A Preliminary Study of Clinical Process in Relation to Outcome in Psychodynamic Psychotherapy for Panic Disorder

CARA KLEIN, PH.D.
BARBARA L. MILROD, M.D.
FREDRIC N. BUSCH, M.D.
KENNETH N. LEVY, PH.D.
THEODORE SHAPIRO, M.D.

Cara Klein, Ph.D. is a Post-Doctoral Child Psychology Fellow, Division of Child and Adolescent Psychiatry, North Shore University Hospital, Manhasset, New York.

Barbara L. Milrod, M.D. is Associate Professor of Psychiatry, Joan and Sanford I. Weill Medical College of Cornell University; Faculty, New York Psychoanalytic Institute.

Fredric N. Busch, M.D. is Assistant Clinical Professor of Psychiatry, Joan and Sanford I. Weill Medical College of Cornell University; Faculty, Columbia University Center for Psychoanalytic Training and Research.

Kenneth N. Levy, Ph.D. is Assistant Professor of Psychology, City University of New York; Adjunct Assistant Professor of Psychology in Psychiatry, Joan and Sanford I. Weill Medical College of Cornell University.

Theodore Shapiro, M.D. is Professor Emeritus of Psychiatry, Joan and Sanford I. Weill Medical College of Cornell University.

Funding for this work was provided by a grant from the American Psychoanalytic Association Fund for Psychoanalytic Research. The authors thank Martin Goldstein, M.D., Marian Lizzie, and Alysen Mans, M.A. for serving as process raters on this project; Heather Goldman, M.A. for her research assistance; and Charles Raps, Ph.D. for his helpful comments on a draft of this article.

This study identified psychotherapeutic processes that relate meaningfully to psychotherapeutic outcome for patients with panic disorder undergoing Panic-Focused Psychodynamic Psychotherapy (PFPP) (Milrod et al., 1997). Subjects were 21 patients who participated in an open clinical trial of PFPP (Milrod et al., 2000; Milrod et al., 2001). The Interactive Process Assessment (IPA) (Klein, Milrod, and Busch, 1999), a process measure developed specifically to identify the process of PFPP, was used. Process–outcome relationships were calculated between process factors at early, mid, and late treatment and outcome measures at termination. Results showed that the therapist's focus on the transference late in treatment was associated with a decrease in panic symptoms. Transference focus early in the treatment, however, was correlated with an increase in related symptomatology, as measured by the HAM-A and SDS. It was unclear from the present study how focusing on panic symptomatology affected the treatment. This process might be better investigated by comparing this aspect of PFPP with alternative psychotherapies.

Panic disorder is a highly symptomatic and debilitating condition that has generated sustained effort to find treatments leading to rapid symptom abatement. While symptom-focused treatments, such as pharmacological and cognitive-behavioral therapies have shown efficacy in short-term treatment studies, relapse remains high (for reviews, see Milrod and Busch, 1996; Simon and Pollack, 2000).

There has been an unsubstantiated belief in clinical and academic communities that psychodynamic psychotherapies may require more time to achieve symptom relief than biological and behavioral approaches. However, clinical and case reports backed by some systematic research suggest that psychodynamic therapy for panic disorder may bring about relief as rapidly as other approaches. Additionally, it is hypothesized that psychodynamic psychotherapy may reduce relapse rates (Milrod and Shear, 1991; Milrod, 1995; Renik, 1995; Stern, 1995; Busch et al., 1996; Milrod et al., 1996; Wiborg and Dahl, 1996; Milrod et al., 2000; Milrod et al., 2001). In a pilot open trial of brief psychodynamic psychotherapy for panic disorder, for example, Milrod et al. (2001) found that symptomatic and quality of life improvements were substantial after 24 sessions and were maintained at six-month follow-up. These results are encouraging. Milrod and colleagues have begun a randomized controlled trial (RCT) to examine the efficacy of psychodynamic psychotherapy for panic disorder.

While pre–post designs and RCTs are useful for showing the effectiveness and efficacy of psychotherapeutic interventions, respectively, these types of studies provide little information about the mutative aspects of treatments. Studies linking process to outcome are needed to elucidate what it is that promotes therapeutic change.

In the present study, we examined the relationship between therapeutic transactions in a brief psychodynamic psychotherapy, Panic-Focused Psychodynamic Psychotherapy (PFPP) (Milrod et al., 1997), and symptomatic and quality of life outcome for patients with panic disorder.

Panic-Focused Psychodynamic Psychotherapy

Panic-Focused Psychodynamic Psychotherapy (PFPP) (Milrod et al., 1997) is a form of brief psychodynamic psychotherapy that maintains central psychodynamic principles of the importance of unconscious mental dynamisms and fantasies, free association, and the centrality of the transference. Therapists focus attention on all of these processes as they are connected to the patient's experience of panic. In contrast to other treatments for panic disorder with demonstrated efficacy, in PFPP anxiety is viewed as one facet of a complex array of feelings and symbolic thoughts that reveal themselves upon dynamic exploration. Milrod et al. (1997) delineate several common themes that emerge over time in psychodynamic psychotherapy, including conflicts over separation and independence, unconscious and conflicted aggression, and sexuality. PFPP emphasizes panic patients' difficulty with ambivalent and angry feelings towards attachment figures and significant others.

Process and Outcome

In their comprehensive review of the process–outcome literature, Orlinsky and Howard (1978, 1986) constructed a "Generic Model of Psychotherapy." As described, this contained five conceptual elements that comprise the "active ingredients" in the psychotherapeutic process: the therapeutic contract; therapeutic interventions; the therapeutic bond or alliance; patient self-relatedness (the ability to absorb the impact of therapeutic interventions and the therapeutic bond); and therapeutic realizations (insight, catharsis, etc.) (Orlinsky and Howard, 1986, p. 312).

There is a small but growing body of empirical literature linking psychodynamic process to outcome. Early research focusing on the transference emphasized the importance of interpreting the transference as frequently as possible (Malan, 1976; Marziali, 1984), based on Freud's (1912) notion of the analysis of the transference as curative. Malan (1976) and Marziali (1984) showed a significant correlation between frequency of transference interpretations and positive outcome. Both Malan and Marziali's research have been criticized for methodological problems (Frances and Perry, 1983; Piper et al., 1987), however, and their findings have not been replicated (Silberschatz, Fretter, and Curtis, 1986; Piper et al., 1987). In fact, some studies have suggested that frequent transference interpretations can lead to patients feeling criticized and withdrawing from treatment prematurely (Piper et al., 1991).

