler (1981), "perhaps some do not acquire a therapist's view because they don't perceive it as being different from their own even when it is objectively" (p. 97). What if convergence were only demonstrated when patients accurately assessed the values of their respective therapists? What if patient value change shifted in the direction of their perceptions of therapist, regardless of accuracy?

Three doctoral dissertations concerning values in therapy seem to support the notion that therapists and/or patients are often inaccurate in describing the values of their respective counterparts (Billington, 1983/1984; Merryman, 1985/1986; Moses, 1969/1970). Other published journal studies echo these findings (Ju & Thomas, 1987; Parloff, Iflund, & Goldstein, 1960; Warshaw & Bailey, 1966). Warshaw and Bailey (1966), for instance, reported that six therapists and their 15 patients were administered the Cassell Ego Strength Q-sort with instructions to rate "values for human happiness" as would their respective counterparts. Neither patients nor therapists were accurate in their
perceptions, but patients tended to "project their own values for human happiness onto their therapists" (p. 592). Additionally, there was no indication of value convergence in this sample, at least as typically defined in terms of patient movement toward therapist values.

The Warshaw and Bailey study is difficult to evaluate since no information is provided about the nature and extent of psychotherapy treatment. Their findings, however, are consistent with the notion that individual perceptions may play an important role in the process of patient value change.

Analysis of the Value Convergence Phenomenon

While considering the values in psychotherapy literature, it may prove informative to note the preponderance of seemingly one-sided terms and descriptors characterizing the process of value convergence: "Transmission," "disclosure," "imposition," "reinforce," "indoctrinating," "shaping," "pressing," "transfusion," "dissemination"--all of which suggest some action emanating from the person of the therapist, with a lack of clarity concerning the patient's role in this process. On occasion the patient's report of therapeutic outcome is assessed, but beyond this there is virtually no consideration of the patient's experience of convergence. It is as if the entire process is assumed to occur automatically outside of the patient's awareness and/or active participation.
Much research conducted in the area of value convergence may suffer from what Rychlak (1981) has termed an "extraspective" bias, referring to a third person frame of reference in which conclusions are drawn "about that item under observation" (p. 21, italics in original), in contrast to an introspective slant in which conclusions are drawn from the perspective of the subject. From the perspective of the investigator, for example, it very much seems that a patient "becomes like the therapist." Yet virtually nothing is known about the patient's introspective experience of the value change process, including his or her level of awareness of or contribution to "becoming like the therapist"—if, for that matter, the patient even believes this to be the case.

Value convergence has been repeatedly demonstrated, yet this is from the perspective of the investigator. The patient's values are measured, the therapist's values are measured, and during the course of therapy greater correspondence between patient and therapist values is often observed. The interpretation given to this finding is that the patient "becomes like the therapist." This interpretation may be true to an extent, but perhaps the increasing correspondence observed between patient and therapist (as measured by each participant's ratings of self) is an artifact of yet another covert process, as suggested long ago by both Landfield and Nawas (1964) and Pentony (1966). One possibility is that the patient is realigning
his or her values toward some criterion other than the personal values of the therapist.

The point is that, on epistemological grounds, there are inherent difficulties associated with postulating, from the researcher's perspective, what may be a criterion toward which the patient's values are moving, without ever establishing this from the perspective of the patient. Although "shaping" may implicitly be assumed to be the process by which patient value change occurs, there does not appear to be any direct test of this assumption in the literature. On the contrary, research concerning value change in non-clinical settings (e.g., Grube, 1982) would suggest that shaping alone can not entirely account for observed value change, given that values can not be manipulated in an arbitrary manner. According to Grube (1982), "In the final analysis, the value changes that occur are under the control of the subject and not the experimenter" (p. 533).

Nawas and Landfield (1963) offer a similar conclusion based on their psychotherapy outcome study: "There was a trend indicating that the most improved patient tends to increase in his preference for his own frame of reference, that he tends to become more himself rather than an echo of his therapist" (p. 97). It may therefore be beneficial to refrain from assuming that the personal values of the therapist are necessarily the target of patient value change,
and to also lay aside the accompanying meta-theoretical assumptions about the mechanisms of such change. The process of patient value change, in and of itself, must be explored more fully before patient value change toward some specified criterion can be meaningfully investigated.

Additionally, there are at least three forms of empirical evidence suggesting that the values of one's therapist may not be the criterion toward which patient value change occurs. Such evidence casts further doubt on the validity of value convergence theory.

First of all, Beutler (1971) found that therapist ratings of improvement following marital therapy may be related to the couple arriving at similar value-laden attitudes, irrespective of the values of the therapist. In other cases, improvement has been related to patient-therapist value dissimilarity following treatment (Holzman, 1961, as cited in Kessel & McBrearty, 1967; Mihalick, 1969/1970). Furthermore, in their study of perceived value change, Kelly and Strupp (1992) found that the majority of patient value change "tended to be in a direction away from the therapist's values" (p. 37, italics added). These patients did not appear to be conceding themselves as similar to their therapists following treatment. These findings obviously suggest that some criterion, other than the personal values of the therapist, may be relevant to value change.
The second form of empirical evidence which calls value convergence theory into question centers on one's awareness of personal values held by another. If one rejects the assumption that patients are being automatically shaped by their therapists, but instead are actively and purposefully adjusting their values, then patients would certainly need to be aware of their therapist's values in order to emulate them. On the contrary, there does not appear to be any indication that patients are consistently able to accurately construe the self-reported values of their therapists (Billington, 1983/1984; Hamblin, Beutler, Scogin, & Corbishley, 1993; Merryman, 1985/1986; Moses, 1969/1970; Parloff, Iflund, & Goldstein, 1960; Warshaw & Bailey, 1966). Warshaw and Bailey (1966), for example, found that both patients and therapists were inaccurate in describing the values of their counterparts. One alternative hypothesis regarding value convergence, therefore, is that patients are realigning their values in accordance with their perceptions of the therapist (or some specified criterion), regardless of accuracy. In any event, this finding underscores the need to reconsider using the self-reported values of a select therapist as the criterion toward which patient values are judged to move.

The third form of empirical evidence concerns the observed effect sizes in studies of value convergence. Although many (but by no means all) convergence studies
suggest that the degree of patient and therapist post-therapy value congruence is significantly greater than pre-therapy value congruence, rarely is the absolute magnitude of post-therapy congruence reported in the literature. Without such information, it is impossible to conclude just how much patients are "becoming like their therapists."

Rosenthal (1955) did opt to present such information in the form of initial and final patient-therapist correspondence in moral values for all 12 dyads investigated in his study. The average correlation between patient and therapist rankings went from .23 (initial) to .39 (final) for all six dyads evidencing an increase in moral value correspondence following treatment. Although suggestive of some change process concerning moral values, the variation accounted for by the average final patient-therapist intercorrelation is only 15 percent. It is important to keep this effect size in perspective when drawing any conclusions about the extent to which Rosenthal's patients were "becoming like their therapists."

There are obviously multiple possible explanations for these findings. Still, it remains an empirical question as to whether such correlations would be more robust and findings more consistent if patient value change alone, without necessitating a comparison to a select therapist's values, were being considered.
Perhaps the unstated meta-theoretical assumptions pervading much of scientific psychology, assumptions born of a logical positivist philosophy patterned after Newtonian physics and most clearly reflected in the psychology of behaviorism, continue to exert a dominant influence on research methodology (Krasner & Houts, 1984; Rychlak, 1981). At first this may sound contradictory since surely the interest in values has flourished, whereas the logical positivists sought to purge issues such as values and subjectivity from the objective, factual endeavor of science (Hegselmann, 1987). Yet the positivistic/behavioristic influence rests not in the topical area, for values are indeed being investigated, but rather in the tendency to view subjects extraspectively.

In the positivist/behavioristic view, the individual might be depicted, from the researcher’s perspective, as being passively and automatically shaped by the therapist’s behavior, analogous to watching one billiard ball strike another as part of a perfectly mechanical universe. Although this approach was once believed to be sufficient and even desirable for natural science, an unfortunate concomitant was the reduction of the person to mechanistic processes, without intention, exclusively driven by external circumstances.

Kovel (1982) underscores this extraspective and reductionistic trend in psychotherapy, noting that the quest for objectivity may result in the consideration of patients
as objects which "have position in time and space, and
nothing else. They do not remember and they do not
anticipate. And they value nothing" (p. 111). Although some
clinicians might theoretically accept such a depiction of
their patients, most psychotherapists would reject this
account.

Commenting on the enterprise of science, Krasner and
Houts (1984) offer the following:

The fundamental assumption of objectivism is
untenable, because it is neither physically nor
philosophically possible to obtain knowledge
without first choosing some assumptive framework.
This framework is undetermined by observations;
rather it constitutes the hermeneutic context for
generating "facts" and giving meaning to
observations (Heelan, 1983). Though such
assumptions are often tacitly held and subtly
acquired in the socialization process of becoming
a scientist, we believe it is fruitful to think of
them as decisions that the scientist makes. As
choices among an array of available assumptions,
none of which has prior claim to "truth,"
discipline-specific assumptions function as value
systems for the scientists. (p. 841)

It is ironic that the value systems of researchers may be
tacitly influencing their investigation of values in others.
Conceivably, there may yet remain a strong adherence to this positivistic/behavioristic "assumptive framework."

It is my contention that the methodology employed in most value convergence research is itself influenced by an implicit behavioristic meta-theoretical assumption, i.e., the belief that the therapist is "shaping," or in some manner responsible for, patient value change. In other words, the notion that the patient is being passively affected by some external circumstance, rather than actively and purposefully structuring his or her own experience of value change. Some studies, for example, control for the amount of patient value change possible given the patient's initial value position compared to that of the therapist. Although methodologically appropriate given the variables being investigated, imbedded in this approach is the implicit notion that patient value change is dependent upon and even limited by some external factor--the values of the therapist.

A related issue is that the standard methodology used in the value convergence studies (as well as the underlying metatheoretical assumptions) may have precluded some investigators from considering the role of subject variables, such as personality traits, as contributors to patient value change. If value change is the result of shaping, or external circumstances, it theoretically matters little what the patient brings to the treatment situation (with the exception of his/her introductory position on given values,
which in turn defines the amount of change possible with respect to the therapist's values). If, in contrast, the patient is actively realigning his or her values in a manner he or she deems fitting, then their personality traits, or their "emotional, interpersonal, experiential, attitudinal, and motivational styles" (Costa & McCrae, 1992, p. 14), may contribute significantly to the value change process.

An additional problem that is particularly relevant to value research concerns the assumption that values are meaningfully equivalent across respondents, both qualitatively and quantitatively. Qualitatively speaking, there is no guarantee that the patient and therapist are ascribing the same or similar meanings to a given value, even with Rokeach's brief ancillary descriptions (Glossop, Roberts, & Shemilt, 1975; Mueller, 1974). Consider the value "Salvation," for example, described as "saved; eternal life." The phenomenological as well as the literal meaning of salvation may vary greatly depending on one's religious or spiritual experiences (Yavornitzky, 1993). Rokeach himself debated whether or not he should even structure the expression of one's values through his own defining labels (1973). Be this as it may, it is possible to make valid comparisons within a subject over time, given that the subject is free to idiographically construe a value in any way. Valid comparisons across subjects, as in suggesting a patient's values have "become like" his or her therapist's
values, are much more problematic (Thompson, Levitov, & Miederhoff, 1982).

Quantitatively speaking, Arizmendi et al. (1985) offered an intriguing notion when they suggested that "centrality" or "personal relevance" (p. 17) of certain values may be related to value change. One of the limitations associated with the ordinal ranking of values inherent in the RVS is that it is difficult to evaluate the "centrality" of values across individual patients. There is no reason to assume that the highest ranking value of one patient is meaningfully equivalent to the highest ranking value of another patient (or therapist), even though the specific value may be identical. Consider, for instance, two individuals, both of whom ascribe the lowest ranking to the value "Courageous." One individual may be exceedingly moved by courageousness and may live his or her life in an attempt to be courageous. The other individual may disavow courageousness (as well as perhaps the next three or four values ranked immediately above courageousness). Surely the centrality of these values is not the same for both respondents, and such distinctions may remain hidden through an eyeball comparison of rank orderings. Once again, repeated measures of the same subject over time will yield information on the relative saliency of given values for that individual. Comparisons across subjects are fraught with confounds.
Finally, given the replicated finding of a positive association between patient-therapist value similarity and therapist ratings of patient improvement, the intersubjectivity of the therapeutic dyad is directly implicated. In this instance, one perceives that both the therapist's and the patient's frame of reference must be considered. The manner in which both parties construe objects and events—the infusion of meaning to all that is perceived—must be understood introspectively. The conception of mental health, of therapeutic outcome, and even of self is envisioned through subjective glasses which frame (and perhaps often bend) experience. Previous research indicates that, next to social class, the values of the patient appear to be the strongest predictor of bias in clinician judgment (Abramowitz & Dokecki, 1977; as cited in Gartner, Harmatz, Hohmann, Larson, & Gartner, 1990). Since therapists find increasing patient similarity to themselves to be an important indicator of positive outcome, research incorporating the subjective experience of value change from all participants' frame of reference seems to be clearly indicated.

In conclusion, it would seem that the process of patient value change has been conceptualized and investigated in an extraspective fashion. In selecting variables which may be relevant to the value change process, researchers have tended to emphasize situational parameters which seem important from
their own viewpoint, with relatively less emphasis on exploring the patient's introspective views of or contributions to the change process. Time and time again the self-reported values of the therapist have been selected by researchers as the criterion against which patient value change will be defined, in spite of decades of inconsistent findings based on this strategy. It seems reasonable at this point to independently investigate the role of patient perceptions and patient contributions, apart from the standard value convergence methodology, in order to more fully understand the change in values reported by many psychotherapy participants. The remainder of this chapter is devoted to 1) an analysis of patient value change outside of individual adult outpatient psychotherapy, 2) exploration of the relationship between personality factors and value preference, 3) the introduction of personality factors as constructs which might influence the patient value change process, and 4) a series of hypotheses concerning the specific relationships between personality factors, patient value change, and treatment outcome on an inpatient psychiatric ward.

Value Change in Other Therapeutic Modalities

Research on the role of values in therapeutic interventions other than individual outpatient psychotherapy has been sparse. The relatively few studies which have addressed group, marital/family, or inpatient treatments
have, by and large, been reviewed by Beutler in his analysis of the existing literature (1981). As was pointed out by Kelly (1990), early research prior to the wide-spread use of the RVS can be difficult to evaluate given that values were often defined and measured in a diverse and inconsistent manner. Nevertheless, according to Beutler (1981), the general tone of these early studies seems to be that convergence is more readily observable in individual outpatient psychotherapy compared to group, marital/family, or inpatient treatments. This may be due to the shear number of studies investigating the former modality.

There is indication of patient value change, as measured with the RVS, in outpatient group therapy settings (Hamblin, Beutler, Scogin, & Corbishley, 1993; Ukeritis, 1977). These authors have generally referred to value convergence theory when describing such value change (i.e., that patients are "becoming like the therapist"). The same criticisms of value convergence theory can of course be leveled in the case of group interventions. There is ample room for alternative interpretations of these findings.

The role of value change in inpatient settings is considerably less clear. One of two studies using the RVS found value change in inpatient psychiatric settings (cf. Elzinga, 1980/1981; Simnegar, 1976/1978). Studies conducted prior to the RVS have yielded more consistent findings of value change among psychiatric inpatients (Beutler, Jobe, &
Elkins, 1974; Holzman, 1961, as cited in Kessel & McBrearty, 1967; Parloff et al., 1960; Rosenthal, 1955), but often in ways not predicted by the investigators. Overall, it is difficult to reconcile these findings with value convergence theory.

A series of studies conducted by Almond, Keniston, and Boltax (1968, 1969a, 1969b) addressing the role of values in an inpatient psychiatric setting led to some interesting conclusions which bear directly on the current project. The authors focused on what might be termed milieu "therapeutic values," or specific values regarding one's experience on an inpatient psychiatric ward (e.g., the notion that one should actively participate in treatment). This differs significantly from research on general life values (valuing "Family Security" or "Honesty," e.g.), as typically investigated in the value convergence literature. Nevertheless, this work is relevant to the present study because the authors maintained that values are intimately connected with one's therapeutic experience during inpatient treatment.

It is important to note that values were not directly assessed by the researchers, but rather inferred from qualitative and quantitative data (Almond et al., 1968). A likert-type questionnaire was constructed assessing attitudes about ward practice, and views of self and treatment. Sample questionnaire items included "For a patient who has to be
hospitalized, groups are the most important treatment" and "A patient should be able to give up his symptoms after a short time here." Questionnaire items were rationally grouped into the following six ten-item scales, presumably reflecting a specific ward value (Almond et al., 1968):

1. Be a Member.--Be an active member of the ward social system; do not withdraw or disaffiliate from the ward culture.
2. Be Open.--Discuss problems openly with staff and other patients and do not insist upon privacy or confidentiality.
3. Take Responsibility.--Do so for others and for one's own recovery. Do not rely on others to facilitate magically one's remission and discharge.
4. Have Faith in Ward.--Believe in the efficacy of the unit for one's self and for others; view staff members as therapeutically oriented in their actions.
5. View Family Realistically.--Recognize the existence of very real problems in communications and interaction in the family and attempt to deal with these adaptively.
6. Face Problems Directly.--Symptoms should not be used to avoid problems; they should instead be openly confronted and discussed. (pp. 547-548, italics in original)

The questionnaire was expanded to include an additional 60 items from other sources (e.g., items focusing on
authoritarianism). The psychometric properties of the questionnaire were not reported.