Others have focused on the accuracy of therapist interpretations. Weiss and colleagues at the Mount Zion Psychotherapy Research Group (Weiss, Sampson, and the Mount Zion Psychotherapy Research Group, 1986; Weiss, 1993) suggest that psychotherapy is a process in which the patient works to disconfirm his pathogenic beliefs with the help of the therapist, and that this process is worked out in the transference. Weiss and the Mount Zion group (1986) developed a research method to assess the "plan" used by patients attempting to disconfirm their pathogenic beliefs in psychotherapy. Independent judges then evaluate the accuracy of the therapist interventions by comparing them with the patient's plan. Silberschatz et al. (1986) have demonstrated that when therapist interventions appear to be compatible with the patient's plan for treatment, patients show immediate positive responses in session and better outcome at the end of treatment.

Luborsky and colleagues (Crits-Christoph, Cooper, and Luborsky, 1988; Crits-Christoph, Luborsky, et al., 1988; Luborsky and Crits-Christoph, 1990) developed a systematic methodology for arriving at a structured, dynamic case formulation centering around the transference, called the Core Conflictual Relationship Theme (CCRT) (Luborsky and Crits-Christoph, 1990). The CCRT can be used to evaluate the accuracy of therapist interpretations.

Based on a traditional model of the transference, Luborsky and colleagues view the patient's expression of attitudes and behaviors in the current relationship with the therapist as derived from early conflictual relationships with significant parental figures. In research, the CCRT is distilled from the content of interpersonal narratives, referred to as

relationship episodes, which are extracted from therapy session transcripts. The CCRT method identifies patterns and relationship conflicts in the episodes in three ways: wishes toward others, responses of others, and responses of the self. The most frequent of these components across the narratives is designated the CCRT. The therapist's ability to accurately interpret the patient's CCRT is key to therapeutic success. Using the CCRT method, Luborsky and colleagues (Crits-Christoph, Cooper, and Luborsky, 1988; Crits-Christoph, Luborsky, et al., 1988; Luborksy et al., 1988; Luborsky and Crits-Cristoph, 1990) have found that accurate interpretations lead to more benefits from treatment, including decreased level of distress and positive change in overall mental health. These benefits were found to be independent of technical and relationship factors in the therapy (Luborsky et al., 1988).

The present study considered psychodynamic processes generally believed to influence therapy outcome, including focusing on the transference, interpreting genetic relationship patterns, and patients' apparent expression of insight. In addition, this study attempted to investigate processes specific to the treatment of panic disorder. While psychotherapy approaches and outcome research have focused on what works best for patients with panic disorder, no known process measure examining panic-specific techniques previously existed.

In this study, we developed a measure designed specifically to assess therapist techniques believed to be beneficial for panic patients (Milrod et al, 1997), such as linking panic symptoms with psychodynamic themes and challenging patients' use of ego defenses to avoid frightening affects. This measure is called the Interactive Process Assessment (IPA) (Klein, Milrod, Busch, 1999). The creation of a specific measure delineating the process of Panic-Focused Psychodynamic Psychotherapy (Milrod et al., 1997) responds to the call for research examining outcome in relation to theory-driven techniques (Kazdin, 2001).

Method

Subjects

Subjects were 21 patients who participated in the open clinical trial of PFPP (Milrod et al., 2000; Milrod et al., 2001). Fourteen subjects were women and seven were men, with a mean age of 32 (SD = 7.76). Subjects

received 24 sessions over approximately 12 weeks, all sessions lasted 45 to 50 minutes, and all sessions were videotaped for adherence monitoring. Each subject was diagnostically screened by an independent evaluator and completed a battery of outcome assessments at baseline, termination and six-month follow-up. There were four dropouts prior to completion of 24 sessions (two dropped at the beginning of treatment, and two dropped midtreatment).

Therapists

Six therapists participated in this study: four female and two male. All study therapists were faculty members in the department of psychiatry at the Joan and Sanford I. Weill Medical College of Cornell University and graduates of American Psychoanalytic Association accredited psychoanalytic institutes. Study therapists underwent extensive training in the study protocol and participated in ongoing supervision with the principal investigators. Readers are referred to Milrod et al. (2001) for further details.

Process Rater Training

Process raters were two advanced clinical psychology graduate students and one psychiatry resident. Raters met for training three hours each week over 12 consecutive weeks for a total of 36 hours of training. The training was terminated at the end of 12 weeks when each independent rating of a master videotape corresponded perfectly with ratings determined by the authors of the IPA. The raters trained by coding videotaped psychotherapy sessions not included in the current study. Independent ratings were examined for interrater reliability by producing random-effects intraclass correlation coefficients (ICCs), which ranged from .82 to .96, indicating acceptable levels of interrater reliability (Orlinsky and Howard, 1986).

Measures

Process Dimensions. The Interactive Process Assessment (IPA) (Klein et al., 1999) is a 20-item scale created specifically for the present investigation to measure key aspects of psychodynamic process and to monitor central themes as they emerged in the treatments. The IPA was

created because none of the existing process measures of psychodynamic psychotherapy were targeted to specific techniques used for specific diagnostic conditions, such as panic disorder. While the IPA was designed to analyze the content of Panic-Focused Psychodynamic Psychotherapy (PFPP), the constructs were developed from widely accepted theoretical propositions from psychodynamic psychotherapy and a panic-specific psychodynamic understanding of treatment.

The IPA is an observer-rated process measure designed to be rated from audiotapes or videotapes of psychotherapy sessions by unbiased, external observers. In the present study, videotapes of sessions were available. Raters were asked to score quantitative items on a Likert-type scale with points 0 (*not present*), 1 (*present*), and 2 (*major focus in the session*). Raters also recorded qualitative items, such as central themes, according to suggested variables or open-ended prompts (e.g., *anger, separation, abandonment, other*).

A priori content analysis of the process dimensions of the IPA that were hypothesized as predictors of therapy outcome resulted in the development of six factors, described below:

1. Panic Dynamics Focus taps the extent to which the therapist focuses on panic symptoms and dynamisms.

2. Transference Focus measures the therapist's focus on the transference relationship. Scores represent a broadly defined focus on the transference, from encouraging the patient to express ideas and fantasies about the therapist, to interpreting transference experiences in relation to the patient's earlier relationships with parents and significant figures during childhood.

3. Early Relationships Focus monitors the therapist's focus on "genetic" relationships, (i.e., earlier relationships in the patient's life, such as with parents or siblings). Items include therapists' exploration of earlier relationships as well as interpretations connecting genetic relationships to panic symptoms.

4. Present Relationships Focus taps the therapist's focus on present relationship patterns, other than the transference. Aspects explored and/or interpreted include relationships with spouses or with family members in the present.

5. Ego Defenses Focus measures the therapist's focus on the patient's use of ego defenses to avoid frightening affects and fantasies. This factor includes the use of ego defenses in relation to panic symptoms as well

as in general, and does not refer to the use of panic itself as a defense. Ego defenses include denial, isolation of affect, somatization, undoing, displacement, projection, rationalization, reaction formation, and repression.

6. Patient Exploration taps the extent to which the patient appears engaged in the therapeutic interaction. High scores on this factor characterize patients whose behavior demonstrates such aspects as a willingness to explore underlying feelings and thoughts associated with panic episodes, as well an ability to elaborate in response to therapists' comments during session.

A principal components factor analysis with varimax rotation was conducted on the final data set to support the previously identified factors.

Outcome Instruments. Outcome instruments in the present study represented a subset of those used in the pilot outcome study of Panic-Focused Psychodynamic Psychotherapy (Milrod et al., 2000). The three measures examined in the present study were (1) Panic Disorder Severity Scale (PDSS) (Shear et al., 1997). The PDSS is a brief, clinician rated scale for the assessment of overall symptoms of panic disorder; (2) Sheehan Disability Scale (SDS) (Sheehan, 1983). The SDS addresses the impact of symptomatology on work, social, and family functioning; and (3) Hamilton Anxiety Scale (HAM-A) (Hamilton, 1959). The HAM-A serves as a dimensional measure of non–panic-related anxiety (i.e., how generally aroused and anxious the patient is in situations not linked to panic attacks).

Procedures

Three sessions chosen from approximately equal time intervals in the 24-session treatment (i.e., one from the first third of treatment, session 4; one from the middle third, session 12; and one from the final third, session 21) were used to represent the process of a completed PFPP psychotherapy treatment. Entire videotaped sessions were rated by the three raters under the premise that global ratings of certain aspects of the interaction (e.g., patient attitude, affective response, and the degree to which a therapist's intervention is a major focus in a session) might be compromised if shorter segments of sessions were used. Although the literature supports the use of smaller unit lengths and sampling within

sessions (Suh, Strupp, and O'Malley, 1986), because of the complexities of psychodynamic treatment, the use of the entire session was expected to yield optimal results. Each rater viewed an entire 45- to 50-minute session and rated the session immediately following viewing.

Three sessions with 17 patients and their therapists, plus two sessions from two midtreatment dropouts and one session each from two early-treatment dropouts, yielded a total of 57 rated sessions.

Results

Psychometric Properties

Preliminary analyses were conducted to examine the psychometric properties of the process measure. The psychometric properties of the IPA were examined in the following ways: (a) interrater reliability of the three raters, (b) internal consistency among the items comprising the IPA factors, (c) concurrent validity between the IPA and the Vanderbilt Psychotherapy Process Scale (VPPS) (Strupp et al., 1974). The VPPS is another measure used to rate process in the current study, but these results are not reported in this paper. The VPPS is intended to be largely neutral with respect to any particular theory of psychotherapy and to be applicable to a wide range of therapeutic interventions. VPPS ratings are made on a scale from 1 (*not at all*) to 5 (*a great deal*). The VPPS includes seven subscales: Patient Participation, Patient Exploration, Patient Hostility, Patient Psychic Distress, Therapist Exploration, Therapist Warmth and Friendliness, and Negative Therapist Attitude.

Intraclass correlation coefficients (ICC) were obtained to estimate reliability on the subset of sessions that were rated across three raters, which included 10%, or six sessions, of the 57 total sessions. The random-effects ICC represents a statistically adjusted score intended to reflect the degree of agreement that can be expected when the scale is used by a random sample of k judges with similar training (Shrout and Fleiss, 1979).

Interrater Reliability. Interrater reliability ranged from a low of .01 for the Therapist Focus on Present Relationships factor to a high of .52 for the Patient Exploration factor. The remainder of ICC ratings were as follows: Therapist Focus on Transference = .27; Therapist Focus on

Early Relationships = .16; Therapist Focus on Ego Defenses = .25; Therapist Focus on Panic Dynamics = .06. ICC for the IPA factor ratings all fell below the .70 level considered acceptable in psychotherapy process research (Orlinsky and Howard, 1986).

Although interrater reliability was adequately established during the training portion of the study, the consistency of the ratings among the raters dropped substantially when evaluating actual data. One possible explanation for this is that the calculation of the interrater reliability coefficients was based only on 10% of a small sample of sessions. It is possible that this 10% represented the portion of protocols that were most inconsistently rated; the other 90% may have had far greater consistency among the raters. In addition, because random-effects ICC models include a larger error term than fixed effects models (which reflect the degree of consistency in a specific set of ratings by a particular sample of judges), they may tend to yield lower estimates of reliability (Lambert and Hill, 1994). Nevertheless, because the increase in error variance of measures tends to attenuate relationships (Ghiselli, Campbell, and Zedeck, 1981), it is possible that the poor interrater reliability of these measures contributed to a deflation of the correlations observed. Despite low reliability ratings, we chose to proceed with the proposed analyses due to the exploratory nature of the present study.

Internal Consistency of IPA. Cronbach's coefficient alphas that measured internal consistency of the IPA factors were within an acceptable range: Therapist Focus on Transference = .92 (early treatment), .95 (midtreatment), .61 (late treatment); Therapist Focus on Early Relationships = .72 (early), .44 (mid), .71 (late); Therapist Focus on Ego Defenses = .76 (early), .42 (mid), and .83 (late); Therapist Focus on Present Relationships = .76 (early), .69 (mid), and .86 (late); Patient Exploration = .67 (early), .07 (mid), .72 (late). Therapist Focus on Panic Dynamics included only one item. With the exception of Patient Exploration at midtreatment, these results overall indicate respectable homogeneity for the IPA factors.

Validity of IPA. To examine the convergent validity of the IPA, Pearson correlations were produced between the IPA and VPPS subscales at early, mid, and late treatment. Overall, findings were partially supportive of the convergence between the IPA and VPPS factors, and some interesting patterns emerged. Significant positive correlations

were found between certain factors at all phases of treatment. Strongest correlations were found between IPA Patient Exploration and VPPS Patient Participation and VPPS Patient Exploration, $r(55) = .616, p < .01$, midtreatment, and $r(55) = .683$, $p < .01$, early treatment, respectively. Moderately significant associations were found between VPPS Therapist Exploration and four of the six IPA factors at late treatment (all but Therapist Focus on Transference and Patient Exploration).