A total of 66 out of 72 consecutively admitted psychiatric inpatients completed the questionnaire within two days of admission. Patients were characterized as "heavily weighted with acute psychotic reactions and severe depressions along with a lesser proportion of severe character disorders and organic problems" (Almond et al., 1968, p. 546). The interaction of psychiatric disorder and item endorsement was not reported. Questionnaires were re-administered after one week, one month, and prior to discharge to those patients who remained hospitalized at each point. As such, latter administrations may be confounded by level of psychiatric disturbance. A total of 66 patients completed the questionnaire upon admission, followed by 61 completing questionnaires at one week, 56 at four weeks, and 42 at discharge occurring after four weeks. Fifteen staff members were randomly selected from their respective disciplines and instructed to complete the questionnaire as would an "ideal" patient.

The authors based most of their discussion on the primary factor emerging from both veramax and "fixed point" criterion factor analyses of the questionnaire items: Social Openness and Ward Involvement. This factor was positively correlated (0.92) with the composite total of the six a priori ward values. According to the authors, "items
defining this factor stress involvement in a community or
group situation in which individuals are responsible towards
one another and share their personal problems"  (1968, p.
549). The authors concluded that there is a system of shared
values and beliefs toward Social Openness and Ward
Involvement characterizing the ward as a whole. The
patients, in effect, tended to embrace this position during
the course of their hospitalization (1969b).

In many respects the Almond et al. project (1968, 1969a,
1969b) differs from the value convergence studies because of
methodological approach as well as the focus on specific
therapeutic values rather than general life values. Moreover, the empirical findings reached by the authors are
questionable due to statistical treatment of the data and
methodological design. For example, the impact of demand
characteristics and social desirability is of concern, given
that several of the ward therapeutic values abstracted by the
authors from questionnaire items are actually a priori
"values and behavioral norms within the patient-staff
community" (1968, p. 547) that are explicitly disclosed to
patients. It is at the level of general conclusions drawn
from this project that important insights are found regarding
the process of value change as a therapeutic phenomenon.

First of all, Almond et al. (1969b) concluded that
milieu "therapeutic values" endorsed by psychiatric
inpatients may change during the course of hospitalization.
It is therefore possible that a change in general life values may also occur during an inpatient stay. Curiously, the authors cited unpublished data by M. Holzman indicating that general life value convergence was not observed among a sample of psychiatric inpatients, even though there was presumably an identified individual psychotherapist. This same Holzman study, however, apparently detected value convergence among outpatient psychotherapy participants. It was suggested that convergence may not have been detected in the inpatient group because of the level of psychotic disturbance, but this hypothesis does not appear to have been investigated empirically. Whether the inpatient group experienced general life value change other than convergence was not reported.

Secondly, at each successive administration, the ward "therapeutic values" of patients tended to become increasingly similar to the staff's composite version of an "ideal" patient nearing discharge (1969b). With respect to value convergence theory, it is noteworthy that some criterion other than the personal "therapeutic values" of a primary therapist may have served as a criterion toward which patient value change occurred (unless, of course, in the unlikely event that the mean values of an "ideal patient" as determined by staff happen to be synonymous with the staff's
own "therapeutic values"—but this remains an empirical question).  

Another important aspect of this finding is that patient "therapeutic values" change was a function of length of hospitalization, and that change in the Social Openness and Ward Involvement factor was observed after as little as one week (p < .10). Moreover, the authors determined that the rate of change in this factor was greatest in the first week following admission. This is relevant to the present study since the current average length of inpatient psychiatric hospitalization has substantially decreased compared to the Almond et al. era.

Thirdly, Almond et al. (1969a) found considerable variability in the patients' experience of the value change process. The authors used a variety of statistical and qualitative procedures to divide the sample into three relatively distinct groups, or "value change profile types." Although an elaboration of these profile types is beyond the scope of this project, Almond et al. provided evidence that

This finding illustrates once again the arbitrary nature of selecting a criterion from the researcher's perspective. A form of convergence has been demonstrated, yet the patient "therapeutic values" and staff ideal "therapeutic values" were still significantly different upon discharge. It is unknown whether movement in patient "therapeutic values" toward the ideal version of staff is in line with the patients' phenomenological experience. It may very well be, but this must be determined from the perspective of the patient.
these groups differed significantly with respect to several subject variables including age and social class.

Although not formally assessed, there exists the possibility that personality factors might further account for some of the variance between these groups. Consider, for example, the primary factor of "therapeutic values" change—Social Openness and Ward Involvement—comprised of items emphasizing "involvement in a community or group situation in which individuals are responsible towards one another and share their personal problems" (1968, p. 549). One would expect that an individual's degree of both Extraversion and Openness to Experience, as defined by Costa and McCrae (1992; see below), would relate to these qualities.

In a related study, Reiss, Costell, and Almond (1976) found that the personal needs of professionals (a construct related to personality) interacting with these same "therapeutic values" predicted the preferred therapeutic intervention offered by inpatient psychiatric staff members. Predictions were also applicable to the preferred therapeutic intervention received by psychiatric inpatients. Although this finding is only tangentially related to personality factors in patient value change, the inter-determination of personality and values with respect to clinical treatment was formally implicated.

A more recent study (Tyler, Clark, & Wittenstrom, 1989) indicated that patient-therapist pre-treatment similarity in
mental health values influenced treatment response in 100 inpatient alcoholics. In contrast to general life values, mental health values were defined as specific values regarding "what constitutes healthy emotional functioning" (p. 204). The authors found that patterns of patient-therapist similarity/dissimilarity on eight mental health value dimensions, as measured by the Mental Health Values Questionnaire, differentially related to outcome as measured by MMPI profile scores, counselor ratings, and patient self-report.

Caution must be used in drawing conclusions from this study due to numerous methodological issues, not the least of which is non-random assignment of patients to one of only two principal counselors. The authors also opted to use the self-reported values of the primary counselor as the criterion toward which patient values were assumed to move. This criterion selection seems quite arbitrary, given that their description of the treatment program suggests that an intensive value-laden position may be espoused by the treatment program overall, much like the ward "therapeutic values" investigated by Almond et al. (1968, 1969a, 1969b). Consider the following:

Inpatient therapy at Glenmore is a multifaceted program that involves training in Alcoholics Anonymous (AA) principles, group and individual therapy, a 5-day family therapy program, and bibliotherapy...Contact with the
primary counselor is through twice daily group-therapy sessions and includes some additional individual contacts as well... The culmination of the program is the completion of the fifth step of AA, a confessional experience that is accomplished in the presence of a minister. (Tyler et al., p. 206)

In light of the multifaceted nature of the treatment experience, as well as important qualifications on the nature and extent of primary therapeutic contact, there seems to be no obvious reason for selecting the primary counselor’s values as the criterion toward which patient value change would presumably occur. It is not surprising that a differential (and quite varied) pattern was found between patient-therapist mental health value congruence and treatment outcome.

Nevertheless, what the Tyler et al. study does reveal is that a change in mental health values, regardless of direction, was reported by this sample during the course of an inpatient treatment experience (average length of treatment was three to four weeks). As such, there is again reason to suspect that general life values may also change during the course of inpatient treatment.

**Personality and Value Preference**

Several studies have investigated the relationship between value preference, the endorsement of particular values at a particular time (which is not the same as value
change), and personality factors (Brown, 1975; Butt, 1966; Furnham, 1984; Heaven, 1993; Heaven & Furnham, 1991; Luk & Bond, 1993; Mahoney, 1977; Martin, 1985; Mitchell, 1984, 1989; Rim, 1984; Serra & Pollitt, 1975; Simmons, 1976). It is difficult to draw specific conclusions from this research, however, because a variety of instruments have been used to measure the constructs of values and personality.

There are also important limitations on the generalizability of the findings. For example, subjects have typically consisted of adolescents or college students rather than individuals representing the entire life span. A particular interaction of value preference and personality may be unique to this cohort given the identity-solidification issues experienced at this developmental stage (Arnstein, 1986). Nevertheless, there seems to be consistent indication that value preference may be connected to personality functioning.

An early study (Butt, 1966) investigated the relationship between the Sixteen Personality Factor Questionnaire and five value dimensions extracted from the Ways to Live Value Scale. Butt found several relationships between value preference and select personality dimensions in her sample of 201 Canadian male undergraduates. The personality dimension of Extraversion, for example, was negatively correlated with the value dimension of Withdrawal and positively correlated with the value dimension of
Receptivity. The personality dimension of Independence tended to overlap considerably with value preference, with roughly 32% of the Independence variance attributed to the value factors. In contrast, the personality dimension of Anxiety bore no significant relationship with value endorsement. Finally, the personality dimension termed Tendency toward Environmental Manipulation was positively correlated with the value dimensions of Enjoyment in Action and Sociability and negatively correlated with the value dimension of Withdrawal.

Mitchell (1984) also made use of the Sixteen Personality Factor Questionnaire in his analysis of personality factors and value preference. Mitchell developed the "Life Values Inventory," a 55-item scale factor analyzed into 14 dimensions and described by the author as similar to but more comprehensive than Rokeach's Terminal values. Through submitting the personality and value scores of 310 university students to a factor analysis, Mitchell found that eight instances of common-factor variance were shared between the personality traits and the value dimensions. These findings were replicated in a similar study completed by Mitchell (1989) which made use of the same "Life Values Inventory" and the Comrey Personality Scales.

Serra and Pollitt (1975) found a statistically significant negative correlation between Extraversion and four questionnaire items deemed to assess certain life values
which, on the surface, may bear some relationship to a few of Rokeach's Instrumental values). A statistically significant positive correlation was also found between Neuroticism and these same life values. Even though an established measure of personality factors was employed (the Maudsley Personality Inventory), and the authors made use of a clinical sample, the limited measure of values detracts from this study.

Rim (1984) found value preference to be related to the Eysenckian personality dimensions of Neuroticism, Extraversion, and Psychoticism in his sample of "100 candidates for a preparatory course of studies at an [Israeli] institute of technology" (p. 245). Using the RVS, a total of 10 (out of 18) Instrumental values and 12 (out of 18) Terminal values distinguished relatively low versus relatively high scorers on one or more of these three personality dimensions. Although the breadth of these findings alone would suggest that value preference may be related to personality factors, there are several methodological issues which make it difficult to assert this conclusion. The findings, for example, are of questionable validity given that Rim used a median split to divide his sample into relatively high and relatively low scorers on each personality dimension, but information on the variability of personality scores was not provided. It is therefore unknown whether groups of high and low scorers were
significantly different on a given personality dimension. Cultural and language confounds may also be involved, particularly since there is no mention of adjustment to questionnaires published in the English language.

Using a methodology similar to that of Rim, Martin (1985) found significant differences in value preference as a function of personality factors in his sample of 113 juvenile delinquents incarcerated in Madrid. Martin observed that the mean ranking of 10 (out of 18) RVS Terminal values and 8 (out of 18) RVS Instrumental values was statistically different between relatively high and relatively low scorers on one or more of the Eysenckian personality dimensions of Extraversion, Neuroticism, and Psychoticism. Curiously, only three Terminal values and four Instrumental values were identical to the 22 significant values found in Rim’s (1984) earlier study. In other words, the specific values which varied in relation to personality factors differed, by and large, between the two studies. There are multiple explanations for this discrepancy including both cross-cultural and sample differences.

Mahoney (1977) found that cultural context may indeed mediate the relationship between personality and value preference. Citing an earlier study (Rim, 1970, as cited in Mahoney, 1977) in which the endorsement of values by neurotic Israeli male and female college students differed significantly from their normal counterparts, Mahoney
attempted to replicate these findings using an American sample. He found that neurotic American males (but not females) tended to endorse different values than their normal counterparts, but the overall pattern of value endorsement differed between the American and Israeli samples. Mahoney concluded that "the values associated with neuroticism are culture and gender-specific, paralleling the values characteristic of each culture" (p. 312).

Following an assertion by Rokeach (1973) that personality itself might be construed as a value system, Simmons (1976) investigated whether the Eysenckian personality dimensions of Neuroticism and Extraversion might simply be re-conceptualized as particular value orientations. College student subjects were asked to rate 100 values on a seven point likert-type scale ranging from "extremely valuable to me" to "extremely non-valuable to me." Responses were then compared with performance on a short form of the Eysenck questionnaire. Overall, Simmons' findings should be viewed cautiously due to the indeterminate psychometric properties of his value measure.

No significant relationship was found between value endorsement and Neuroticism. However, there was support for a mild positive association between 22 of the 100 values and Extraversion. Simmons qualitatively grouped the relevant values (those associated with high Extraversion) into three categories:
1) Valuing open, warm and loyal social relations (8 values)
2) Valuing vibrancy, vitality, vigor and viability in daily living (7 values)
3) Valuing the search for individuals with integrity (6 values)

The specific value of "participating in the business life of the community" did not appear to be readily amenable to these categories.

Simmons' work is important for another reason. His categories seem to bear a strong resemblance to aspects of the five-factor personality model of Costa and McCrae (1985, 1992; see below). Category #1, for instance, may overlap with the "Warmth" facet of the Extraversion Domain. Category #2 may involve several facets of the Openness to Experience Domain.

Additionally, Simmons suggested that Extraversion might embody a "value-affirming position" (p. 913), in light of the consistency of positive correlations observed. Imbedded in Simmons' account, therefore, is the suggestion that personality factors may affect one's stylistic approach to value endorsement (i.e., being "value-affirming"), in addition to affecting the endorsement of specific values, per se.

A relationship between value preference and personality factors may exist for adolescents as well as adults (Brown,
Heaven and Furnham (1991), for instance, found statistically significant intercorrelations between several multi-item value constructs and the Eysenckian personality factors in a sample of 185 Australian adolescents. The following statistically significant results were obtained using a measure, comparable to the RVS, in which respondents rate (rather than rank-order) particular values: Neuroticism was positively correlated with the value constructs of International harmony and equality; Traditional religiosity; Personal growth and inner harmony; Positive orientation to others; and Propriety in dress and manners. Extraversion was positively correlated with National strength and order; Traditional religiosity; Personal growth and inner harmony; and Religious commitment. Psychoticism was negatively correlated with National strength and order; Traditional religiosity; Personal growth and inner harmony; Positive orientation to others; and Propriety in dress and manners.

It had earlier been observed by Furnham (1984) that an interaction of independent personality dimensions further predicted value preference. For example, in Furnham's sample of 70 English adolescents, individuals who were simultaneously high in Neuroticism and low in Extraversion tended to assign higher ratings to the Rokeach values of "Freedom" and "Self-respect" compared to other groups.
In a subsequent multivariate analysis of the Heaven and Furnham data, Heaven (1993) found that high Psychoticism/low Neuroticism individuals did not endorse the values of Traditional religiosity, Personal growth and inner harmony, Secure and satisfying interpersonal relationships, Positive orientation to others, and Propriety in dress and manners. Similarly, low Neuroticism/low Extraversion individuals tended to not endorse the values of Religious commitment and Secure and satisfying interpersonal relationships. Heaven also found in a sample of 89 undergraduate psychology students that Psychoticism was inversely related to the values of Secure and satisfying relationships, Positive orientation to others, and Propriety in dress and manners.

There is some indication that the Eysenckian personality dimension of Psychoticism is related to achievement-oriented values in adolescents (Brown, 1975). Subjects were administered a composite values inventory which yielded information about six factors "expressing aspects of achievement orientation" (p. 139). Respondents were divided into high, medium, and low scoring groups on each of the achievement factors. Performance on the Eysenck Junior Personality Questionnaire was then compared across these groups. The following statistically significant relationships were obtained in a sample of 674 British adolescents: High Psychoticism was associated with low Passivity (particularly for males), high Passivity
(particularly for females), and high Cynicism (particularly for males). Low Psychoticism, in contrast, was associated with high Family Loyalty and high Educational Primacy.

One curious aspect of Brown's study is that the mean Psychoticism scores for both males and females is greater than one standard deviation below the normative data provided by Eysenck. The relative comparisons he reported may therefore be sample-specific. Brown also cautioned that high Family Loyalty, high Passivity, and high Educational Primacy tended to co-vary with the Eysenckian Lie Scale, a measure of social desirability.

Several of Brown's achievement factors may also relate to the five-factor personality model of Costa and McCrae (1985, 1992; see below). The achievement factor of Cynicism, for example, may be compatible with "Trust," one of the six facets comprising the Agreeableness domain. Similarly, the achievement factor of Passivity may be compatible with "Competence," a facet of the Conscientiousness domain.