The IPA factor Therapist Focus on Transference was significantly correlated with VPPS Negative Therapist Attitude in late treatment, $r(19) = .54$, $p < .05$, in which a greater focus on transference was associated with a greater negative therapist attitude. This finding seems to suggest that in those sessions that raters noted a therapist focus on the transference, the therapist was perceived as having a negative attitude. The VPPS Negative Therapist Attitude scale would be elevated when raters noted the following: therapist negatively confronted patient, therapist is intimidating, authoritarian, lecturing, defensive, or judgmental. Surprisingly, the IPA factor Therapist Focus on Transference did not correlate with VPPS Therapist Exploration. These findings suggest that when therapists focus on the transference, these efforts seem less exploratory than challenging; therapists appear to be intervening in a confronting manner.

Process in PFPP

We were interested in describing what occurred during the course of PFPP treatment prior to examining how these processes correlated with outcome. Three one-way within-subject analyses of variance (ANOVAs) were conducted to compare the mean ratings across the IPA factors for each time period: (a) early treatment, (b) midtreatment, and (c) late treatment. Figures 1 to 3 depict the ratings of IPA factors at the early, mid, and late courses of treatment, respectively.

These ratings show that the IPA was able to differentiate between a number of unique processes occurring in the observed PFPP treatments. A statistically significant and large difference between the six IPA factors was found at early treatment, $F(5, 100) = 31.18$, $p < .0001$, $\eta^2 = .61$. A statistically significant, but smaller mean difference was observed at midtreatment, $F(5, 90) = 9.86$, $p < .0001$, $\eta^2 = .35$, and late treatment, $F(5, 80) = 7.50$, $p < .0001$, $\eta^2 = .32$. Least Significant Difference planned

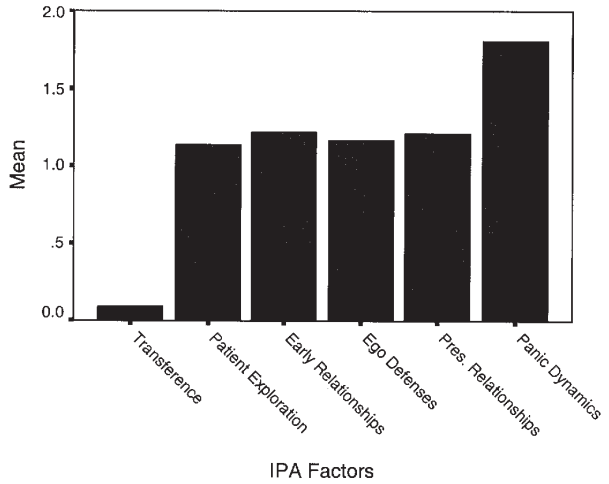

FIGURE 1. Mean ratings of Interactive Process Assessment (IPA) factors at early treatment. Factors were rated on a 3-point scale: 0 (*not present*), 1 (*present*), 2 (*major focus in the session*).

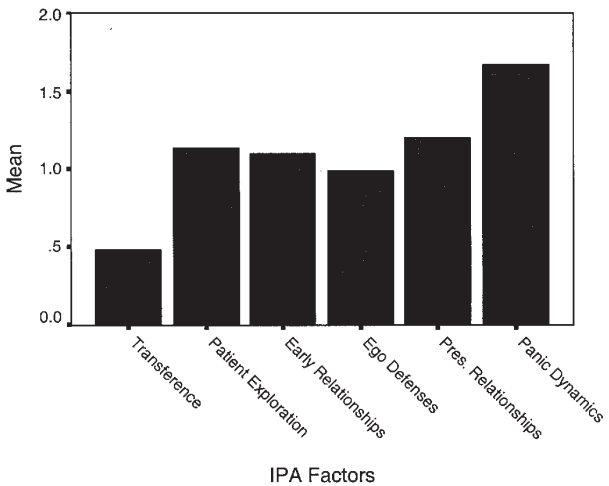

FIGURE 2. Mean ratings of Interactive Process Assessment (IPA) factors at midtreatment. Factors were rated on a 3-point scale: 0 (*not present*), 1 (*present*), 2 (*major focus in the session*).

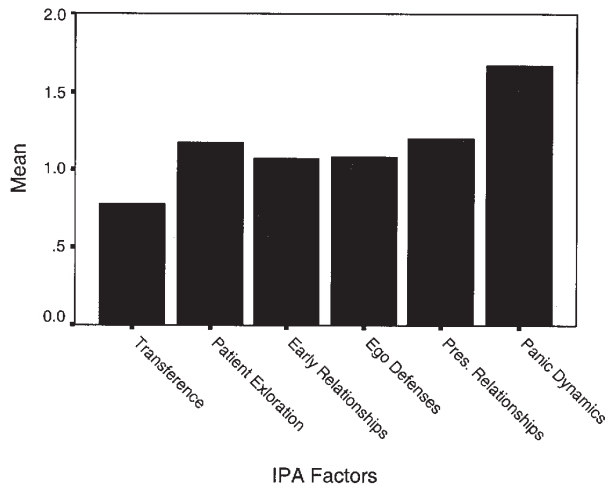

FIGURE 3. Mean ratings of Interactive Process Assessment (IPA) factors at late treatment. Factors were rated on a 3-point scale: 0 (*not present*), 1 (*present*), 2 (*major focus in the session*).

comparisons revealed that ratings of the IPA Transference factor were significantly lower than all other factors at early treatment and midtreatment (*p*s < .01). At late treatment, Transference ratings were significantly lower than all other factors (*p*s < .05) except for the Early Relationships factor (*p*s = .07). Overall, the pattern of mean differences for Transference indicates that early in treatment, therapists focused little on the transference, but progressively focused more attention on transference as the treatment continued, $F(2, 32) = 7.77$, $p < .01$,$\eta^2 = .33$. Additionally, at all stages of treatment, the Panic Dynamics factor had the highest score compared to the other factors (*p*s < .01) indicating that therapists tended to focus more intensely on panic dynamics than on the other issues.

Frequency data from the themes classified on the IPA are presented in Table 1. Approximately 68.4% of the 57 sessions focused on the theme of anger, while other themes were present to a lesser extent. Themes of dependency versus autonomy were the focus in 49.1% of rated sessions, abandonment in 35.1% of rated sessions, mourning and loss in 29.8%, shame and guilt in 15.8%, sexual excitement in 10.5%, intimacy versus isolation was in 8.8%, and other themes (e.g., fear or disappointment) were in 17.5% of rated sessions.

TABLE 1
Percentage of Identified Themes
Across All 57 Sessions

Theme	*%*
Anger	68.4
Dependency versus autonomy	49.1
Abandonment	35.1
Mourning and loss	29.3
Shame and guilt	15.8
Sexual excitement	10.5
Other themes	17.5

Note. Percentages add up to more than 100% because multiple themes were rated for each session.

Process–Outcome Correlates

To evaluate process–outcome relationships, partial correlation coefficients that controlled for initial symptomatology were calculated between the IPA process factors at early, mid, and late treatment and outcome measures at termination. The correlations are reported in Table 2. Three of the 6 IPA factors, Therapist Focus on Transference, Ego Defenses, and Present Relationships, were predictive of an alleviation of panic symptoms, as measured by the PDSS. However, associations were specific to timing of therapist interventions. Transference focus at late treatment, Ego Defenses at midtreatment, and Present Relationships at early treatment correlated with lower PDSS scores at termination. A moderate, though nonsignificant correlation was found between Therapist Focus on Present Relationships late in treatment and lower PDSS scores.

While Therapist Focus on Transference late in treatment was associated with a decrease in panic symptoms, Transference focus early in the treatment was correlated with an increase in related symptomatology, as measured by the HAM-A and SDS. The Transference factor showed significant positive correlations with the HAM-A and nonsignficant moderate positive correlations with the SDS. Lower scores on outcome measures at treatment termination indicated improvement. Two factors, Therapist Focus on Panic Dynamics and Patient Exploration, showed no correlations with outcome.

TABLE 2
Partial Correlation Coefficients Among IPA Therapist Focus on Panic, Therapist Focus on Transference, and Outcome Variables at Early, Mid, and Late Treatment, Controlling for Initial Symptomatology

IPA Factor	*PDSS*	*SDS*	*HAM-A*
Therapist Focus on Transference			
Early (n = 21)	.35, p = .18	.47, p = .07†	.59, p = .02*
Mid (n = 19)	.30, p = .27	.37, p = .16	.11, p = .70
Late (n = 17)	–.63, p = .01*	–.32, p = .22	–.14, p = .60
Therapist Focus on Early Relationships			
Early (n = 21)	–.07, p = .80	–.03, p = .91	–.13, p = .63
Mid (n = 19)	–.36, p = .17	.21, p = .44	.05, p = .86
Late (n = 17)	–.18, p = .50	.47, p = .07†	.29, p = .27
Therapist Focus on Ego Defenses			
Early (n = 21)	–.10, p = .72	–.19, p = .49	–.27, p = .31
Mid (n = 19)	–.52, p = .04*	–.31, p = .24	–.32, p = .23
Late (n = 17)	–.37, p = .17	–.34, p = .20	.02, p = .95
Therapist Focus on Present Relationships			
Early (n = 21)	–.53, p = .04*	–.21, p = .43	.05, p = .85
Mid (n = 19)	–.39, p = .13	.03, p = .91	–.27, p = .32
Late (n = 17)	–.45, p = .08†	–.03, p = .92	.05, p = .87
Therapist Focus on Panic Dynamics			
Early (n = 21)	.16, p = .54	–.02, p = .94	–.09, p = .75
Mid (n = 19)	.08, p = .76	–.21, p = .43	.25, p = .58
Late (n = 17)	.09, p = .74	.17, p = .54	.09, p = .75
Patient Exploration			
Early (n = 21)	–.29, p = .28	–.33, p = .21	–.10, p = .72
Mid (n = 19)	–.14, p = .59	–.13, p = .64	–.22, p = .42
Late (n = 17)	–.25, p = .35	–.27, p = .32	–.13, p = .65

Note. IPA = Interactive Process Assessment; PDSS = Panic Disorders Severity Scale (lower scores at treatment end indicate improvement); SDS = Sheehan Disability Scale (lower scores at treatment end indicate improvement); HAM-A = Hamilton Anxiety Scale (lower scores at treatment end indicate improvement). $^{\dagger}p < .10$. $*p < .05$.

Discussion

This study was designed to assess relationships between therapeutic process and clinical outcome in a sample of individuals being treated for panic disorder using Panic-Focused Psychodynamic Psychotherapy (PFPP). A process rating scale, the Interactive Process Assessment (IPA), was used to examine specific processes occurring in PFPP at multiple time periods throughout a 24-session, approximately 12-week

treatment. Process ratings were correlated with outcome measures of symptomatic improvement.

In considering how psychotherapy process relates to outcome in the present study, it is important to note that therapeutic outcome was excellent overall (Milrod et al., 2001). Thus the range of outcome was narrow, limiting the strength of associations with process variables. Of 17 patients who completed treatment (out of 21), 16 achieved remission of panic attacks and preoccupation with panic, as well as reduction of related anxiety symptoms (e.g., high levels of resting anxiety, general arousability).

In addition, improvements in quality of life were attained, indicating a better ability to function in daily activities (Milrod et al., 2000; Milrod et al., 2001). Outcome findings show that at week 0 (pretreatment), patients' mean score was 12.80 on the PDSS (SD = 3.10); the mean score on the SDS was 15.40 (SD = 7.60); and on the HAM-A, the mean score was 18.30 (SD = 6.20). At week 16 (posttreatment), patients' mean score on the PDSS was 5.00 (SD = 3.50); the SDS mean score was 6.94 (SD = 5.10); and the mean score on the HAM-A was 8.50 (SD = 5.10). The within-group effect size (Cohen's *d*) for the PDSS was 2.08, $p < .001$; for the SDS, it was 1.55, $p < .001$; and for the HAM-A, it was 1.72, $p < .001$.

In addition, patients treated in the present study achieved substantial recovery despite the fact that they appeared to have been more symptomatic from panic disorder and agoraphobia than those treated in recent controlled trials (Milrod et al., 2000; Barlow et al., 2000). Almost half of this group had comorbid major depression or dysthymia, a population of panic patients that tends to respond more poorly to all studied psychotherapeutic treatments (Noyes, Holt, and Woodman, 1996).

Thus, psychodynamic psychotherapy appears to be a promising treatment for panic disorder, and the present process–outcome study was designed to understand what makes that so. Process–outcome correlates reported here are relative to the degree of outcome, however; poorer outcomes were still relatively favorable, considering that 16 of 17 completers substantially improved clinically and statistically.[1] Thus, results are to be interpreted with caution.