The only personality dimension other than Psychoticism to show any relationship with achievement values in the Brown study was that of Neuroticism, with high scorers tending to endorse the achievement factor of Intolerance--the extent of the individual's ability to tolerate imperfections in others. Brown suggested that such a finding may indicate "a person of extreme irritability who was unwilling to compromise with the deficiencies of others" (p. 144). This description may
correspond to the "Angry Hostility" facet of the Costa and McCrae Neuroticism domain.

Only one published study to date (Luk & Bond, 1993) has compared the five-factor personality model to value preference. The NEO-PI was used to assess personality factors, while the recently developed survey by Schwartz (Schmitt, Schwartz, Steyer, & Schmitt, 1993) was used to measure values. Several significant relationships were indeed found between value endorsement and all five personality dimensions, particularly Agreeableness, in a sample of Chinese university students. Still, in light of the culturally-specific findings of earlier studies, cross-cultural generalization of these results must be made with caution. The Luk and Bond (1993) study does suggest, however, that further exploration of the five-factor personality model in relation to value issues is indeed warranted.

In conclusion, the specific relationships between personality factors and value preference are difficult to ascertain in light of the variety of instruments that have been used to measure these constructs. The extent to which a given measure of values correlates with the RVS (the most widely recognized and accepted measure of values available) is generally unknown or unreported. Moreover, the majority of this research has been conducted with Eysenck's model of personality, which differs in structure from the more recent
five-factor model of Costa and McCrae (1985, 1992; see below). There is nevertheless some indication that the five-factor model may relate to value preference in ways that have yet to be examined, particularly with respect to the Openness to Experience, Agreeableness, and Conscientiousness personality domains. The five-factor model will be elaborated in the next section.

In spite of these shortcomings, aspects of value preference have been consistently found to co-vary with personality factors. It is noteworthy, however, that different studies often yield dissimilar patterns between personality factors and specific values. Although there are some expectable trends, as in Extroverts tending to endorse the Rokeach value of "An Exciting Life," a consistent one-to-one correspondence between a given personality factor and a given value is infrequently observed.

Perhaps this is because, first and foremost, personality factors may influence the manner in which an individual experiences the particular values and value issues in his or her life, rather than being connected to any absolute value preference. In other words, personality factors may serve as a means of organizing and lending meaning to value issues, rather than determining specific value preference, per se (the latter of which would undoubtedly be influenced by cultural or contextual issues). There is some indication, for example, that personality factors may influence one's
stylistic approach to value endorsement, with extroverts demonstrating an inclination to "grapple with" values in their lives.

According to Mitchell (1984), "What seems most likely is that personality characteristics provide a critical substratum that determines and molds receptivity to the environmentally supported values that are supposed to be learned and adopted" (pp. 1-2). Factor analytic studies conducted by Mitchell (1984, 1989) support this interpretation, yet again, because of instrument selection, it is difficult to extend his findings to the present study.

Luk and Bond (1993) offered a similar formulation of the relationship between personality and value endorsement. They suggested that individuals learn to satisfy personality needs in select ways, and these ways come to be valued. There may be multiple value priorities which serve to meet personality needs. A change in personality needs or in one's stylistic approach to meeting such needs would therefore be reflected in a change in value preference. For Luke and Bond, then, the relationship between personality factors and value preference must be understood as a dynamic process, not as a static constant.

Theoretically speaking, personality may fashion the manner in which values are established, experienced, and/or changed. It seems reasonable to predict that the process of value change observed among many psychotherapy participants
may also be related to personality factors. This notion does
not appear to have been investigated empirically.

**The Five-Factor Personality Model**

In a very general sense, the construct of personality
can be thought of as "the style a course of behavior takes
on" (Rychlak, 1981, p. 823). There have been numerous
attempts to explain these styles of personality (e.g.,
Greenberg & Mitchell, 1983; Maddi, 1980; Rychlak, 1981), but
psychologists in the tradition of studying individual
differences have uniquely conceptualized the construct
through formulating objective techniques for measuring
personality.

One extensively used objective technique is that of
self-report inventories. Such inventories include items that
have been conceptually selected and empirically determined to
differentiate individuals in a reliable and meaningful
manner. Through factor analytic approaches, it is possible
to parsimoniously account for the collective variance in a
particular inventory (Anastasi, 1988), thereby suggesting the
underlying factors or determinants of personality style. The
discovery and delineation of such factors can result in
theoretical models which describe the fundamental structure
of personality.

Perhaps the most widely known factor analytic model is
that of Eysenck (Eysenck & Eysenck, 1975), who endorsed the
three personality factors or dimensions of Neuroticism,
Extraversion, and Psychoticism (the first two dimensions will be described shortly, as they are relevant to the present study). Each of these dimensions of personality are generally understood to reflect an approximately equal combination of constitutional and environmental determinants, somehow interacting to comprise an enduring and discernable personality factor (Meyer, 1987).

These core dimensions appear to reflect a pervasive and generalized underlying personality style, or collection of related traits, as opposed to a state or situationally based response phenomenon. Such dimensions reveal basic and enduring qualities of both perception and affect modulation, constitutionally evident, and exerting a life-long influence on one's experience of the world. There is support for cross-cultural congruity of Neuroticism and Extraversion, for example, as well as within-subject consistency of these dimensions over time periods up to five decades (Meyer, 1987).

Such models of personality take the form of two or more axes or dimensions (depending on the number of factors) on which an individual's score can be plotted. These factors are theoretically independent, so any combination of loadings on the factors is possible (e.g., one might observe High Factor 1 - High Factor 2, or perhaps High Factor 1 - Low Factor 2, etc.).
Costa and McCrae (1985, 1992) have developed the NEO Personality Inventory (NEO-PI), the NEO Personality Inventory-Revised (NEO-PI-R), and the NEO Five Factor Inventory (NEO-FFI) as operationalizations of a five-factor model of personality. The five-factor model is the culmination of several decades of research and theory regarding personality differences, and this model continues to receive empirical support in the literature (Costa & McCrae, 1992; McCrae & Costa, 1987).

According to Costa and McCrae (1992), the five factors characterize an individual's "emotional, interpersonal, experiential, attitudinal, and motivational styles" (p. 14). Moreover, such factors have consistently emerged in a variety of personality and mood inventories (Costa & McCrae, 1992; Meyer & Shack, 1989), thereby lending support to the ability of these inventories to measure the very structural and universal components of personality. Of note is the comprehensive nature of the five-factor model for describing personality variation, particularly in terms of its ability to subsume other factor analytic systems including the Eysenck model (McCrae & Costa, 1989).

The five domains of personality measured by the NEO-PI-R include Neuroticism (N), Extraversion (E), Openness to Experience (O), Agreeableness (A), and Conscientiousness (C). In addition, 30 facet scales have been demonstrated to
comprise the global domains (six facets per domain), making intradimensional comparisons between subjects possible.

The first domain, Neuroticism, "identifies individuals prone to psychological distress" (Costa & McCrae, 1985, p. 2). The second domain, Extraversion, is concerned with the individual's "quantity and intensity of interpersonal interaction...and capacity for joy" (ibid.). The third domain of Openness to Experience "assesses proactive seeking and appreciation of experience for its own sake [as well as] toleration for and exploration of the unfamiliar" (ibid.). The fourth domain, Agreeableness, measures "the quality of one's interpersonal orientation along a continuum from compassion to antagonism" (ibid.). The final domain of Conscientiousness is concerned with "the individual's degree of organization, persistence, and motivation in goal-directed behavior" (ibid.). An extensive description of these domains and corresponding facets is provided in Costa and McCrae (1985, 1992).

Summary and Hypotheses

Following the recognition of psychotherapy as a value-laden enterprise, several decades of research has sought to delineate the role of values within individual psychotherapy. The quest for specific values meaningfully related to the psychotherapeutic process has been both promising and contradictory, with some recognition that methodological design may contribute to the discrepancies. The concept of
value convergence, the "increasing similarity of patients' values with therapists' values during therapy" (Kelly, 1990, p. 171), has been proposed to describe the change in values reported by many psychotherapy participants. Value convergence, however, remains an elusive concept, with a lack of clarity concerning the conditions under which value convergence may occur.

It has been suggested that the construct of value convergence may itself be an epiphenomenon, a by-product of unstated meta-theoretical assumptions which have influenced lines of research inquiry. Although many patients do report a change in their personal values during the course of individual psychotherapy, there is no convincing evidence, at least from the perspective of participating patients, that one's values are being realigned in accordance with the values of one's respective therapist.

There is clearly a need to investigate more fully the mechanism(s) or process(es) underlying such value change, including the patient's understanding of the value change process, apart from a methodology which presupposes that patient values "become like" therapist values. There is good reason to suspect that personality factors may contribute to both value preference and one's stylistic approach to endorsing values in nonpatient adolescents and adults. It is therefore possible that personality factors may also influence the process of value change experienced by many
psychotherapy participants. In other words, personality factors (perhaps along with other subject variables) may predict the nature and extent of value change experienced by psychotherapy participants.

Research on patient value change has by and large been restricted to individual outpatient psychotherapy. Patient value change through other therapeutic interventions or modalities is largely a matter of conjecture. There have been a few studies addressing change in "therapeutic values" associated with participating in inpatient milieu therapy, but the available information on this topic is sparse and its applicability to general life values is unknown.

If change were discovered in the personal values of psychiatric inpatients during the course of comprehensive treatment\(^5\), it would be more difficult to explain such value change as the product of "shaping" by an individual psychotherapist. It would be likely that there were some criterion other than the values of a single identified psychotherapist toward which a given patient's values were shifting.

This study was proposed as a means of addressing some of the aforementioned issues. Namely, to consider the role of the patient, with respect to both personality factors and subjective perceptions, in fashioning his or her experience

\(^5\)Comprehensive treatment involving several practitioners offering diverse therapeutic interventions, as well as milieu interaction.
of value change. Through 1) exploring value change open-endedly in an inpatient setting with multiple therapeutic influences (rather than expecting convergence with a single targeted therapist), 2) discovering variability in the nature of value change on the basis of select personality factors, 3) demonstrating a relationship between value change and improvement, and 4) providing evidence that the patient idiographically construes his or her treatment situation with respect to potential value influences, the groundwork may be laid for a greater appreciation of the patient’s contributions to the value change process. The following hypotheses concern the relationships between personality factors, patient value change, patient perceptions, and clinical outcome in an inpatient psychiatric setting.

**Personality Factors and Value Change.** Several dimensions of the five-factor personality model may relate to a patient’s experience of value change. The personality dimension of Openness to Experience, for example, yields information about an individual’s "proactive seeking and appreciation of experience for its own sake," as well as "toleration for and exploration of the unfamiliar" (Costa & McCrae, 1985, p. 2). One facet of Openness to Experience, moreover, has been identified as a "readiness to reexamine social, political, and religious values" (Costa & McCrae, 1985, p. 12). Individuals relatively high on Openness to Experience may therefore be inclined to re-organize their
values during the intensive experience of inpatient psychiatric treatment.

The extent to which an individual immerses him or herself in ward activities may also bear directly on value change. The personality dimension of Extraversion provides information about the "quantity and intensity of interpersonal interaction; activity level; [and] need for stimulation" (Costa & McCrae, 1985, p. 2). Individuals relatively high on Extraversion may therefore be prone to 1) engage in value-laden activities and 2) "grapple" with value issues they may encounter, thereby increasing the likelihood of value change.

The personality factor of Agreeableness also describes a dimension of interpersonal behavior. Individuals high on this factor might be described as altruistic, cooperative, willing to lend a hand, and trusting of others, while low scorers may be seen as competitive and skeptical. It is predicted that these qualities will also influence the process of value change, with low scorers demonstrating some resistance to changing their values.

Hypothesis #1: The amount of Terminal and Instrumental value change reported by study participants can be significantly predicted on the basis of one's standing on the personality dimensions of Openness to Experience, Extraversion, and Agreeableness.
1a. Openness to Experience will be positively correlated with value change.

1b. Extraversion will be positively correlated with value change.

1c. Agreeableness will be positively correlated with value change.

Value Change and Outcome. Some have suggested that psychopathology or psychological distress might be conceptualized as an inadequate or unstable value system (e.g., Dolev, 1976; Gelfman, 1971; Gralnick, 1985; Leitner, 1981; Mickleburgh, 1992; Morris, Eiduson, & O’Donovan, 1960; Purzner, 1988; Rogers, 1964; Rokeach & Regan, 1980; Schwehn & Schau, 1990; Tucker, 1976). Following this line of reasoning, the value system espoused by an individual during a sustained period of pronounced psychological distress should differ qualitatively from that individual’s value system in times of relatively less subjective distress. The value re-organization often reported by patients may therefore reflect a bolstering of psychological defenses or a shift in available coping strategies between the onset and termination of treatment (assuming that a new prioritization of values acquired by the patient is more adaptive than the value priorities held at the onset of treatment). If this is the case, a positive correlation would be expected between the process of value change and clinical improvement for
those patients who initially present with pronounced psychological distress and report less distress upon retest.

**Hypothesis #2:** Improvement, as measured by the BSI, will be positively and significantly correlated with the amount of Terminal and Instrumental value change reported by participants.

Additionally, given the affective component of values discussed by many theoreticians, the establishment of a new value priority in place of an inadequate or unstable value system would likely prove emotionally rewarding or satisfying. However, there exists the possibility that some individuals may re-organize their values in a manner that is not related to increased adjustment, in which case value change may not be experienced as favorable.

The BSI as an outcome measure will yield information about change in psychiatric symptomatology. A different form of outcome information can be gained through having participants indicate their satisfaction with their value priorities. Satisfaction ratings should presumably vary based on how well one's system of values is conducive to meeting one's psychological needs. This will allow for an indirect assessment of the adaptivity of observed value change. Favorable satisfaction ratings would not be expected if value change were random and/or unrelated to increased adjustment. As such, a positive correlation between value change and value satisfaction will suggest that patients
overall are re-organizing their values in a relatively more adaptive fashion. **Hypothesis #3: A significant positive correlation will be observed between Terminal and Instrumental value change and patient satisfaction ratings of their value system.**

Finally, there will be an opportunity for participants to convey their subjective understanding of the value change process. This information will be assessed in a qualitative and exploratory manner.
CHAPTER III
METHOD

Subjects

A total of 56 participants were secured from two independent settings. Site I was the inpatient psychiatric service of a large Southern university hospital complex. Site II was the psychiatric service of a large public hospital in a city geographically some 25 miles from the location of Site I. Both services provide relatively short-term inpatient psychiatric care.

All new admissions to either site were screened on the basis of chart review and/or brief clinical interview for possible study participation. Eligibility was determined on the basis of the following three inclusion/exclusion criteria:

1. Inclusion--the patient demonstrated no evidence of acute psychosis and/or hypermania which might reasonably be expected to compromise the validity of their questionnaires.

2. Inclusion--the patient demonstrated the ability to complete the required tasks with respect to intellectual capacity and/or reading level.
3. Exclusion--study participation might exacerbate a patient who was considered upon admission to be at risk for combative behavior.

A total of 69 patients meeting all 3 criteria were admitted to Site I during a four month period. Of these 69 patients, 22 were discharged prior to a requisite five day minimum hospitalization, leaving a potential subject base of 47. All but 8 agreed to participate, and 3 patients failed to complete the retest, leaving a final $n$ of 36 completed cases from Site I.

A total of 43 patients meeting these same criteria were admitted to Site II during a three month period. The resulting potential subject base consisted of 25 patients whose length of stay was five or more days. Of these 25 patients, 1 declined to participate, and 4 failed to complete the retest, leaving a final $n$ of 20 completed cases from Site II.

Demographic information is conveyed in Table 1. The overall sample was almost equally divided with respect to gender (52% female, 48% male). The average age of participants was approximately 35 years. The majority of participants were single (46%), while 18% were married, 18% separated, 14% divorced, and 4% widowed. Racial background was predominantly Caucasian (50%), followed by African-American (39%), Other (5%), Hispanic (4%), and Asian (2%).
Table 1. Demographic Characteristics by Treatment Facility.

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<th>DEMOGRAPHIC VARIABLE</th>
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<td>M=34.91 (SD=9.68)</td>
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A high school education was completed on average, and 68% of participants were unemployed, 27% were employed, and 5% were students. Participants were predominantly Protestant (66%), followed by a religious preference of none (21%), and other (13%).

The primary DSM-IV diagnosis given to most participants was some variant of a Major Depressive Disorder (48%), followed by Bipolar Disorder (18%), Depression Not Otherwise Specified (13%), Schizoaffective Disorder (9%), Adjustment Disorder (7%), and other (5%). The majority of participants (89%) were treated with psychotropic medication. There is no theoretical basis, however, for suspecting that pharmacological intervention, in and of itself, would directly influence the process of value change.