In the present study, the process of actual Panic-Focused Psychodynamic Psychotherapy sessions was described. As expected, therapists

[1]Data analyses did not compare dropouts (N = 4) and completers (N = 17) because of limited statistical power (Milrod et al., 2001).

appeared to focus little on the transference early in treatment, but progressively focused more attention on the transference as the treatment continued, while at all stages of treatment therapists focused on panic dynamics. These findings reflect the classical psychoanalytic training of the study therapists, who would have been likely to wait to bring up transference issues. The overwhelming focus on panic dynamics reflects the design of PFPP as a panic-focused psychotherapy.

Process–outcome correlates suggest that patients' panic symptoms at treatment termination improved in proportion to therapists' focus on transference in the last third of these 24-session psychotherapies. At the most basic level, this finding that a focus on the transference correlates with outcome may provide support for the common psychoanalytic wisdom about mutative aspects of the interpretation of the transference (Freud, 1912; Strachey, 1934; Stone, 1967; Racker, 1968; Gill, 1979). In this view, the analysis in the therapeutic relationship of the patients' conflicts about past relationships ultimately leads to greater insight and resolution.

Although the present study is limited in its ability to clarify in which ways therapeutic focus on the transference might have been beneficial, it was designed to consider the possible influence of timing of interventions and processes within a 24-session treatment. The apparent association between transference interpretations late in treatment and relief of panic symptoms at termination may be particularly reflective of working in a time-limited treatment with panic patients. The time-limited aspect of the study treatment may have influenced the timing of transference interpretations, in that transferential fantasies and phenomena all telescoped in these fairly intense, brief treatments. Individuals with panic disorder tend to become anxious around separation (phobic companions, for example, are not uncommon). Psychodynamic formulations of panic disorder highlight threats to attachments as triggers for regression resulting in panic (e.g., Milrod et al., 1997). It these treatments, the greater transference work towards the end of treatment often reflected the interpretation via the transference of separation issues. The association with superior outcome, therefore, might suggest that termination interpreted via the transference allows panic patients to begin to master early traumatic anxiety and separation fears.

While focusing on the transference later in treatment correlated with an alleviation of panic symptoms, focusing on the transference early in treatment was associated with increased anxiety and impaired social

functioning at treatment termination. This suggests that a focus on transference too early may actually have had a negative impact on symptoms, as measured at the end of treatment.

This finding is consistent with traditional psychoanalytic views about the negative impact of premature interpretation of the transference (Strachey, 1934). In this view, it is believed that the transference should only be interpreted after it has developed and intensified over a lengthy psychoanalysis (Strachey, 1934). Likewise, many traditional psychoanalysts would find any mention of transference phenomena within the confines of a 24-session treatment to be premature. Others (Sifneos, 1972; Mann, 1973; Malan, 1976; Davanloo, 1978) working within a psychodynamic framework have argued that transference interpretations early in treatment are beneficial.

Detailed guidelines on the best timing for transference interpretations have yet to be established. Recent psychotherapy research (e.g., Winston, McCullough, and Laikin, 1993; Hoglend, 1996; Bond, Banon, and Grenier, 1998) has suggested that, at least for more disturbed patients, transference interpretations are best reserved for after the development of a strong working relationship. For more characterologically disturbed patients, however, a negative transference may develop quickly, necessitating earlier interventions. Kernberg has noted that "the sicker the patient and the more distorted the total interpersonal interaction in the psychotherapeutic relationship, the easier it is to diagnose primitive object relationships in the transference" (Kernberg et al., 1989, p. 51).

It is possible that in the present study, a greater focus on transference early in these brief treatments was a marker for more intense and disruptive relationships with therapists, such as might be seen with patients with severe borderline or narcissistic personality characterological styles. In other words, therapists may have been more likely to focus on what might have been disruptive transference relationships early in treatment with more impaired patients, which led to an observed association with greater symptomatology. Thus, in the present study, patient characteristics such as personality disorders may have been powerful factors. This hypothesis cannot be verified, however, as no measure of personality disorder, such as the SCID-II, was performed on this sample.

Nonetheless, the present study did include diagnoses of comorbidity, which offered some opportunity to explore the possible relationship between additional symptomatology and transference interventions. Post

hoc, we examined the comorbid diagnoses for those patients for whom transference was a focus of the session in early treatment, which included three of 21 subjects. Of these three patients, one had an additional diagnosis of a specific phobia and had dropped out of treatment in the first third of the 12-week therapy, one had comorbid bipolar disorder and posttraumatic stress disorder, and another had comorbid obsessive-compulsive disorder. Interestingly, bipolar disorder, PTSD, or OCD were not found to be comorbid disorders for other patients, suggesting that perhaps this subset of patients was more impaired. Other comorbid diagnosis included specific phobias, social phobias, generalized anxiety disorder, and depression.

A subset of eight of the 21 subjects who participated in the study met DSM-IV criteria for either major depressive disorder or depressive disorder NOS. Therapists did not address the transference in the beginning of treatment in any of the rated sessions for the eight depressed patients. For all but one of the depressed eight patients, therapists exclusively addressed the transference in the rated session from late treatment, which was consistent with the general trend of increased focus on the transference in late treatment for all patients (see Figures 1–3).

Therapist Focus on Panic Dynamics and Patient Exploration, showed no correlations with outcome, which may reflect limitations of the IPA as used in this protocol. Patient Exploration may have been too broad a construct in the present study, as it included patient variables that might better have been examined separately and in more detail (e.g., willingness to explore underlying dynamics; verbal elaboration in response to therapists' comments). The lack of meaningful process–outcome associations regarding focus on panic dynamics is likely related to the narrow variability of the data; almost uniformly high process ratings of focus on panic dynamics reflect the high level of therapist training and adherence (Milrod et al., 2001) to a treatment meant to be "panic-focused." The strongest associations found in this study concerned the factor that appeared to vary the most over the course of treatment as measured by the IPA, namely, the focus on transference (see Figures 1–3). The last prediction in the current study was that Panic-Focused Psychodynamic Psychotherapy would focus on the theme of anger more so than any other theme and this is exactly what was found. In approximately 68% of the sessions, anger emerged as an important theme. The theme of dependency versus autonomy (49%) and abandonment (35%) were the next most common themes.

The finding that anger was the predominant theme in most sessions provides support for the proposed focus in Panic-Focused Psychodynamic Psychotherapy on anger. Several authors (e.g., Busch et al., 1991; Shear, et al., 1993; Milrod et al., 1997; Busch et al., 1999) have proposed that individuals with panic disorder become angry when their caretakers inevitably do not meet their endless need for protection. In addition, it is proposed that they feel narcissistically injured that they need their caretakers in this way, resulting in aggressive fantasies of destroying their love objects. Fears of losing the objects they require for survival are proposed to cause traumatic levels of anxiety that eventually culminate in panic attacks. These conflicts are believed to reemerge in adulthood when threats to attachment are encountered. These views suggest that panic patients would primarily use defenses that protect ambivalently needed objects from largely unconscious angry fantasies and impulses.

Although themes were rated based on patients' narratives during sessions, rather than on therapists' focus or interpretations, further research is needed to understand how session themes were generated. It could simply be that therapists, trained in the PFPP model to understand anger as a key aspect to panic disorder, encouraged patients to focus frequently on this theme. Without an analysis of patient–therapist interactions in moment or session sequences, it is not possible to know the extent to which therapists directed patients towards certain themes. This finding, therefore, may be equally indicative of therapist adherence to PFPP as of anger being an underlying dynamic of panic disorder.

A number of methodological limitations make potential conclusions tentative. First, therapeutic outcome was excellent overall (Milord et al., 2001), and thus the range of therapeutic outcomes was narrow, limiting the strength of associations. The small sample size also limited the strength of our findings. Furthermore, although interrater reliability was adequately established in the training phase of this study, ICC ratings were inadequate for the subset of sessions rated by multiple raters for the actual study. It is likely that interrater reliability would have been strengthened by frequent recalibration sessions during the rating phase of the study as well as by having multiple raters on a larger subset of sessions. In addition, there is some evidence that the number of levels for each item in a scale has a bearing on reliability (Finn, 1972), whereas a 7-point Likert-type scale appears to be the optimum number. The limited 3-point scale on the IPA meant that raters might have agreed that a given process was present, but had little room to differentiate between

degree of presence, especially when processes had limited variability. This limitation was most evident, for example, on the Panic Focus subscale; although raters each assessed high therapist focus on panic symptoms and dynamisms in almost all rated sessions (see Figures 1–3), ICC ratings were unable to reflect rater agreement (ICC = .06).

Despite these significant limitations, this study showed some interesting findings. In sum, the present study offers a preliminary description of some of the therapeutic processes involved in Panic-Focused Psychodynamic Psychotherapy, and may serve in part as a guide to psychotherapists working with panic patients. In particular, the potential significance of the findings on the timing of transference focus and interpretation is compelling. These findings are limited by serious methodological shortcomings, discussed above, however, and should be appreciated primarily as points of departure for future research and tentative guidelines for clinical practice.

REFERENCES

Barlow, D., Gorman, J., Shear, M. K. & Woods, S. (2000), Cognitive-behavioral therapy, imipramine, or their combination for panic disorder: A randomized controlled trial. *J. Amer. Med. Assn.,* 283:2529–2536.

Bond, M. Banon, E. & Grenier, M. (1998), Working with a borderline patient. *Psychoanal. Quart.,* 46:386–424.

Busch, F., Cooper, A., Klerman, G., Penzer, R., Shapiro, T. & Shear, M. (1991), Neurophysiological, cognitive-behavioral and psychoanalytic approaches to panic disorder: Toward an integration. *Psychoanal. Inq.,* 11:316–332.

_____ Milrod, B., Cooper, A. & Shapiro, T. (1996), Grand rounds: Panic-focused psychodynamic psychotherapy. *J. Psychother. Res. Pract.,* 5:72–83.

_____ _____ Rudden, M., Shapiro, T., Singer, M., Aronson, A. & Roiphe, J. (1999), Oedipal dynamics in panic disorder. *J. Amer. Psychoanal. Assn.,* 47:773–790.

Crits-Christoph, P., Cooper, A. & Luborsky, L. (1988), The accuracy of therapists' interpretations and the outcome of dynamic psychotherapy. *J. Consult. Clin. Psychol.,* 56:490–495.

_____ Luborsky, L., Dahl, L., Popp, C., Mellon, J. & Mark, D. (1988), Clinicians can agree in assessing relationship patterns in psychotherapy: The Core Conflictual Relationship Theme method. *Arch. Gen. Psychiat.,* 45:1001–1004.

Davanloo, H., ed. (1978), *Basic Principles and Techniques in Short-Term Dynamic Therapy*. New York: SP Medical & Scientific Books.

Finn, R. (1972), Effects of some variations in rating scale characteristics on the means and reliabilities of ratings. *Educ. Psychol. Meas.,* 32:255–265.

Frances, A. & Perry, S. (1983), Transference interpretations in focal therapy. *Amer. J. Psychiat.,* 140:405–409.

Freud. S. (1912), The dynamics of transference. *Standard Edition,* 12:99–108. London: Hogarth Press, 1958.

Ghiselli, E. E., Campbell, J. P. & Zedeck, S. (1981), *Measurement Theory for the Behavioral Sciences.* New York: Freeman.

Gill, M. (1979), The analysis of the transference. *J. Amer. Psychoanal. Assn.,* 27(Suppl.): 263–288.

Hamilton, M. (1959), The assessment of anxiety states by rating. *Brit. J. Med. Psychol.,* 32:50–55.

Hoglend, P. (1996), Analysis of the transference in patients with personality disorders. *J. Pers. Disord.,* 10:122–131.

Kazdin, A. E. (2001), Bridging the enormous gaps of theory with therapy research and practice. *J. Clin. Child Psychol.,* 30:59–66.

Kernberg, O., Selzer, M., Koenigsberg, H., Carr, A. & Appelbaum, A. (1989), *Psychodynamic Psychotherapy of Borderline Patients*. New York: Basic Books.

Klein, C., Milrod, B. & Busch, F. (1999), Interactive Process Assessment, rater manual. Unpublished manuscript, Joan and Sanford I. Weill Medical College of Cornell University.

Lambert, M. & Hill, M. (1994), Assessing psychotherapy outcomes and process. In: *Handbook of Psychotherapy and Behavior Change,* 4th ed., ed. A. Bergin & S. Garfield. New York: Wiley.

Luborsky, L. & Crits-Christoph, P. (1990) *Understanding Transference: The Core Conflictual Relationship Theme Method.* New York: Basic Books.

_____ _____ Mintz, J. & Auerbach, A. (1988), *Who Will Benefit from Psychotherapy? Predicting Therapeutic Outcomes.* New York: Basic Books.

Malan, D. (1976), *The Frontiers of Brief Psychotherapy*. New York: Plenum Press.