Psychiatric Unit Characteristics

The psychiatric service of Site I is divided into five units with unique specializations, and pre-screening efforts are made to match new admissions to the unit which will best address their needs. All 36 participants from Site I were treated on one of two units, unit A targeting patients with affective disorders (n=23), or unit B focusing on psychiatric patients with a concomitant medical condition (n=13). Unit B patients were considered for study participation if they primarily received treatment for an affective disorder, having been assigned to unit B because of medical issues
(e.g., renal care following a drug overdose; Bipolar Disorder with Diabetes Mellitus).

Treatment at Site I was provided by a multidisciplinary staff. Patients had the opportunity to interact with psychiatrists, clinical psychologists, clinical social workers, pharmacologists, pastoral counselors, psychiatry residents, psychology interns, psychiatric nurses, occupational and activity therapists, medical students, pharmacology students, and additional students from several of these or other disciplines. Milieu interaction was also significant. As such, it is likely that a broad range of personal values were represented on the ward, as well as multiple therapeutic experiences which might serve to influence the personal values of a patient.

Site II is a 22-bed facility encompassing a broad spectrum of psychiatric disorders. The ward is divided into two sub-units, Progressive and Acute, with psychotic or lower functioning patients accommodated on the Acute wing. The majority of structured programming involves appropriate patients from both sub-units, yet patients typically remain in their respective locales during unstructured time. All participants from Site II received treatment on the Progressive sub-unit.  

6On occasion, a given participant was admitted to the Acute wing, most likely due to space constraints, but transfer took place as soon as possible. This is noted given the qualitatively different milieus characterizing either wing.
In addition to a substantial psychiatric nursing staff, patients were treated by a clinical psychologist offering group therapy, and master's level social workers offering individual sessions. Patients were also interviewed by an attending psychiatrist every day. Along with occupational and recreational therapy, a variety of psychoeducational groups were offered daily. Like Site I, a broad range of ward activities and personal values were likely represented on the unit.

Measures

NEO-FFI. The NEO-FFI is an abbreviated version of the NEO Personality Inventory (NEO-PI) and NEO Personality Inventory-Revised (NEO-PI-R) by Costa and McCrae (1985, 1992). These instruments are self-administered questionnaires that yield information about an individual's relative standing on five personality domains that correspond to the five-factor personality model. Information is also provided about the specific traits or facets that comprise each domain (except in the case of the NEO-FFI). Since most of the available information relevant to the NEO-FFI concerns the NEO-PI and NEO-PI-R, the development and psychometric properties of these parent instruments were reviewed.

The NEO-PI-R consists of 240 items presented in a likert-type format with five response alternatives ranging from Strongly Disagree to Strongly Agree, resulting in item scores of zero to four. Items are evenly distributed between
positive and negative wordings so as to help control for acquiescence and nay-saying. A sixth grade reading level is required to complete this instrument. The 240 items independently load onto 30 facets, with six facets comprising a given domain. Facet scores are then totaled for the respective domain scores of Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness. T-score conversions are easily computed with the aid of a profile sheet, and normative information is provided for several well-described samples. Both a self-report and an observer rating format of the NEO-PI-R currently exist.

The authors used a combination of rational and empirical procedures for scale development. Rather than seeking to construct a new system of personality description, they reviewed existing personality assessment literature so as to measure "all major aspects of individual differences to yield a truly multipurpose personality inventory" (Costa & McCrae, 1992, p. 39). Initial items were written to reflect a particular factor, and then statistical analyses determined which items best represented each factor. The authors noted that there is strong (but not absolute) agreement throughout the scientific community as to the legitimacy of the five-factor model.

The majority of the development and validity research of the original NEO-PI was conducted on two longitudinal samples, the first of which consisted of over 2,000 primarily
Caucasian men volunteering to participate in the "Veterans Administration's Normative Aging Study in Boston" (Costa & McCrae, 1985, p. 27), while the second sample was comprised of roughly 400 male and 300 female participants in the "Augmented Baltimore Longitudinal Study of Aging" (ibid.). Internal consistency correlations ranged from .60 to .86 for the 18 individual facets comprising the N, E, and O domains. However, the alpha correlations for the overall N, E, and O domains were expectedly higher with a range of .85 to .93. Test-retest reliability following a six month interval ranged from .66 to .92 for the individual facets, and .86 to .91 for the three domains. Unfortunately, reliability information was limited for the Agreeableness and Conscientiousness domains of the original NEO-PI. However, the internal consistency of these domains was estimated to be .56 and .84, respectively.

Subsequent research has led to the development of the revised NEO-PI. An additional sample of 1,800 individuals, including many younger and non-white respondents, led to the delineation of the previously unidentified facets comprising the Agreeableness and Conscientiousness domains. Other diverse samples have also been used in reliability and validity studies, and some original items have been adjusted to improve the psychometric properties of the instrument. Correlations between the original and updated versions range from .93 to .95.
The authors now report internal consistencies of .56 to .81 obtained with the NEO-PI-R self-report facets (including the Agreeableness and Conscientiousness facets). These levels are quite acceptable given that each facet is comprised of only eight items. The alpha correlations for the five domains range from .86 to .92. Similar results have been obtained with a variety of clinical and non-clinical samples. By comparing NEO-PI-R results in a sample of 208 college students who completed an abbreviated form of this measure three months earlier, retest coefficients for Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness were determined to be .79, .79, .80, .75, and .83, respectively. Impressive stability coefficients for Neuroticism, Extraversion, and Openness (.68 to .83) were obtained in a six-year longitudinal study. Similar coefficients (.63 and .79) were found in brief measures of the Agreeableness and Conscientiousness domains after three years.

In terms of validity, the domain scores have been factor analyzed and found to correspond highly with the factorial structure of the original model, an indication that the NEO-PI-R is a good representation of the five-factor model. The authors reported that such factorial validity has been upheld across gender, race, and age groups. The authors also reported evidence of convergent and discriminant validity with the Eysenck Personality Inventory, Guilford-Zimmerman
Temperament Survey, Meyers-Briggs Type Indicator continuous scales, and Revised California Personality Inventory, among other measures. Consensual validation has also been demonstrated by the strong correspondence between self-ratings and observer ratings of the same subject. The construct validity and predictive power of this instrument has been repeatedly demonstrated in the areas of "vocational interests, health and illness behavior, psychological well-being, and characteristic coping styles" (Costa & McCrae, 1992, p. 39). Overall, validity information is quite robust, and a more detailed description is provided in the test manual (Costa & McCrae, 1992).

The abbreviated version of the NEO-PI-R, known as the NEO-FFI, was developed by combining the 12 items from the NEO-PI with the highest loadings on each of the five factors. A few item adjustments were then made to further balance the instrument. The resulting 60 item inventory yields information about the respondent's standing on each of the five personality dimensions. Information about facet scores is not provided.

The psychometric properties of the NEO-FFI are acceptable, albeit somewhat lower than those of the NEO-PI-R (Costa & McCrae, 1992). Internal consistency using coefficient alpha ranges from .68 for Agreeableness to .86 for Neuroticism. The correlations between the NEO-FFI domain scores (N, E, O, A, and C) and the corresponding NEO-PI-R
domain scores are .92, .90, .91, .77, and .87, respectively. Similar correlations were obtained between the NEO-FFI domain scores and the validimax factors of the original five-factor model.

The major advantages of the abbreviated version are obviously speed and convenience, important considerations in the assessment of psychiatric inpatients. Costa and McCrae (1992) noted, however, that some measurement precision is forfeited with the NEO-FFI. When discussing convergent validity, for example, the authors suggested that the NEO-FFI is able to account for approximately 85% of the convergent criteria variance compared to factor scores.

In an exploratory study regarding the role of personality factors in patient value change, it would appear that the NEO-FFI provides an acceptable measure of the five-factor model of personality functioning. The relative ease and speed of administration (the 60 item NEO-FFI usually requires 10 to 15 minutes to complete) allows for considerably less demand placed on inpatient psychiatric participants compared to the full 240 item NEO-PI-R version. As such, the NEO-FFI was included in the present study as a comprehensive measure of adult personality factors.

The Rokeach Value Survey (RVS). Rokeach (1973) acknowledged five assumptions which influenced his thinking about the construct of values:
(1) the total number of values that a person possesses is relatively small; (2) all men everywhere possess the same values to different degrees; (3) values are organized into value systems; (4) the antecedents of human values can be traced to culture, society and its institutions, and personality; (5) the consequences of human values will be manifested in virtually all phenomena that social scientists might consider worth investigating and understanding. (p. 3)

The RVS yields information on the relative standing of 18 Terminal or end-state values, such as "A Comfortable Life" and "True Friendship," and 18 Instrumental or means to ends values, such as "Logical" and "Polite." Terminal values have been further distinguished by Rokeach as reflecting Personal goals (e.g., "Family Security") versus Social goals (e.g., "A World At Peace"), while Instrumental values are also divided into values reflecting Competency (e.g., "Independent") or Morality (e.g., "Forgiving"). The two independent sets of 18 Terminal and 18 Instrumental values are presented along with a brief qualifying definition of the value. Respondents are instructed to "rank each value in its order of importance to you." Most people complete the RVS in 10 to 20 minutes.

It may seem that some of the RVS values are fairly abstract and require some conceptual sophistication. Some respondents may indeed choose to complete the RVS in such a manner. Rokeach (1973) noted, however, that the task is
fairly projective in nature. That is, respondents are free to idiographically construe a given value however they like. The same "projective" process can then be brought to bear on the ranking task when the individual completes the RVS at some later point. Quite simply, the task is in the eye of the beholder. Nevertheless, it is worth noting that the RVS has been used successfully with a sample of seventh grade students (Rokeach, 1973).

The qualitative development of the RVS drew upon numerous sources. Following a literature review, a process of self reflection, a polling of 30 psychology graduate students, and interviews with 100 adults, Rokeach narrowed and refined a much larger pool down to 18 Terminal values deemed to be sufficiently thorough, yet manageable for purposes of rank ordering. The 18 Instrumental values, in contrast, were derived from 555 personality-trait words already compiled in the literature, and similarly narrowed and refined to a core of 18.

Although Rokeach acknowledged that the RVS was developed intuitively, the psychometric properties of the instrument have been well-researched. Test-retest reliabilities of the 18 individual Terminal values range from .51 to .88 in periods of up to seven weeks. Test-retest reliabilities of the 18 Instrumental values range from .45 to .70 in the same time frame. Rho reliability (median test-retest reliability of the entire rank-order) after at least 21 days is .74 for
Terminal values and .65 for Instrumental values in a sample of Americans, with similar rho reliabilities (.74 and .70, respectively) obtained with a sample of South Australian college students retested after a five week interval. Impressive rho reliability has been found for both Terminal (.69) and Instrumental (.61) values in intervals of 14 to 16 months (Rokeach & Regan, 1980). These rho coefficients were based on RVS Form E, in which the respondent simply pencils in his or her numerical ranking. Slightly higher coefficients were obtained with Form D whereby respondents realign the values by peeling and re-affixing individual labels printed with each value and a brief definition.

Validity information on the RVS is quite abundant. In short, the RVS has been successfully used to identify values which distinguish various "political, religious, economic, generational, and cultural groups and that relate to a range of social attitudes" (Braithwaite & Law, 1985, p. 250). In his review of value measures used specifically in psychotherapy research, Kelly (1990) acknowledged the RVS as the most widely accepted, versatile, comprehensive, and psychometrically sound operationalization of values available. It has been effectively used to measure values and value change in psychiatric outpatients (Arizmendi et al., 1985; Beutler et al., 1983; Kelly & Strupp, 1992; Martini, 1978; Schwehn & Schau, 1990), psychiatric inpatients (Elzinga, 1980/1981; Jansen, 1973; Khan & Cross, 1983;

The RVS does have some limitations (Miethe, 1985). An ordinal level of measurement is obtained by virtue of the rank-ordering procedure. The use of most parametric statistical tests would therefore be questionable. Also, the saliency or "intensity" of a particular value cannot be determined, only the relative standing of values within the entire set. The RVS, moreover, is an ipsative measure, which indicates that scores are not completely independent. The position of the last value to be ranked, for example, is determined by the placement of other values.

Rokeach (1973) has indicated that the violation of the independence assumption is relatively small (average intercorrelation being -.06), and it may therefore be acceptable to treat each value as a separate variable, a strategy which would broaden the potential uses of the RVS. Others challenge this conclusion, suggesting that the low intercorrelations are an artifact of ipsative measurement (Braithwaite & Law, 1985).

Rokeach (1973, 1985) and others (Kelly, 1990; Miethe, 1985) have provided a strong basis for favoring the RVS in spite of these shortcomings. At the level of construct validity, Rokeach maintains that in actuality the individual's experience of values in one of relative priorities, "...because [value] decisions in everyday life
are inherently and phenomenologically ipsative decisions" (Rokeach, 1985, p. 162). That is, the rank-ordering procedure of the RVS is theoretically isomorphic to the psychological process of value endorsement (Thompson, Levitov, & Miederhoff, 1982). The sensitivity afforded the researcher to detect such distinctions with the RVS, according to Rokeach (1985), would be lost given a level of measurement targeting the absolute magnitude of independent values.

Miethe (1985) has provided empirical evidence suggesting that the rank-ordering procedure of the RVS is psychometrically superior to a rating procedure and two psychophysical scaling techniques (magnitude estimation and handgrip scaling). The rank-ordering procedure yielded more favorable test-retest reliability, discriminatory power, and convergent validity (i.e., rank-ordering had the highest average intercorrelation with the other techniques) compared to the alternate procedures. Rank-ordering was as good as the rating procedure and better than psychophysical techniques in terms of predictive validity. Miethe concluded that the increased error variance associated with techniques other than rank-ordering may nullify the benefits gained through interval measurement.

There is ample evidence that the RVS is sensitive to the change in values reported by many psychotherapy participants (Kelly, 1990). Given the primacy of the RVS in studies of
value change in psychotherapy, the use of this instrument in the present context will allow for the most direct comparison to existing research. As such, Form G of the RVS was used as a measure of value change (Rokeach, 1988).

**Brief Symptom Inventory (BSI).** The Brief Symptom Inventory (Derogatis, 1992) is a standardized instrument in which respondents are asked to indicate on a five point Likert-type scale the extent to which they have been distressed in the past seven days by 53 psychiatric symptoms. Scores range from "not at all" (0) to "extremely" (4). This instrument is an abbreviated version of the more widely known SCL-90-R (Derogatis & Melisaratos, 1983). Most people complete the BSI in approximately 8 to 10 minutes. A sixth grade reading level is required. The BSI has been effectively used as an outcome measure for a variety of populations including psychiatric inpatients (Piersma, Reaume, & Boes, 1994). Normative information for psychiatric inpatients is available.

The BSI is comprised of nine dimensions representing particular symptom clusters including Somatization (SOM), Obsessive-Compulsive (O-C), Interpersonal Sensitivity (I-S), Depression (DEP), Anxiety (ANX), Hostility (HOS), Phobic Anxiety (PHOB), Paranoid Ideation (PAR), and Psychoticism (PSY). There are also three global indices yielding information about the amount, depth, and intensity of symptomatology.
Derogatis and Melisaratos (1983) reported that internal consistency using Cronbach's coefficient alpha for the nine dimensions ranges from .71 to .85, and test-retest reliability ranges from .68 to .91. The correlations between the BSI and corresponding SCL-90-R symptom dimensions ranged from .92 to .98 in a sample of 565 outpatients (Derogatis, 1992).

Boulet and Boss (1991) investigated the reliability and validity of the BSI using a sample of 350 consecutive male forensic outpatients and 151 consecutive male forensic inpatients (N=501) primarily diagnosed with a paraphilic disorder. Boulet and Boss obtained slightly higher Cronbach's coefficient alpha correlations than the test authors, with a range of .75 to .89. An assessment of convergent and discriminant validity was also completed on the basis of 338 valid MMPI profiles obtained with the same sample. There was some evidence of convergent validity, with several of the nine BSI symptom dimensions yielding expected correlations in the moderate range with MMPI scales (e.g., .53 between SOM & MMPI scale 1; .50 between DEP & scale 2; .51 between PAR & scale 6; .54 between O-C & scale 7; and .51 between PSY & scale 8). However, there was poor evidence of discriminant validity, with most BSI dimensions correlating with multiple MMPI indices (e.g., .49 between SOM & both scales 6 and 7). This difficulty with discriminant validity may be partly due to the criterion measure employed, given
that MMPI scales may not measure distinct constructs of psychopathology. Boulet and Boss, however, also found that few BSI items correlated most notably and appreciably with their target dimension, a finding which indicates that BSI dimensional comparisons may be of limited use. A principal component analysis of the scales, however, yielded one component accounting for 71% of the variance.

A more recent factor analytic study based on 217 psychiatric inpatients further indicated that the BSI adequately measures a "unidimensional construct of general psychological distress" (Piersma, Boes, & Reaume, 1994, p. 338). The authors found that one principal factor accounted for a range of 59% to 79% of the variance in adults at hospital admission and adolescents at hospital discharge, respectively. As such, the Global Severity Index (GSI), which indicates the average score, or degree of distress, across all 53 items was used as an indication of clinical change.

**Value Influence Scale.** The Value Influence Scale (VIS), developed for the present study, is designed to measure the extent to which a patient identifies a particular ward experience as important to his or her treatment. The VIS also measures the patient’s satisfaction with his/her value system. Respondent’s are instructed to rate six select ward experiences, presented in random order, in terms of "How important to your treatment was [a given ward activity]." A
five point likert-type scale ranging from "Not at All" to "Extremely" yields item scores of 0 to 4. An additional item with a similar rating scale is included to measure the respondent's level of satisfaction regarding his or her system of values. Finally, respondents are given the opportunity to provide qualitative information regarding the process of value change.

The six ward experiences included in the VIS were rationally derived, and judged, on the basis of the author's ward involvement, to frequently serve as key therapeutic experiences. An item targeting the patient's introspection or self-reflection as a vehicle for value change was purposefully omitted since such an item might be confounded with locus of control. The resulting six items all reflect "external" activities in which a patient may participate.

The rationale for including the VIS was to investigate whether patients vary in their attribution of importance toward several ward experiences which might conceivable influence their values. Admittedly, this procedure suffers from an extraspective bias. By providing the patient with a list of experiences from which to discriminate, the opportunity is forfeited for the patient to spontaneously generate information about their experience of value change, nor does it capture the manner in which patients may idiographically construe each experience. There would be no indication that any of the targeted ward experiences on the
VIS, regardless of importance rating, were actually an influential contributor to patient value change\(^7\). If, however, patients vary in ascribing importance toward various ward experiences, and such importance ratings correlate with value change, then such a finding would further call into question the standard practice of many investigators who select the self-reported values of an individual therapist as the sole criterion toward which patient values are believed to shift. There would be further support for the notion that the patient's subjective perceptions and experiences may be an important facet of the value change process. The VIS is included in Appendix A.

**Procedure**

All incoming patients were screened on the basis of chart review and/or brief clinical interview for possible study participation. Those individuals meeting inclusion/exclusion criteria were asked to participate on a volunteer basis. After the patient signed a consent form indicating that one understands both the policy of confidentiality and the right to discontinue involvement without penalty, the NEO-FFI, RVS, and BSI (along with a

\(^7\)Empirical justification would depend on measuring the relative degree of pre- versus post-treatment value similarity between patient self-reported values and multiple criteria. Such criteria would ideally be generated by the patient as well as the investigator, and include the patient's perceptions as well as independent indication of a given criterion, if applicable (i.e., "independent," as in therapist ratings of self).
single "value satisfaction" item from the VIS) were administered in random order to each participant. Completed questionnaires were secured from all participants within 36 hours of hospital admission. Participants whose length of hospital stay was equal to or greater than five days were re-administered the latter two instruments along with the VIS prior to either discharge or two weeks post-admission, whichever was earlier.

The five day minimum hospitalization requirement was not entirely arbitrary. There is ample evidence suggesting that personal values can change in a relatively brief period of time. Previous research, for example, required a minimum of three outpatient sessions in studies of value convergence (Arizmendi et al., 1985; Beutler et al., 1983), and multiple days of inpatient treatment are presumably more intensive. Significant and enduring value change (up to 21 months), along with expected cognitive and behavioral sequelae, has also been reported by Rokeach (1980) after a single session focusing on value clarification. Similarly, Elzinga (1980/1981) found that psychiatric inpatients reported a change in value priority as measured by the RVS after a single intervention of value education. Moreover, Almond et al. (1968, 1969a, 1969b) noted that the majority of change in "therapeutic values" amongst psychiatric inpatients occurred during the first week of hospitalization. In light of these findings, it was reasoned that five days of intensive
inpatient treatment would allow for a meaningful assessment of value change.
CHAPTER IV
RESULTS

Variable Definition

Important methodological and interpretive issues are raised by the definition and measurement of both "value change" and "improvement." It is therefore necessary to clarify the operationalization of these two variables prior to reviewing the results.

Value change, in the present context, refers to systematic variation over time in the relative importance of one’s personal values. A broad-based measure of change targeting one’s overall value system(s) was preferred given that this was an initial study investigating the relationship between personality factors and value change.

The Spearman correlation coefficient, similar to the Pearson correlation coefficient, yields a measure of linear association between two sets of rank-ordered data. Since the RVS provides information about two independent rank-ordered value systems, Terminal and Instrumental, a Spearman correlation was computed between initial and final rankings for each respective value system. As such, two separate Spearman correlations are available for all participants, each measuring the respective variation over time in either
Terminal or Instrumental value systems. The lower the coefficient, the greater the change in values.

Improvement, in the context of the present study, was defined as a reduction in the quantity and/or intensity of self-reported psychiatric symptomatology. The Global Severity Index of the Brief Symptom Inventory, which provides an overall indication of distress associated with various psychiatric symptoms, was used to compare initial and final levels of symptomatology for each participant.

Improvement, however, is partially influenced by the amount of symptom reduction possible. Individuals who initially reported relatively pronounced symptomatology, for example, had more opportunity to demonstrate change on the Brief Symptom Inventory than comparably less distressed individuals. Following the precedent of other value researchers (e.g., Arizmendi et al., 1985; Beutler et al., 1983), a percent improvement score was computed for each participant based on the amount of change possible in order to correct for this discrepancy. The formula for this improvement score was the raw score difference between initial and final Global Severity Index scores divided by the initial Global Severity Index score.

Preliminary Analyses

A series of preliminary analyses were conducted prior to testing the main hypotheses. These analyses addressed 1) the merging of data obtained from two independent settings, 2)
unique factors associated with participant loss, 3) the occurrence of significant value change, and 4) the influence of subject variables on the value change process.

Inter-Site Comparisons. Since the overall sample was comprised of participants from two independent settings, it was important to explore the possibility of there being significant differences between these two groups with respect to the relevant variables. Significant differences might necessitate a corrective procedure so that data could be combined from both settings.

Table 2 provides the means and standard deviations broken down by site for the non-categorical variables involved in this study. Independent groups t-tests revealed that the participants from each setting differed significantly on four out of 26 investigated variables. These four differences had to do with the number of various ward activities in which patients participated. This finding was not surprising given the differences in base rates between the two sites. Site I, for example, offered group therapy twice per week, whereas Site II offered group therapy five times per week. Most importantly, there were no significant differences between sites on any of the main dependent variables or primary predictor variables.
Table 2. Means and Standard Deviations of Dependent and Predictor Variables by Treatment Facility.

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</tr>
<tr>
<td>Terminal Value Change**</td>
<td>.6150</td>
<td>.2263</td>
<td>.5787</td>
</tr>
<tr>
<td>Instrumental Value Change**</td>
<td>.4958</td>
<td>.2750</td>
<td>.3815</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>67.58</td>
<td>8.55</td>
<td>66.90</td>
</tr>
<tr>
<td>Extraversion</td>
<td>39.83</td>
<td>11.56</td>
<td>45.25</td>
</tr>
<tr>
<td>Openness</td>
<td>46.97</td>
<td>10.48</td>
<td>47.85</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>37.83</td>
<td>9.73</td>
<td>40.80</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>37.61</td>
<td>9.80</td>
<td>43.40</td>
</tr>
<tr>
<td>Initial GSI Symptom Level</td>
<td>61.69</td>
<td>7.76</td>
<td>59.20</td>
</tr>
<tr>
<td>Final GSI Symptom Level</td>
<td>54.42</td>
<td>9.02</td>
<td>51.40</td>
</tr>
<tr>
<td>Initial Value System Satisfaction</td>
<td>4.08</td>
<td>2.21</td>
<td>4.35</td>
</tr>
<tr>
<td>Final Value System Satisfaction</td>
<td>5.46</td>
<td>1.86</td>
<td>5.33</td>
</tr>
<tr>
<td>Individual Sessions/Interviews</td>
<td>4.86a</td>
<td>2.66</td>
<td>1.45a</td>
</tr>
<tr>
<td>Group Therapy Sessions</td>
<td>0.44a</td>
<td>0.69</td>
<td>3.85a</td>
</tr>
<tr>
<td>Activity Therapy Sessions</td>
<td>1.03a</td>
<td>1.38</td>
<td>4.90a</td>
</tr>
<tr>
<td>Sessions/Interviews with Attending Psychiatrist</td>
<td>3.97a</td>
<td>2.02</td>
<td>6.45a</td>
</tr>
</tbody>
</table>

Note. Means denoted with the subscript (a) are significantly different between sites at p < .05 as determined by the independent groups t-test.
* Valid (n) unless otherwise indicated in variable cell.
** Denotes primary dependent variable.
Table 2 Continued. Means and Standard Deviations of Dependent and Predictor Variables by Treatment Facility.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Site 1 (n = 36)</th>
<th>Site II (n = 20)</th>
<th>Combined (N = 56)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Importance Rating: Individual Sessions</td>
<td>2.93 (n=28)</td>
<td>2.85 (n=13)</td>
<td>2.90 (n=41)</td>
</tr>
<tr>
<td>Importance Rating: Group Therapy</td>
<td>2.07 (n=14)</td>
<td>2.75 (n=20)</td>
<td>2.47 (n=34)</td>
</tr>
<tr>
<td>Importance Rating: Nurse Interaction</td>
<td>2.92 (n=22)</td>
<td>3.05 (n=19)</td>
<td>2.96 (n=41)</td>
</tr>
<tr>
<td>Importance Rating: Patient Interaction</td>
<td>2.47 (n=19)</td>
<td>2.70 (n=19)</td>
<td>2.55 (n=22)</td>
</tr>
<tr>
<td>Importance Rating: Activity Therapy</td>
<td>2.36 (n=20)</td>
<td>2.95 (n=19)</td>
<td>2.63 (n=34)</td>
</tr>
<tr>
<td>Importance Rating: Sessions with Attending Psychiatrist</td>
<td>2.53 (n=20)</td>
<td>2.70 (n=19)</td>
<td>2.59 (n=34)</td>
</tr>
<tr>
<td>Age</td>
<td>34.06 (n=36)</td>
<td>36.45 (n=19)</td>
<td>34.91 (n=41)</td>
</tr>
<tr>
<td>Education</td>
<td>11.94 (n=19)</td>
<td>12.26 (n=19)</td>
<td>12.05 (n=55)</td>
</tr>
<tr>
<td>Length of Hospitalization (# of Days)</td>
<td>8.08 (n=19)</td>
<td>7.10 (n=19)</td>
<td>7.73 (n=55)</td>
</tr>
<tr>
<td># of Previous Hospitalizations</td>
<td>1.97 (n=19)</td>
<td>3.58 (n=19)</td>
<td>2.53 (n=55)</td>
</tr>
</tbody>
</table>

Note. Means denoted with the subscript (a) are significantly different between sites at \( p < .05 \) as determined by the independent groups t-test.

* Valid (n) unless otherwise indicated in variable cell.

** Denotes primary dependent variable.
Further analysis indicated that, when examined separately for each setting, only one of the four non-categorical variables which differed between sites (i.e., number of individual, group, activity, or attending psychiatrist sessions) was significantly correlated with any of the three primary dependent variables (i.e., Terminal value change, Instrumental value change, and symptomatic improvement). Since only one out of 24 investigated relationships were significant (which is less than would be expected by chance alone), it seemed unlikely that the site differences in these four variables would systematically affect testing of the main hypotheses. Accordingly, it seemed reasonable to use the overall combined sample for subsequent analyses.

Attrition Comparisons. Personality factors and initial level of symptomatology were compared between the final sample and those participants lost through attrition. Any differences between those who completed the retest and those who did not might reveal unique characteristics of the final sample, which must then be taken into consideration when interpreting the results. A total of 38 participants began the study but did not complete the retest. All but seven of these participants were discharged prior to the requisite five day hospital stay. The remaining seven participants stayed five or more days, but 4 were discharged abruptly, 1 left against medical advice, and 2 declined the
questionnaires at retest. Independent groups \( t \)-tests between those who completed the retest and those who did not indicated no significant differences between groups on all five personality factors as well as initial level of symptomatology. There were also no significant differences on all available non-categorical demographic variables.

**Demonstrated Value Change.** Since each hypothesis is contingent on the occurrence of systematic value change, it is important to consider the magnitude of value change observed in this sample. Rokeach (1973) reported median test-retest reliabilities for a sample of non-patient Americans as .74 for Terminal values and .65 for Instrumental values after at least 21 days\(^8\). Although this non-patient data may not be an appropriate referent for psychiatric inpatients, it is nevertheless worth noting that the median test-retest reliabilities in this sample were .61 for Terminal values and .47 for Instrumental values after an average of approximately eight days.

In addition, a paired-samples \( t \)-test was used to compare differences between Terminal and Instrumental value change within the sample. In this manner, it was found that participants evidenced significantly more Instrumental versus Terminal value change, \( t(55) = -3.70, \ p < .001 \).

\(^8\)The index of value change used in the present study is essentially this measure of test-retest reliability.
Analysis of Subject Variables. One of the theoretical assumptions underlying this study is that the patient brings certain characteristics to the treatment situation that are more or less conducive to value change. These characteristics may be collectively termed "subject variables."

There is some precedent in the existing literature to suggest that particular subject variables may be implicated in the value change process. Some have suggested, for example, that value change may be influenced by religious or spiritual factors (Kelly & Strupp, 1992; Martinez, 1991). Subject variables such as achievement orientation and cultural background have also been related to value preference (Brown, 1975; Mahoney, 1977). In light of these earlier findings, the relationship between select subject variables and the three primary dependent variables (i.e., Terminal value change, Instrumental value change, and symptomatic improvement) were reviewed for the overall sample.

No significant correlations were obtained between the demographic variables of either age or educational level and any of the three primary dependent variables. A One-way analysis of variance further indicated that the three primary dependent variables did not differ with respect to gender, race, marital status, and employment status. There were,
however, several interesting albeit tentative findings regarding diagnosis and religious preference.

First of all, Instrumental value change varied significantly as a function of religious preference, with those individuals identifying themselves as Protestant ($n=37$) evidencing greater value change than individuals identifying a religious preference of Other ($n=7$) or None ($n=12$), $F(55) = 4.819$, $p < .05$. Having observed a disproportionate representation of Protestants at Site II (95%, $n=19$ out of 20) compared to Site I (50%, $n=18$ out of 36), it was necessary to evaluate whether this finding had more to do with site difference as opposed to religious preference differences. This did not appear to be the case, however, since an independent groups $t$-test revealed no significant difference in Instrumental value change between Protestants at either site, $t(35) = .428$, $p > .10$. A separate analysis was therefore conducted in which Protestant religious preference was included as a binary predictor variable in the regression of Instrumental value change onto significant personality factors. The results of this exploratory analysis will be described shortly (please see section below regarding "Exploratory Analyses").

Secondly, the data was also examined with respect to DSM-IV primary diagnosis$^9$. Those individuals with a primary

$^9$It should be noted that diagnostic validity remains suspect. No standardized interview was used, nor was there any comparison available to determine inter-judge
diagnosis of Schizoaffective Disorder \( (n=5) \) reported significantly more Instrumental value change compared to other diagnostic groups \( [i.e., \text{Major Depressive Disorder } (n=27), \text{Bipolar Disorder } (n=10), \text{Depression Not Otherwise Specified } (n=7), \text{Adjustment Disorder } (n=4), \text{and Other } (n=3)] \), \( F(55) = 2.494, p < .05 \). Subsequent one-way analyses of variance revealed that the Schizoaffective Disorder group was not significantly different from the other participants on the basis of initial level of symptomatology or any of the five personality factors. Other than DSM-IV primary diagnosis, the magnitude of Instrumental value change was the sole primary variable distinguishing this group.

In order to interpret this finding, it is necessary to understand how the value change process differs for the Schizoaffective group versus other participants. This may be accomplished, at least in part, by considering the test of each hypothesis with and without the inclusion of the Schizoaffective group. The results of this procedure are described below in the section on "Exploratory Analyses."

In summary, the abovementioned preliminary analyses collectively suggested that the relationships between personality factors, value change, and self-reported improvement could be investigated in a straightforward manner. There was also sufficient evidence to justify a more reliability. This variable merely reflects the primary DSM-IV diagnosis rendered by the attending psychiatrist.
detailed examination of both Protestant religious preference and DSM-IV primary diagnosis with respect to Instrumental value change.

**Hypothesis Testing**

**Personality Factors Predicting Value Change.** The first set of hypotheses concerned the prediction of value change on the basis of select personality factors. Specifically, it was anticipated that Openness, Extraversion, and Agreeableness would be positively associated with both Terminal and Instrumental value change.

Two separate multiple regression analyses were conducted with either Terminal or Instrumental value change serving as the dependent variable. All five personality factors were entered in stepwise fashion, a preferred strategy when there is no a priori basis for determining the relative importance of predictor variables. The criteria for variable selection (probability of E-to-enter) and variable exclusion (probability of E-to-remove) were .05 and .10, respectively. The results of these analyses are presented in Tables 3 and 4.

Of all five personality factors, only Openness was significantly correlated with Terminal value change, with the univariate correlation ($r = .313$) accounting for 8.1% of the corrected variance. This finding suggests an inverse relationship between Openness and Terminal value change, with
Table 3. Multivariate Regression Analysis of Personality Factors Predicting Terminal Value Change.