Mann, J. (1973), *Time-Limited Psychotherapy*. Cambridge, MA: Harvard University Press.

Marziali, E. A. (1984), Prediction of outcome of brief psychotherapy from therapist interpretive interventions. *Arch. Gen. Psychiat.,* 41:301–304.

Milrod, B. (1995), The continued usefulness of psychoanalysis in the therapeutic armamentarium for the treatment of panic disorder. *J. Amer. Psychoanal. Assn.,* 43:151–162.

_____ & Busch, F. (1996), The long-term outcome of treatments for panic disorder: A review of the literature. *J. Nerv. Ment. Dis.,* 184:723–730.

_____ _____ Cooper, A. & Shapiro, T. (1997), *Manual of Panic-Focused Psychodynamic Psychotherapy*. Washington, DC: American Psychiatric Press.

_____ _____ Hollander, E., Aronson, A. & Siever, L. (1996), A 23-year-old woman with panic disorder treated with psychodynamic psychotherapy. *Amer. J. Psychiat.,* 153:698–703.

_____ _____ Leon, A., Shapiro, T., Aronson, A., Roiphe, J., Rudden, M., Singer, M., Goldman, H., Richter, D. & Shear, M. K. (2000), Open trial of psychodynamic psychotherapy for panic disorder: A pilot study. *Amer. J. Psychiat.,* 157:1878–1880.

_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ (2001), A pilot open trial of brief psychodynamic psychotherapy for panic disorder. *J. Psychother. Pract. Res.,* 10:239–245.

Milrod, B. & Shear, M. K. (1991), Psychodynamic treatment of panic: Three case histories. *Hosp. Community Psychiat., 42*, 42:311–312.

Noyes, R. J., Holt, C. S. & Woodman, C. L. (1996), Natural course of anxiety disorders. In: *Long-Term Treatments of Anxiety Disorders,* ed. M. R. Mavissakalian & R. F. Prien. Washington, DC: American Psychiatric Press, pp. 1–48.

Orlinsky, D. E. & Howard, K. I. (1978), The relation of process to outcome in psychotherapy. In: *Handbook of Psychotherapy and Behavior Change,* 2nd ed., ed. S. L. Garfield & A. E. Bergin. New York: Wiley.

_____ & _____ (1986), Process and outcome in psychotherapy. In: *Handbook of Psychotherapy and Behavior Change,* 3rd ed., ed. S. L. Garfield & A. E. Bergin. New York: Wiley.

Piper, W. E., Azim, H. F., Joyce, A. S. & McCallum, M. (1991), Transference interpretations, therapeutic alliance, and outcome in short-term individual psychotherapy. *Arch. Gen. Psychiat.,* 48:946–953.

_____ Debbane, E. G., de Carufel, F. L. & Bienvenu, J. P. (1987), A system for differentiating therapist interpretations from other interventions. *Bull. Menn. Clin.,* 51:532–550.

Racker, H. (1968), *Transference and Countertransference.* New York: International Universities Press.

Renik, O. (1995), The patient's anxiety, the therapist's anxiety, and the therapeutic process. In: *Anxiety as Symptom and Signal,* ed. S. G. Roose & R. A. Glick. Hillsdale, NJ: The Analytic Press.

Shear, M. K., Brown, T. A., Barlow, D. H., Money, R., Sholomskas, D. E., Woods, S. W., Gorman, J. M. & Papp, L. A. (1997), Multicenter collaborative Panic Disorder Severity Scale. *Amer. J. Psychiat.,* 154:1571–1575.

_____ Cooper, A. M., Klerman, G. L., Busch, F. N. & Shapiro, T. (1993). A psychodynamic model of panic disorder. *Amer. J. Psychiat.,* 150:859–966.

Sheehan, D. V. (1983), The Sheehan Disability Scales. In: *The Anxiety Disease,* ed. D. V. Sheehan. New York: Scribner's.

Shrout, P. & Fleiss, J. (1979), Intraclass correlations: Uses in assessing rater reliability. *Psychol. Bull.,* 86:420–428.

Sifneos, P. E. (1972). *Short-Term Psychotherapy and Emotional Crisis*. Cambridge, MA: Harvard University Press.

Silberschatz, G. F., Fretter, P. B. & Curtis, J. T. (1986), How do interpretations influence the process of psychotherapy? *J. Consult. Clin. Psychol.,* 54:646–652.

Simon, N. & Pollack, M. (2000), The current status of the treatment of panic disorder: Pharmacotherapy and cognitive-behavioral therapy. *Psychiat. Ann.,* 30:689–696.

Stern, G. (1995). Anxiety and resistance to changes in self-concept. In: *Anxiety as Symptom and Signal,* ed. S. G. Roose & R. A. Glick. Hillsdale, NJ: The Analytic Press, pp. 105–119.

Stone, L. (1967). The psychoanalytic situation and transference: Postscript to an earlier communication. *J. Amer. Psychoanal. Assn.,* 15:3–57.

Strachey, J. (1934), The nature of the therapeutic action of psycho-analysis. In: *Essential Papers on Transference,* ed. A. H. Esman. New York: New York University Press, 1990, pp. 49–79.

Strupp, H. H., Hartley, D. & Blackwood, G. L., Jr. (1974), Vanderbilt Psychotherapy Process Scale. Unpublished manuscript, Vanderbilt University.

Suh, C. S., Strupp, H. H. & O'Malley, S. S. (1986), The Vanderbilt Process Measures: The Psychotherapy Process Scale (VPPS) and the Negative Indicators Scale (VNIS). In: *The Psychotherapeutic Process: A Research Handbook,* ed. L. S. Greenberg & W. M. Pinsof. New York: Guilford Press.

Weiss, J. (1993), *How Psychotherapy Works*. New York: Guilford Press.

_____ Sampson, H. & Mount Zion Psychotherapy Research Group (1986), *The Psychoanalytic Process: Theory, Clinical Observations, and Empirical Research.* New York: Guilford Press

Wiborg, I. M. & Dahl, A. A. (1996), Does brief dynamic psychotherapy reduce the relapse rate of panic disorder? *Arch. Gen. Psychiat.,* 53:689–694.

Winston, A., McCullough, L. & Laikin, M. (1993), Clinical and research implications of patient–therapist interaction in brief psychotherapy. *Amer. J. Psychother.,* 47: 527–539.

Division of Child and Adolescent Psychiatry
North Shore University Hospital
400 Community Drive
Manhasset, NY 11030
cara@pcony.com