Terminal Value Change
(N=56)

<table>
<thead>
<tr>
<th>Personality Factor</th>
<th>( r^a )</th>
<th>( R^b )</th>
<th>Adjusted ( R^2 )</th>
<th>( F^d )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>.052 (.351)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.161 (.118)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>.313 (.009)</td>
<td>.313</td>
<td>.081</td>
<td>5.864 (.019)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.063 (.321)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.206 (.064)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>COMBINED MODEL</strong></td>
<td></td>
<td>.313</td>
<td>.081</td>
<td></td>
</tr>
</tbody>
</table>

Note. Subscript (+) denotes significant variables included in model.

- Univariate correlation between personality factor and Terminal value change, with significance level (1-tailed) in parentheses.
- Multivariate correlation depicting incremental strength of association attributed to each variable.
- Unique variance accounted for by each variable, corrected for error.
- \( F \) statistic testing variable inclusion, with significance level in parentheses.
Table 4. Multivariate Regression Analysis of Personality Factors Predicting Instrumental Value Change.

**Instrumental Value Change**  
(N=56)

<table>
<thead>
<tr>
<th>Personality Factor</th>
<th>$r^a$</th>
<th>$R^b$</th>
<th>Adjusted R Square$^c$</th>
<th>$F^d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>.035 (.400)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.197 (.073)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>.152 (.131)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.314 (.009)</td>
<td>.314</td>
<td>.082 (.018)</td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.248 (.033)</td>
<td>.090</td>
<td>.050 (.009)</td>
<td></td>
</tr>
<tr>
<td><strong>COMBINED MODEL</strong></td>
<td></td>
<td>.404</td>
<td>.132 (.009)</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Subscript (+) denotes significant variables included in model.

- $r^a$: Univariate correlation between personality factor and Instrumental value change, with significance level (1-tailed) in parentheses.
- $R^b$: Multivariate correlation depicting incremental strength of association attributed to each variable.
- Adjusted R Square$^c$: Unique variance accounted for by each variable, corrected for error.
- $F^d$: $F$ statistic testing variable inclusion, with significance level in parentheses.
a relatively low level of Openness being associated with Terminal value change. Contrary to predictions, a relatively high level of Openness was associated with Terminal value stability.

Both Agreeableness and Conscientiousness were significantly correlated with Instrumental value change, with the multivariate correlation ($R = .404$) accounting for 13.2% of the corrected variance. Although Agreeableness was implicated in the value change process as predicted, the relationship between these variables was opposite of the hypothesized direction. That is, a relatively low level of Agreeableness (coupled with a relatively high level of Conscientiousness) offered the best prediction of Instrumental value change.

Extraversion and Neuroticism were unrelated to either form of value change. Extraversion, however, had been expected to contribute to the value change process.

**Value Change and Improvement.** The second hypothesis suggested that improvement, or self-reported symptom reduction, would be positively associated with value change. The relevant correlations are presented in Table 5. The correlations between symptomatic improvement and the five personality factors are also included in Table 5, so as to explore any potential mediational relationships amongst the variables.
Table 5. Univariate Correlations Predicting Symptomatic Improvement.

Symptomatic Improvement
(N=56)

<table>
<thead>
<tr>
<th>Variables</th>
<th>r^a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal Value Change</td>
<td>-.116 (.198)</td>
</tr>
<tr>
<td>Instrumental Value Change</td>
<td>-.246* (.034)</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>-.001 (.498)</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.095 (.242)</td>
</tr>
<tr>
<td>Openness</td>
<td>-.208 (.062)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.144 (.145)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.055 (.344)</td>
</tr>
</tbody>
</table>

* Univariate correlation with significance level in parentheses (1-tailed).
* p < .05.
Instrumental value change was related to symptomatic improvement as predicted. The more an individual reported that his/her Instrumental values had changed, the more he/she also reported that psychiatric symptoms had abated. Terminal value change, in contrast, was unrelated to improvement.

Value System Satisfaction. The third hypothesis suggested that patients who experience value change will indicate increased satisfaction with their resulting system of values. First of all, a paired-samples $t$-test confirmed that participants ($n=46$, due to missing data) indicated that they were significantly more satisfied with their value system upon retest compared to initial testing, $t(45) = -4.11, p < .001$. The mean correlations between A) patient satisfaction ratings of values (initial and retest) and B) both symptomatic improvement and value change (Terminal and Instrumental) were then tested for significance. No significant results were obtained, with correlations ranging from .054 (initial value system satisfaction and Instrumental value change) to .222 (final value system satisfaction and symptomatic improvement). It should be noted, however, that the correlation between value system satisfaction at retest and symptomatic improvement approached significance ($p = .069$, 1-tailed).

It would seem that partial support was obtained for this hypothesis. The sample as a whole indicated greater value system satisfaction upon retest compared to admission, yet
such satisfaction appeared to be independent of the actual amount of value change experienced. There is a trend, however, toward greater value system satisfaction being associated with symptomatic improvement. Overall, the findings regarding value system satisfaction suggest that the value change observed in this sample was systematic and not merely the result of random value instability.

Exploratory Analyses

*Treatment Factors Influencing Value Change.* Having analyzed the direct relationships between personality factors, value change, and self-reported outcome, a secondary analysis was conducted to determine whether aspects of the treatment situation were related to the value change process. Table 6 provides the univariate correlations between select treatment variables, including frequency and importance ratings of several ward activities, and each of the three primary predictor variables.

As can be seen from Table 6, only two treatment variables were significantly correlated with any of the primary predictor variables. The importance ratings given to both individual sessions and nurse interaction were positively associated with change in Instrumental values.

Given that the mean importance ratings of two distinct ward activities emerged as significantly related to Instrumental value change, a paired-samples $t$-test was used
Table 6. Univariate Correlations Between Select Treatment Variables and Primary Predictor Variables.

<table>
<thead>
<tr>
<th>Treatment Variable</th>
<th>Symptom Change Score</th>
<th>Terminal Value Change</th>
<th>Instrumental Value Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of Hospitalization (# of days)</td>
<td>-.042</td>
<td>.201</td>
<td>.188</td>
</tr>
<tr>
<td>Individual Sessions</td>
<td>-.120</td>
<td>.258</td>
<td>.242</td>
</tr>
<tr>
<td>Group Therapy Sessions</td>
<td>.036</td>
<td>-.021</td>
<td>-.178</td>
</tr>
<tr>
<td>Activity Therapy Sessions</td>
<td>.014</td>
<td>-.030</td>
<td>.025</td>
</tr>
<tr>
<td>Interviews with Attending Psychiatrist</td>
<td>.044</td>
<td>.041</td>
<td>-.075</td>
</tr>
<tr>
<td>Importance Rating: Individual Sessions (n=41)</td>
<td>.035</td>
<td>-.110</td>
<td>-.379*</td>
</tr>
<tr>
<td>Importance Rating: Group Therapy (n=34)</td>
<td>.311</td>
<td>.041</td>
<td>-.262</td>
</tr>
<tr>
<td>Importance Rating: Nurse Interaction</td>
<td>.165</td>
<td>.116</td>
<td>-.298*</td>
</tr>
<tr>
<td>Importance Rating: Patient Interaction</td>
<td>.227</td>
<td>-.007</td>
<td>.029</td>
</tr>
<tr>
<td>Importance Rating: Activity Therapy (n=41)</td>
<td>.105</td>
<td>-.175</td>
<td>-.087</td>
</tr>
<tr>
<td>Importance Rating: Sessions with Attending Psychiatrist (n=55)</td>
<td>.198</td>
<td>.022</td>
<td>-.063</td>
</tr>
<tr>
<td># of Previous Hospitalizations (n=55)</td>
<td>-.076</td>
<td>-.176</td>
<td>.100</td>
</tr>
</tbody>
</table>

Note. N=56, unless otherwise noted in specific cell. *p < .05.
to examine any differences between these ratings. No significant difference was observed between the importance attributed to individual sessions versus nurse interaction, $t(40) = 1.60, p > .05$. This finding suggests that both activities may be meaningful components of the value change process.

The next stage of data analysis explored the contribution of these two identified treatment variables to the established regression equation involving personality factors and Instrumental value change. The importance rating given to both individual sessions and nurse interaction were entered in a single step as a secondary variable block after Agreeableness and Conscientiousness, with Instrumental value change serving as the dependent variable. The criteria for variable selection (probability of $F$-to-enter) and variable exclusion (probability of $F$-to-remove) were kept at .05 and .10, respectively. Since only 41 participants provided an importance rating for individual sessions (73%), the group mean was substituted for the remaining participants so as not to lose cases by listwise deletion.

This method was preferred over entering predictor variables on the basis of the magnitude of the univariate correlation (which would have given precedence to the importance ratings over the personality factors) because virtually no construct validity has been established for the importance ratings. From a methodological and interpretive
standpoint, the chosen procedure made it possible to examine the unique variance accounted for by the addition of the two importance ratings, above and beyond the variance already attributed to the personality factors of Agreeableness and Conscientiousness. In this manner, an increase of 3 percent was achieved in the prediction of Instrumental value change through adding the combined importance ratings of individual sessions and nurse interactions (the adjusted $R$ square increased from .132 to .162).

**Protestant Group Comparisons.** Having noted earlier that an identified religious preference of Protestant seemed to be related to Instrumental value change, participants were coded as either Protestant or non-Protestant, and this binary variable was included along with Agreeableness and Conscientiousness in a new regression analysis predicting Instrumental value change. As in the case of treatment importance ratings, religious preference was entered in a single step as a secondary variable block after Agreeableness and Conscientiousness, with Instrumental value change serving as the dependent variable. Again, the criteria for variable selection (probability of $F$-to-enter) and variable exclusion (probability of $F$-to-remove) remained .05 and .10, respectively. The results of this analysis are displayed in Appendix B, Table 7.

The identification of a Protestant religious preference resulted in a sizeable increase in predictive power.
Agreeableness and Conscientiousness alone accounted for roughly 13% of the corrected variance in the overall sample, whereas the inclusion of Protestant identification essentially doubled the variance accounted for by personality factors alone (adjusted $R^2$ square=26.1%).

Schizoaffective Group Comparisons. Preliminary analyses indicated that an atypical form of value change may have characterized those participants with a diagnosis of Schizoaffective Disorder. Since relatively few individuals received this diagnosis ($n=5$), a conservative approach was used to explore the value change associated with this diagnosis. Each of the three main hypotheses were re-tested without the inclusion of the Schizoaffective sub-sample. This strategy allowed for some consideration of how these five individuals influenced the overall findings. The results of these analyses are presented in Appendix B, Tables 8-10.

Briefly, both regression models involving personality factors and value change evidenced an increase in predictive power with the Schizoaffective Disorder group removed. The univariate correlation between Instrumental value change and improvement was also slightly more robust. The relationships between value system satisfaction, value change, and improvement were not significantly changed.
CHAPTER V
DISCUSSION

Overview

The role of value change in inpatient psychiatric treatment has received relatively little research attention since Rosenthal (1955) first introduced the topic some four decades ago. It should therefore be noted, first and foremost, that a beneficial form of value change was observed in this inpatient psychiatric sample.

Since most value research to date has focused on individual outpatient psychotherapy, the majority of conclusions drawn from this approach were undoubtedly influenced by existing assumptions regarding the nature and mechanisms of individual treatment. As suggested earlier, perhaps this is the reason that heretofore investigators have focused primarily on pre- versus post-treatment differences in patient-clinician value congruence. The present study, in contrast, advances the notion that certain patient and treatment characteristics jointly contribute to the value change process.

More specifically, the results of this study favor the interpretation that select personality factors, alone or in combination with aspects of the treatment situation, predict
change and/or stability in certain values. Instrumental value change, in turn, predicts self-reported improvement.

These general findings will be explored and interpreted throughout the remainder of the chapter. Interpretation will proceed with an examination of the relationships between personality factors, value change, and improvement, and a moderational model will be proposed highlighting significant relationships. Particular findings will then be considered in light of the broader distinction between Terminal and Instrumental values. Additional patient and treatment characteristics related to the value change process will also be explored. A theoretical representation of value change, based on the work of Thomas Kuhn (1970), will then be introduced. The chapter will end with a consideration of methodological limitations and directions for future research. General conclusions will also be offered.

**Personality, Instrumental Value Change, and Improvement**

As predicted, Instrumental value change varied as a function of personality factors, although not necessarily in ways that were anticipated. Individuals who were relatively low in Agreeableness and relatively high in Conscientiousness were most likely to report change in Instrumental values. Such Instrumental value change was, in turn, related to improvement. The personality factors of Neuroticism, Extraversion, and Openness were unrelated to Instrumental value change or improvement.
In one sense, the contribution of Agreeableness seems counter-intuitive. According to Costa and McCrae (1992):

The agreeable person is fundamentally altruistic. He or she is sympathetic to others and eager to help them, and believes that others will be equally helpful in return. By contrast, the disagreeable or antagonistic person is egocentric, skeptical of others' intentions, and competitive rather than cooperative. (p. 15)

Since individuals low on this factor are skeptical and view interpersonal interaction as competitive (in contrast to the high Agreeableness individual who experiences relationships altruistically), one might expect such individuals to be resistant to changing their values vis-a'-vis an interpersonal therapeutic experience. This line of reasoning was the basis for predicting a positive relationship between Agreeableness and value change.

One possibility for these counter-intuitive findings has to do with the range of Agreeableness scores represented in this sample (i.e., M=38.89, SD=10.13, in contrast to the expected mean of 50 with a standard deviation of 10). A negative relationship between Agreeableness and Instrumental value change may be restricted to the lower pole of Agreeableness scores, whereas the relationship between these two constructs may differ at the upper pole of Agreeableness scores. Such a curvilinear relationship may not have been
detected given the relative absence of high Agreeableness participants sampled in this study.

The observed negative relationship between Agreeableness and Instrumental value change, however, is fairly consistent with the combined literature on value preference and value convergence. In their study of the relationship between the five-factor personality model and value preference, for example, Luk and Bond (1993) found that Agreeableness was negatively associated with Benevolence, a broad-based value domain encompassing many of the Rokeach Instrumental values.

More specifically, the value domain of Benevolence, which measures the individual's motivation toward "preservation and enhancement of the welfare of people with whom one is in frequent personal contact," (Schwartz, 1992, p. 11), is partially comprised of Instrumental values such as "Helpful," "Loyal," "Forgiving," "Honest," and "Responsible." If Luk and Bond's findings extend to the current sample, one might expect these abovementioned Instrumental values to have received relatively little priority in the rankings of low Agreeableness patients.

The point is that these collective Instrumental values may have been de-emphasized by patients low in Agreeableness,

\[\text{In actuality, at least 11 (out of 18) Instrumental values are embodied in Benevolence and other value domains that were associated with Agreeableness in the Luk and Bond study. For example, Agreeableness was also negatively related to the value domain of Self-Direction, which includes the Instrumental value of "Independent."}\]
while emphasized by the ward community overall; thereby creating a discrepancy between patient and community values. Turning now to the value convergence literature, it was demonstrated that value change (or convergence) is most likely to occur when patient and therapist initially hold disparate value systems (Beutler et al., 1983). As such, there may have been the most "room" for change to occur given a discrepancy in the Instrumental values of the low Agreeableness patients and the ward community.

To the extent that these (and perhaps other) Instrumental values were demonstrated and even encouraged within the ward community (and it is not difficult to imagine the fostering of "Responsibility" and "Honesty," for instance), individuals low in Agreeableness, needing to develop a more adaptive system of valuation, may have entered into a therapeutic community where discrepant values were promoted. Discrepancy breeds change, and the low Agreeableness patient may have chosen to embrace these newfound values in their attempt to re-organize a previously ineffectual Instrumental value system (please see section below entitled "Toward a Kuhnian Interpretation of Value Change").

If this portrayal is accurate, then the observed relationship between Instrumental value change and improvement further coalesces with earlier value convergence literature. Arizmendi et al. (1985) found that initial
patient/therapist discrepancy in the Instrumental values of "Responsible" and "Independent" predicted patient-reported symptomatic improvement on the SCL-90-R, the parent instrument to the BSI used in this study.

If the ward as a whole promoted both an accountability for one's actions and a reliance on others, the stage may have been set for improvement to take place. Based on Luk and Bond's discovery, the low Agreeableness individual may have initially entered the hospital with relatively little emphasis on these values. A discrepancy-improvement relationship, as such, paralleling the findings of Arizmendi et al., may have existed in this sample.

A consistency with previous literature, however, still does not explain why these particular relationships occurred between low Agreeableness, Instrumental value change, and improvement. The answer may lie in how such individuals construe both the treatment situation as well as the source of value change.

Anecdotal evidence revealed that the vast majority of patients responding to the essay query "How do you account for any value change you may have experienced?" identified some internal as opposed to external agent of change. For example, "After a lot of thinking I was able to look at things differently."

It seems likely that the patient low in Agreeableness would tend to experience him or herself in some form of
interpersonal competition with staff as well as other patients. Although speculative, perhaps this perceived competition is conducive to the value change process. That is, the patient low in Agreeableness may tend to negotiate the interpersonal treatment environment (experienced competitively) by staking claim to a new system of values as the product of his/her personal efforts (some internal agent of change), in contrast to acknowledging a persuasive influence on the part of others. The patient’s stance may be something like, "You are not going to tell me anything. I know exactly what I need to do." Such a position may very well facilitate the internalization of a new Instrumental value system. Further study is needed to explore this possibility.

Turning now to Conscientiousness, the other personality factor implicated in Instrumental value change, the involvement of Conscientiousness was, quite frankly, unexpected, but not surprising. The motivation and capacity for goal-directed behavior evidenced by the high Conscientiousness individual would likely prove an asset throughout treatment, in terms of taking the necessary steps to improve one’s situation. Perhaps being presented with alternative values and new experiences during hospitalization provides an opportunity for the high Conscientiousness individual to adaptively re-organize his/her Instrumental values. This value re-organization, in turn, allows for the
high Conscientiousness individual to more effectively meet his/her needs.

More interesting still is why this particular combination of personality factors, high Conscientiousness coupled with low Agreeableness, led to Instrumental value change. If the individual low in Agreeableness does indeed construe the treatment situation competitively and thereby attributes value change to his or her own personal efforts, perhaps the addition of high Conscientiousness allows for the added motivation and resolve to actualize such value change. The stance of the low Agreeableness/high Conscientiousness patient may be something like "You're not going to tell me anything. I know exactly what I need to do...and I have the motivation and wherewithal to do it."

A Moderational Model. It is possible to consider these results in light of Baron and Kenny's (1986) analysis of moderator variables. According to Baron and Kenny, a moderator variable is a third variable "...which partitions a focal independent variable into subgroups that establish its domains of maximal effectiveness in regard to a given dependent variable" (p. 1173). A moderator appears to be operating in the present context, given that the strength of the relationship between Instrumental value change and improvement varies as a function of Agreeableness (but not
Conscientiousness). Specifically, a relative increase in the personality factor of Agreeableness was associated with a corresponding decrease in the magnitude of association ($r$) between Instrumental value change and improvement. It may be said, therefore, that the personality factor of Agreeableness moderates the relationship between Instrumental value change and improvement.

**Personality Factors, Terminal Value Change, and Improvement**

The factor of Openness seemed to hold the most promise for predicting both Instrumental and Terminal value change, particularly since one of the Openness facets has to do with a willingness to re-examine value issues. Openness was indeed the single personality factor related to Terminal value change, but the relationship was the exact opposite of what was predicted! Individuals high in Openness evidenced the greatest Terminal value stability--they were least likely to experience value change.

One possibility is that those individual high in Openness tended to have relatively short hospital stays. That is, a spurious relationship may exist between Terminal value stability and Openness, given that a higher value stability index might occur with shorter test-retest

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11From a statistical standpoint, the dependent or criterion variable of improvement was regressed onto (a) Agreeableness, (b) Instrumental value change, and (c) the interaction or product of these two predictors (a x b). In this case, the interaction coefficient (c) singularly emerged as significant while controlling for these two independent predictors.
intervals. This does not appear to be the case, however, since length of hospitalization was not significantly correlated with Openness.

A more plausible explanation is that the relationship between high Openness and Terminal value stability was formed prior to the time of hospitalization. That is, individuals high in Openness may be more attuned to values and perhaps even grapple with value issues more so than individuals low on this factor, but such experiences in an earlier developmental context may have ultimately served to solidify a secure system of Terminal values. Although the high Openness individual may not be afraid to continually question his/her convictions, that does not mean that such convictions will necessarily change.

This interpretation is fairly consistent with the related literature on personality factors and personal projects analysis. Little, Lecci, and Watkinson (1992) provided evidence suggesting that Openness was positively correlated with consistency between one's fundamental values and their daily activities, a condition which would presumably foster or at least reflect value system stability. The authors interpreted that the tendency of the high Openness individual to initiate activities might have historically resulted in formative life experiences conducive to establishing a secure system of values.
Terminal value change was unrelated to improvement in the present study. This finding neither confirms nor disconfirms earlier conclusions stemming from the value convergence literature, but rather underscores the methodological and conceptual distinctions between value convergence and value change.

It is difficult to extrapolate from the value convergence literature regarding the therapeutic or beneficial qualities of Terminal value change, because value convergence and value change (as defined here) are two different constructs. Value convergence involves a between subjects comparison (i.e., patient to therapist) whereas value change is a within subjects comparison over two administrations. Nevertheless, value convergence is a form of value change, and earlier findings offer some basis for comparison.

With this in mind, Terminal value convergence, for the most part, has been documented in individual outpatient psychotherapy; and characterized as beneficial on the basis of clinician judgments. Two noteworthy features of the present study, therefore, include the use of an inpatient psychiatric sample as well as an objective measure of outcome.

These methodological distinctions point to several possible explanations for why, contrary to hypotheses, Terminal value change was unrelated to improvement in the
present study: 1) clinician judgment remains the sole outcome indicator related to Terminal value change, 2) the duration or nature of treatment in this study was too brief for a systematic change in Terminal values to occur, and 3) the Spearman rank-order correlation coefficient lacks the necessary sensitivity to detect subtle forms of Terminal value change, particularly if a sub-sample of Terminal values are related to psychosocial functioning (Arizmendi et al., 1985).

Extraversion and Neuroticism

Both Extraversion and Neuroticism were unrelated to either Instrumental or Terminal value change. Perhaps the first issue to note is the range of personality scores sampled in this study. A mean of 41.77 for Extraversion (SD=11.16) and a mean of 67.34 for Neuroticism (SD=8.84) diverge from the expected T-score mean of 50 with a standard deviation of 10. The overall sample might therefore be characterized as fairly introverted and neurotic. Conclusions about the effects of these personality factors on value change are limited to the particular distribution of personality scores sampled.¹²

Extraversion was predicted to correlate positively with value change since individuals high on this factor might be

¹²For example, it is not possible to draw conclusions about extremely extraverted patients, given that the highest obtained T-score for Extraversion was 63, with only three individuals scoring greater than or equal to 60.
more likely to participate in group ward activities. However, the treatment data leans toward the interpretation that the quality of treatment, particularly individually-oriented experiences, may be more important to the value change process than the quantity of treatment, at least during a relatively short-term hospitalization (please see section below on "Additional Treatment Characteristics").

There is also some indication that value change may be associated with an introspective or self-reflective process, as inferred from respondents' comments regarding value change (e.g., "After a lot of thinking I was able to look at things differently."). It may actually be the case that Extraversion is negatively related to value change, but such a determination requires a normal range of Extraversion scores.

Even though this inpatient psychiatric sample was comprised of individuals scoring high on Neuroticism, the absence of any significant relationship between Neuroticism and value change (or even chronic values instability, which would imitate adaptive value change) was quite surprising. Although this may be partially due to the skewed distribution of Neuroticism scores, this finding in some ways vindicates earlier studies linking Neuroticism to value preference.

It had been argued previously that the relationship between personality factors and value change must be understood dynamically. Personality was thought to influence
the manner in which values are established, experienced, and/or changed. Although this formulation may hold true in regard to Openness, Agreeableness, and Conscientiousness, it may not be the case for Neuroticism and Extraversion. These latter two personality factors may operate differently with respect to value preference and/or value change. There may very well be a culturally specific tendency to endorse particular values based on one's level of Neuroticism, for example. Further research with a normal range of personality scores is needed to clarify these issues.

Terminal Versus Instrumental Value Change

Since Terminal and Instrumental value change were differentially related to personality factors and improvement, it is important to interpret the results in light of the conceptual and empirical distinctions between these two value systems. This may help to explain not only why independent personality factors were singularly related to either form of value change, but also why Instrumental value change alone was related to improvement.

Terminal values, as the reader may recall, refer to "desirable end-states of existence," while Instrumental values are defined as "desirable modes of conduct" or means to ends (Rokeach, 1973, p. 7, italics in original). Terminal values have been further distinguished by Rokeach as reflecting Personal versus Social goals. Examples of the former include "Family Security" and "Wisdom," whereas
examples of the latter include "Equality" and "Freedom." Instrumental values may be similarly distinguished by those values reflecting Competency (e.g., "Independent," "Intellectual") or those values reflecting Morality (e.g., "Forgiving," "Honest").

In regard to the observed relationship between Instrumental value change and improvement, Instrumental values may simply be more directly targeted during a relatively short-term but highly intensive inpatient treatment experience. Many Instrumental values, or "means to ends," readily translate into ward behaviors with which a patient may be encouraged to experiment during the course of a psychiatric hospitalization. It is not difficult to imagine, for instance, how Instrumental values such as "Forgiving," "Honest," "Self-Controlled," and "Capable" might be fostered throughout ward therapeutic activities.

Terminal values, in contrast, reflect more abstract or philosophical positions that may be intellectually maintained, but are by and large removed from immediate experience. Although a patient’s perceptions of reality may change, there is little that can be done to experientially embrace Terminal values such as "National Security," "A World of Peace," "A Comfortable Life," and "Equality" within a secured psychiatric facility.

Through appreciating the character of Rokeach’s value sub-classes (i.e., Personal and Social goals, Competence and
Morality), one may further speculate as to why personality factors were differentially involved in value change. The personality factor of Conscientiousness, for example, includes a facet termed Competence, which is broadly concerned with self-efficacy. As the high Conscientiousness individual endeavors to re-organize his/her value system, he/she may therefore be drawn to and emphasize those Instrumental values reflected in the Rokeach Competence subscale. Another Conscientiousness facet termed Dutifulness reflects a commitment to moral behavior. As the high Conscientiousness individual strives throughout treatment to develop a more adaptive system of values, he/she may tend to prioritize the types of values reflected in the Rokeach Morality subscale. Instrumental as opposed to Terminal values may therefore be more salient for the high Conscientiousness individual; hence the observed relationship between high Conscientiousness and Instrumental value change.

In regard to Agreeableness, this personality factor, as "a dimension of interpersonal tendencies" (Costa & McCrae, 1992, p. 15), reflects a fundamental orientation toward self versus others. One might therefore expect Agreeableness to relate to Terminal values given the Personal versus Social sub-classes of the Terminal value system. The absence of an observed relationship between Agreeableness and Terminal value change, however, does not mean that these constructs are in no way related. Perhaps such a relationship would be
best conceived in terms of value preference, as in the case of Neuroticism (see above section on "Extraversion and Neuroticism"). Preliminary support for this hypothesis can be found in Luk and Bond (1993), given their finding that Agreeableness correlated with preference on eight out of 10 broad-based value dimensions in a sample of Chinese university students.

The interpersonal style captured by Agreeableness may indeed be related to an enduring preference with respect to Terminal values. The static nature of this relationship, one of preference (as opposed to dynamic change), would partially account for why Agreeableness was singularly related to Instrumental as opposed to Terminal value change.

Change in Instrumental values may be more tolerable and even desirable for the low Agreeableness individual. That is, Instrumental values may be more detached from both his/her core style of relating to others and his/her resulting value preference. Since the low Agreeableness individual may need to change in some fashion--his/her value system is presumably ineffective and he/she is hospitalized psychiatrically--it may therefore behoove such a person to focus on Instrumental values as a modality of change.

In a similar fashion, since novel activities are eschewed by those individuals low in Openness, perhaps such individuals are reluctant to change Instrumental values which, by their nature, require more in vivo behavioral
change. Nevertheless, some value re-organization is necessary for low Openness individuals given the ineffectiveness of their existing value system, so they focus on an abstract or philosophical changing of Terminal values. No improvement is detected, however, because there has yet to be any modification of their day to day behavior.

A final word or two is in order concerning the observed relationships between personality factors and value change. To some extent, these findings lend discriminant validity to Rokeach’s distinction between Instrumental and Terminal values, given that independent personality factors correlated with change in either value system. The differential ability of personality factors (presumably stable) and value change (highly alterable) to predict symptomatic improvement further highlights the relationship between personality and values. Although intimately connected, both theoretically and empirically, it does not appear that personality factors and values are identical constructs, at least with respect to Costa and McCrae’s five-factor model of personality and Rokeach’s typology of human values.

Additional Subject Variables Related to Value Change

Although tentative, there is evidence to suggest that certain subject variables, in addition to personality factors, may be related to the value change process. Both religious preference and DSM-IV primary diagnosis accounted
for significant variance in the prediction of Instrumental value change.

Those individuals identifying a protestant religious preference were most likely to experience change in Instrumental values. This effect, however, is difficult to interpret, particularly since the majority of participants responded negatively to the queries "Are you active? Do you attend services or worship regularly?"

Perhaps this finding really says more about those who identified a religious preference of "Other" (which tended to include an "active" designation) or "None." That is, greater value solidification and stability may be associated with the process of actively choosing a religious preference and working through the relevant value issues (which, in turn, may be reflected in either current participation or rejection of any religious affiliation) in contrast to nominal but inactive membership.

A DSM-IV primary diagnosis of Schizoaffective Disorder was associated with a form of value change that was relatively less conducive to favorable outcome. The low number of participants receiving this diagnosis makes conclusions extremely tentative, but it is possible that this form of psychopathology is associated with some degree of Instrumental value instability, at least during periods of decompensation. Further study is needed to clarify this hypothesis.
Alternatively, what appears as Instrumental value change for the Schizoaffective Disorder patients may be an artifact of their inability to complete the Rokeach value ranking task upon admission. The impingement of psychiatric symptomatology unique to this disorder, particularly deficits in effort and motivation, may have interfered with the initial assessment of their Instrumental values. A more valid ranking of such values obtained prior to discharge may therefore be very different from an initial ranking, but not necessarily due to a systematic process of value change.

**Additional Treatment Variables Related to Value Change**

The inclusion of select treatment characteristics allowed for a greater prediction of both Instrumental and Terminal value change than personality factors alone. In this instance, subjective data regarding the patient's perspective of the treatment situation proved to be a more powerful predictor of value change than objective data regarding the quantity of treatment participation. More specifically, the importance ratings given to both individual sessions and nurse interactions were positively correlated with Instrumental value change\(^{13}\). There are several implications of these findings.

First of all, it is important to underscore that the patient's phenomenological experience of the treatment

\(^{13}\)It should be noted that an importance rating was generated for nurse interaction even though no objective participation data was available.
situation, the importance attributed to various ward activities, constituted one of the most powerful predictors of Instrumental value change. This type of information, framed from the perspective of the patient, has historically been lacking in studies of value change.

Although no specific hypothesis was rendered, these findings generally support the assumption underlying this project that patient perceptions are relevant to the value change process. The identification of multiple ward experiences as being significantly "important," and this in turn relating to Instrumental value change, suggests that the process of value change is much more complex than has been generally realized. The delineation of a sole criterion, framed from the researcher's perspective, toward which patient values are believed to shift may not fully account for the manner in which patient's pick and choose the values they opt to embrace.

Secondly, it is equally important to point out that this type of data is not without its limitations, particularly in the present context. There really is no construct validity regarding what is actually being measured by the query "How important to your treatment was...[a given ward experience]?" This question, for example, may be tapping into how much a given patient attended the activity, enjoyed the activity, derived benefit from the activity, or any combination of the above. At this point, one can safely conclude that an
importance rating reflects in some way how meaningful a particular ward activity was for that patient, but the exact meaning remains unclear.

Thirdly, the two ward experiences predictive of Instrumental value change, nurse interaction and individual therapy, are both based on individual rather than group interaction. Although additional research is needed to support this finding, it is possible that Instrumental value change is 1) more likely to occur through one-to-one encounters, and 2) possibly associated with the capacity for introspection. Furthermore, it is important to note that more than one therapeutic modality may be related to the value change process.

Fourthly, mere exposure to ward activities was by and large unrelated to value change, a finding which goes against the tenets of associationistic theories suggesting that value change is the product of shaping by a given clinician. On the contrary, there was a trend ($p<.10$) toward increased exposure to individual therapy leading to greater Terminal and Instrumental value stability.

**Toward a "Kuhnian" Interpretation of Value Change**

Kuhn's seminal work on the structure of scientific revolutions (1970) may provide a viable framework for conceptualizing the experience of the individual and his/her value change. The scientific community, according to Kuhn, adheres to a shared system of values, beliefs, and knowledge
termed a paradigm. This paradigm is akin to a basic yet pervasive world-view which, for the scientist, lends meaning to every observation. It is inevitable, says Kuhn, that all manner of science will be interpreted with respect to one's existing paradigmatic frame of reference.

Periods of normal science are characterized by the implicit quest to advance the existing paradigm, to generate evidence which confirms and preserves the basic world view. The process of normal science, however, eventually encounters data inconsistent with fundamental paradigmatic assumptions. If this anomalous data can not be reconciled with the existing paradigm, the scientific community enters into a state of crisis as the inadequacy of it's world-view is laid bare.

The anomaly is eventually resolved through the generation of a new preferred paradigm which supplants the earlier discredited paradigm. Many scientists will shift their allegiance from the former to the new paradigm and a period of normal science begins anew. For some, there remains a devotion to the discredited paradigm in spite of its apparent ineffectiveness.

This Kuhnian process of change in the collective scientific community may parallel the process of value change experienced by the individual patient. Rokeach maintains that values subtly or directly influence all manifestations of human behavior. According to Rokeach (1973), "It is
difficult to conceive of a human problem that would not be better illuminated if reliable value data concerning it were available" (p. 26). It might be said, therefore, that values permeate one’s contact with and experience of the world, much like a Kuhnian paradigm.

An individual's value system may be more or less conducive to meeting a wide range of physical and psychological needs (Luk & bond, 1993), just as there may be varying degrees of success explaining data in light of a given scientific paradigm. During periods of "normal" functioning, like normal science, a person may seek out experiences which confirm and perpetuate his/her basic worldview. Psychosocial functioning is also relatively adaptive.

The failure of the individual to function in the world (which may result in psychiatric hospitalization) is analogous to a scientific crisis brought on by the incompatibility of paradigm and data. One’s value system, as such, is no longer able to accommodate life circumstances.

To the extent that psychiatric hospitalization could be characterized as a period of pronounced personal crisis, there is often the emergence of a paradigmatic shift in values leading to a new trial of normal functioning. Similar ideas have been frequented in the psychoanalytic literature, which suggests that decompensation or regression is a prerequisite for radical adaptive change (Purzner, 1988).
This characterization implies that the process of value change may indeed be a therapeutic phenomenon.

The results of the current study are generally consistent with this Kuhnian interpretation. A reorganization of one’s Instrumental values was associated with beneficial outcome. In addition, two of the specific personality factors related to value change in the present study seem to correspond with this Kuhnian analogy.

Both low Openness and low Agreeableness, to some extent, share an element of inflexibility. These factors reflect a form of behavior that is not easily amenable to change. The low Openness individual prefers the familiar, while the low Agreeableness individual is often viewed as intolerant. It makes sense that those individuals who may have stylistically adhered to a given value paradigm prior to hospitalization, regardless of its effectiveness, may find themselves necessitating a re-organization of their value systems as a means of emerging from personal crisis. Indeed, at least in this sample, individuals admitted psychiatrically tended to be rather low in Agreeableness, implying some relationship between inflexibility and poor psychosocial adaptation.

This Kuhnian interpretation may also extend to studies of value change in an outpatient context. The process would presumably be less tumultuous, as the individual is in relatively less crisis. Still, the opportunity to adaptively
re-organize one’s personal values may ultimately prove to be a nonspecific agent of therapeutic change.

Methodological Limitations

A non-intrusive approach was taken so as to investigate value change as it naturally occurred on two specific wards. Although a non-intrusive approach is both reasonable and perhaps even preferable in an exploratory study, this strategy places limitations on the degree of control over treatment and subject characteristics. It is necessary to proceed with caution when extending these findings to other settings or when drawing conclusions about the influence of treatment variables on the value change process.

It has been assumed, for example, that the treatment situation is conducive to the value change process. Theoretically speaking, a comparable group of psychiatrically distressed individuals deprived of treatment would not necessarily experience a process of beneficial value change. Although the observed connection between value change and positive outcome suggests that value change is not incidental, a controlled group design is necessary in order to draw causal inferences regarding the effects of psychiatric treatment on value change.

It is also quite likely that the final sample is biased in one or more ways. One example of sample bias includes the skewed distribution of several personality factors, given that these factors should be normally distributed in the
population. A different picture may have emerged, for instance, if the average Neuroticism score was a standard deviation lower. An incomplete representation of the personality factors sampled in this study limits our ability to fully understand the relationship between personality factors and value change.

Since the final sample may possess other qualities which systematically affect the value change process, the results of this study may not generalize to other settings or populations. In particular, conclusions regarding the relationship between personality factors and value change are limited to the range or distribution of personality scores reflected in this sample, as well as a treatment process involving a fairly diagnostically homogeneous group of psychiatric inpatients receiving treatment on an acute care ward.

Pragmatic considerations precluded the use of multiple dependent measures in this study. Several indications of improvement would have strengthened conclusions about value change as a therapeutic phenomenon, particularly since the nature of therapeutic benefit may vary throughout the treatment process (Howard, Lueger, Maling, & Martinovich, 1993). On the plus side, however, this is one of the relatively few instances in which value change has been positively related to a patient generated index of improvement.
Some significant relationships between personality factors, value change, and improvement may have been missed due to the duration of treatment specified in this study. Although some degree of standardization was gained by limiting the retest interval, the effects of treatment beyond this interval can not be determined. Practically speaking, an open-ended retest period may have made little difference in the present study, given that so few participants were hospitalized longer than two weeks. Unfortunately, in this age of psychiatric hospitalization where economic forces more readily influence treatment duration, it may be increasingly difficult to gauge the influence of long-term care.

Finally, many issues of construct validity must be considered in this and other studies of value change. Can an individual's values undergo a genuine or enduring change following no more than two weeks of intervention? Can such a change be measured on the basis of a questionnaire? These questions reflect the importance of identifying value-relevant behavior. It is necessary to demonstrate, for example, that a person identifying "Family Security" as the most important value in his or her life acts differently than a person for whom this value has relatively low priority. Demonstrations such as these belong at the forefront of value research.
Directions for Future Research

The results of this study indicate that the value change process may be more complicated than has generally been acknowledged. Individual differences in personality factors, religious preference, and perceptions of treatment, for example, have not been emphasized in the value convergence literature, yet such variables may indeed be relevant to value change. As such, the following issues all warrant further inquiry:

1. It seems promising that the inclusion of phenomenological data, information framed from the perspective of study participants, would lend a viable dimension to future research in the area of value change.

2. The relevant variables identified in this research should now be subject to a more rigorous study design. The use of a randomized control group design would be preferable, with special emphasis on greater standardization of treatment, the use of multiple dependent measures, increased diagnostic reliability achieved through structured interviewing, and post-treatment follow-up value measurement.

3. It might prove informative to study the rate and nature of value change throughout the course of treatment. Does value change happen abruptly early on in treatment? Does a progressive change in values culminate just prior to discharge or termination? Periodic value assessment
throughout treatment would be a viable strategy for exploring this issue.

4. Additional subject variables may be implicated in the value change process. The results of this study, moreover, need to be replicated with other samples (both inpatient and outpatient).

5. There is reason to suspect that personality factors and other subject characteristics may play a role in non-patient value system stability. For example, do individuals high in Openness have particularly stable Terminal value systems? Are nominal Protestants characterized by unstable values? The answers to questions such as these, worthy in their own right, might also help to isolate aspects of the treatment situation relevant to value change.

6. It is possible that values may change in ways not measured by the RVS. Consider, for example, those individuals for whom values did not visibly change (i.e., RVS test-retest reliability consistent with Rokeach norms), yet they still got better. Perhaps these individuals stabilized or re-affirmed their existing values, or even discovered new and more adaptive means of actualizing their values--instead of arriving at a new value prioritization. There is clearly a need to further develop and refine techniques of value measurement.
Conclusions\textsuperscript{14}

It would seem that a beneficial Instrumental value change process may take place during the course of relatively short-term inpatient psychiatric treatment. The "source" of this value change may be overdetermined. Personality factors, the nature of treatment, and the patient's perceptions of the treatment situation may all contribute to Instrumental value change.

More specifically, there is evidence to suggest that patients bring certain characteristics to the treatment situation that are more or less conducive to Instrumental value change, including the personality combination of low Agreeableness and high Conscientiousness yielding the greatest degree of change. The personality factor of high Openness may be likewise related to Terminal value stability.

It is also possible that both religious preference and psychiatric diagnosis may be additional subject variables related to the value change process, although further study is warranted. It is likewise noted, tentatively, that therapeutic modalities emphasizing one-on-one interaction (e.g., individual therapy or nurse interaction) may be more conducive to Instrumental value change than group-oriented activities. Finally, there is reason to suspect that the patient's perceptions of the treatment experience may be a

\textsuperscript{14}All conclusions are offered in the context of relatively short-term inpatient psychiatric treatment involving a fairly diagnostically homogeneous sample.
better predictor of Instrumental value change than the quantity of treatment.

Taken together, these findings demonstrate that our understanding of the value change process may be advanced without assuming that a given patient’s values are shifting toward some identified target (i.e., the values of a particular clinician). It is also apparent that any viable theory regarding value change must be able to integrate the complex characterological, phenomenological, and environmental factors associated with beneficial value change.
APPENDIX A

Value Influence Scale\textsuperscript{15}

INSTRUCTIONS: Now that you have finished ranking your values, please use the following scale to indicate how satisfied you are with your current values.

\begin{itemize}
\item \(-3\): Very Dissatisfied
\item \(-2\): Moderately Dissatisfied
\item \(-1\): Slightly Dissatisfied
\item 0: Neutral
\item 1: Slightly Satisfied
\item 2: Moderately Satisfied
\item 3: Very Satisfied
\end{itemize}

INSTRUCTIONS: Please indicate how important each of the following activities were in your treatment. You may circle the "N/A" next to any activity in which you did not participate.

1. How important to your treatment was one-on-one individual counseling or therapy? \textsuperscript{15}N/A

\begin{itemize}
\item 0: Not at All
\item 1: A Little Bit
\item 2: Moderately
\item 3: Quite a Bit
\item 4: Extremely
\end{itemize}

2. How important to your treatment was group therapy? \textsuperscript{15}N/A

\begin{itemize}
\item 0: Not at All
\item 1: A Little Bit
\item 2: Moderately
\item 3: Quite a Bit
\item 4: Extremely
\end{itemize}

Please go on to the next page.

\textsuperscript{15}The VIS has been partially reduced in size to accommodate formatting requirements.
3. How important to your treatment was interacting with nurses? N/A

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<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td>Not at All</td>
<td>A Little Bit</td>
<td>Moderately</td>
<td>Quite a Bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

4. How important to your treatment was interacting with other patients? N/A

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at All</td>
<td>A Little Bit</td>
<td>Moderately</td>
<td>Quite a Bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

5. How important to your treatment was participating in activity therapy or occupational therapy? N/A

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at All</td>
<td>A Little Bit</td>
<td>Moderately</td>
<td>Quite a Bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

6. How important to your treatment was meeting with your attending psychiatrist? N/A

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at All</td>
<td>A Little Bit</td>
<td>Moderately</td>
<td>Quite a Bit</td>
<td>Extremely</td>
</tr>
</tbody>
</table>

Please explain in the space below how you account for any value change you may have experienced. You may use the back of this page if necessary.

Thank you for your participation.
APPENDIX B

Exploratory Multivariate Analyses

Table 7. Multivariate Regression Analysis of Significant Personality Factors with the Addition of Religious Preference.

Instrumental Value Change (N=56)

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>$r^a$</th>
<th>$R^b$</th>
<th>Adjusted $R^2$</th>
<th>$F^{d}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreeableness+</td>
<td>.314</td>
<td>.314</td>
<td>.082</td>
<td>5.917</td>
</tr>
<tr>
<td></td>
<td>(.009)</td>
<td></td>
<td>(.018)</td>
<td></td>
</tr>
<tr>
<td>Conscientiousness+</td>
<td>-.248</td>
<td>.090</td>
<td>.050</td>
<td>5.176</td>
</tr>
<tr>
<td></td>
<td>(.033)</td>
<td></td>
<td>(.009)</td>
<td></td>
</tr>
<tr>
<td>Protestant+</td>
<td>-.378</td>
<td>.145</td>
<td>.129</td>
<td>7.472</td>
</tr>
<tr>
<td></td>
<td>(.002)</td>
<td></td>
<td>(.000)</td>
<td></td>
</tr>
<tr>
<td>COMBINED MODEL</td>
<td></td>
<td>.549</td>
<td>.261</td>
<td></td>
</tr>
</tbody>
</table>

Note. Subscript (+) denotes significant variables included in model.
a Univariate correlation between personality factor and Instrumental value change, with significance level (1-tailed) in parentheses.
b Multivariate correlation depicting incremental strength of association attributed to each variable.
c Unique variance accounted for by each variable, corrected for error.
d $F$ statistic testing variable inclusion, with significance level in parentheses.
Table 8. Multivariate Regression Analysis of Personality Factors Predicting Terminal Value Change, Without Inclusion of Schizoaffective Disorder Group.

Terminal Value Change  
(N=51)

<table>
<thead>
<tr>
<th>Personality Factor</th>
<th>( r^a )</th>
<th>( R^b )</th>
<th>Adjusted ( R^2 ) Square(^c )</th>
<th>( F^d )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>.037 (.398)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.171 (.115)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>.373 (.004)</td>
<td>.373</td>
<td>.121</td>
<td>7.910 (.007)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.055 (.351)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.229 (.053)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>.373</td>
<td>.121</td>
<td></td>
</tr>
</tbody>
</table>

Note. Subscript (+) denotes significant variables included in model.

\( a \) Univariate correlation between personality factor and Terminal value change, with significance level (1-tailed) in parentheses.

\( b \) Multivariate correlation depicting incremental strength of association attributed to each variable.

\( c \) Unique variance accounted for by each variable, corrected for error.

\( d \) \( F \) statistic testing variable inclusion, with significance level in parentheses.
Table 9. Multivariate Regression Analysis of Personality Factors Predicting Instrumental Value Change, Without Inclusion of Schizoaffective Disorder Group.

**Instrumental Value Change (N=51)**

<table>
<thead>
<tr>
<th>Personality Factor</th>
<th>$r^a$</th>
<th>$R^b$</th>
<th>Adjusted $R^2$</th>
<th>$F^d$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neuroticism</td>
<td>-.056</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extraversion</td>
<td>-.227</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Openness</td>
<td>.181</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreeableness</td>
<td>.324</td>
<td>.324</td>
<td>.087</td>
<td>5.756</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.309</td>
<td>.098</td>
<td>.057</td>
<td>5.206</td>
</tr>
<tr>
<td>COMBINED MODEL</td>
<td>.422</td>
<td>.144</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Subscript (+) denotes significant variables included in model.

- $r^a$: Univariate correlation between personality factor and Instrumental value change, with significance level (1-tailed) in parentheses.
- $R^b$: Multivariate correlation depicting incremental strength of association attributed to each variable.
- $R^2$: Unique variance accounted for by each variable, corrected for error.
- $F^d$: $F$ statistic testing variable inclusion, with significance level in parentheses.
Table 10. Univariate Correlations Predicting Symptomatic Improvement, Without Inclusion of Schizoaffective Disorder Group.

<table>
<thead>
<tr>
<th>Variables</th>
<th>$r^a$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Terminal Value Change</strong></td>
<td>-.110</td>
</tr>
<tr>
<td></td>
<td>(.222)</td>
</tr>
<tr>
<td><strong>Instrumental Value Change</strong></td>
<td>-.254*</td>
</tr>
<tr>
<td></td>
<td>(.036)</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>.060</td>
</tr>
<tr>
<td></td>
<td>(.338)</td>
</tr>
<tr>
<td>Extraversion</td>
<td>.091</td>
</tr>
<tr>
<td></td>
<td>(.264)</td>
</tr>
<tr>
<td>Openness</td>
<td>-.216</td>
</tr>
<tr>
<td></td>
<td>(.064)</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>-.154</td>
</tr>
<tr>
<td></td>
<td>(.140)</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>-.065</td>
</tr>
<tr>
<td></td>
<td>(.324)</td>
</tr>
</tbody>
</table>

*a Univariate correlation with significance level in parentheses (1-tailed).  
$*: p < .05.$
REFERENCES


Derogatis, L. R. (1992). *The Brief Symptom Inventory (BSI): Administration, scoring, and procedures manual-II*. Baltimore: Johns Hopkins University School of Medicine, Clinical Psychometrics Research Unit.


Giglio, J. (1993). The impact of patients' and therapists' religious values on psychotherapy. Hospital and Community Psychiatry, 44(8), 768-771.


VITA

Paul Yavornitzky, the son of John and Olga Yavornitzky, was born May 2, 1966, in Lorain, Ohio.

His undergraduate studies were completed in 1988 at Cleveland State University, Cleveland, Ohio, where he obtained a Bachelor of Arts degree in Psychology. Mr. Yavornitzky earned a Master of Arts degree in Clinical Psychology from Loyola University of Chicago, Chicago, Illinois, in 1993. In 1996, he will complete the Doctorate of Philosophy degree in Clinical Psychology from Loyola University of Chicago.

Mr. Yavornitzky received clinical training at several sites in the Chicago area including Illinois Masonic Medical Center, Lakeside Veterans Administration Hospital, the Doyle Center, and the Counseling and Developmental Services Center of Loyola University. His pre-doctoral internship in Clinical Psychology was completed in Richmond, Virginia at the Medical College of Virginia/Virginia Commonwealth University.
APPROVAL SHEET

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Loyola University Chicago

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Acting Vice President of Student Affairs
Loyola University Chicago

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Loyola University Chicago

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Loyola University Chicago

The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

November 1, 1996
Date

Director's Signature