Interpersonal Process and Outcome in Variants of Cognitive–Behavioral Psychotherapy

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Early sessions from three variants of cognitive–behavioral therapy (CBT) were examined to replicate work done in psychodynamic-interpersonal treatments linking interpersonal process to outcome (W. P. Henry, T. E. Schacht, & H. H. Strupp, 1986, 1990). Cases were available from a component study of CBT for generalized anxiety disorder (T. D. Borkovec, M. G. Newman, A. L. Pincus, & R. Lytle, 2002) and were selected to form good and poor outcome groups maintained through a 1-year follow-up. A third group was also examined that had initial positive outcomes and marked decline by follow-up ($n = 8$ for each). Structural analysis of social behavior (SASB) was used to identify interpersonal behaviors. Contrary to the authors' expectation, SASB variables were not strong predictors of outcome, and lower levels of interpersonal hostility were found than was the case in previous work. Findings are discussed in light of differences observed between treatment variants and the role that manuals may have in standardizing some aspects of the therapeutic relationship. © 2006 Wiley Periodicals, Inc. J Clin Psychol 63: 31–51, 2007.

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The therapeutic relationship is a fundamental component of psychotherapy. It is within the context of a relationship that client and therapist meet in a joint attempt to understand and resolve a client's problems. Simple lay wisdom might suggest that, for many problems, if a client and therapist do not get along with each other, then little that is lasting and productive will come of their time together, regardless of the training, psychological knowledge, or adherence to prescribed technique that a therapist may demonstrate. Consistent with this statement, findings in psychotherapy research indicate that factors common to all therapies, such as the quality of the relationship between client and therapist, may be important contributors to outcome rivaling in their strength of effect many of the specific techniques associated with competing schools of therapy (Lambert & Bergin, 1994). Theorists and researchers have historically downplayed the precise role that the therapeutic relationship plays in determining the effectiveness of therapy (Henry & Strupp, 1994). Now the concept of the therapeutic relationship is increasingly occupying center stage in theories of how many forms of psychotherapy work (e.g., Goldfried & Davila, 2005; Henry, Schacht, & Strupp, 1990; Muran, 2002; Norcross, 2002).

The Therapeutic Relationship, Alliance, and Interpersonal Process

The relationship between client and therapist has received a great deal of attention in recent years in the form of the therapeutic alliance. Although the construct emerged within the psychodynamic orientation, there is general agreement that the quality of the relationship in therapy, measured as the strength of the alliance (variously defined) between client and therapist, is likely to be an important contributor to outcome in all therapies (Bordin, 1979; Henry, Strupp, Schacht, & Gaston, 1994; Horvath & Symonds, 1991; Keijsers, Schaap, and Hoogduin, 2000; Orlinsky, Grawe, & Parks, 1994). In fact, a recent APA Division 29 Task Force (Norcross, 2002) has published a summary of work documenting the contribution of the therapeutic relationship to therapy outcome. A separate Task Force sponsored by APA Division 12 and the North American Society for Psychotherapy Research has also included relationship factors as a major category with multiple empirically supported therapeutic principles for a wide range of disorders (Castonguay & Beutler, 2006).

Despite recent attention, most research on the alliance has conceptualized the construct globally, without a firm theoretical base, and in a manner that does not allow for an analysis of specific behaviors that contribute to good versus poor client outcome. Notable exceptions can be found, however, such as in the work of Safran, Muran, and colleagues who have engaged in careful study of rupture and repair processes in the therapeutic alliance (Muran, 2002; Safran, Muran, Samstag, & Winston, 2001).

Another potentially fruitful approach to understanding the issue of precisely how the alliance works to create therapeutic change has been outlined by Henry and colleagues (Henry, Schacht, & Strupp, 1986, 1990; Henry & Strupp, 1994; Henry, 1996). They view the alliance as being synonymous with the therapeutic relationship, and define it operationally as the ongoing interpersonal transactions between client and therapist. Additionally, they have provided evidence of a link between moment-by-moment interpersonal process and eventual outcome in psychodynamic-interpersonal (PI) therapy (Henry et al., 1986, 1990).

Beyond a simple reframing of the alliance to a focus on moment-by-moment interpersonal behavior, Henry and colleagues propose that the in-session interpersonal behavior of the therapist is "introjected" by the client, thus directly bringing about (or impeding) change, and offer evidence in support of this position (Harrist, Quintana, Strupp, & Henry, 1994). From a cognitive perspective, this process of introjection might be seen as

information gained experientially through salient social interaction that impacts the perceptions, beliefs, schemas, and ultimately the behaviors of a client (Guidano & Liotti, 1983; Mahoney & Gabriel, 1987; Safran & Segal, 1990). Other perspectives on the role of the therapeutic relationship have also been articulated. Cognitive–behavioral theorists for example, have traditionally viewed the therapeutic relationship as an enabling background factor, having only an indirect effect on outcome. Specific techniques are instead emphasized as bringing about therapeutic change (e.g., Beck, Rush, Shaw, & Emery, 1979; Ellis, 1962; Eysenck, 1969; Foa, Steketee, Grayson, & Doppelt, 1983; Persons & Burns, 1985).

Despite differences about putative mechanisms, most theories predict an empirical association between aspects of the relationship and outcome. The purpose of the present study was to evaluate this basic prediction, using microanalytic, behavioral data, in a small sample of therapy dyads taken from a completed component study comparing variants of cognitive–behavioral therapy (CBT) for generalized anxiety disorder (GAD; see Borkovec, Newman, Pincus, & Lytle, 2002 for details). In this study, we had a rare opportunity to focus on the specific client and therapist interpersonal interactions in the form of a manualized CBT, and to explore their possible relationship to outcome—similar to what has been done in PI treatments.[1] This approach, used in a cognitive–behavioral context, might shed light on whether the moment-by-moment, interpersonal dimensions of the therapeutic relationship are important in more than just PI therapy. Such evidence could then be used as a starting point from which to inform attempts to optimize relationship-relevant treatment processes in CBT and to inform future research on possible change mechanisms.

Interpersonal Process and Outcome: Previous Research Results

Previous work by Henry et al. (1986, 1990) emphasized fine-grained analysis of moment-by-moment interactions using the structural analysis of social behavior (SASB: Benjamin, 1979, 1987, 1996), a sophisticated circumplex model of interpersonal behavior. This approach to defining and assessing the alliance has been shown to be useful, like other alliance measures, for predicting outcome from early sessions of PI therapies (Coady, 1991a, 1991b; Henry et al., 1986, 1990; Jørgensen, Hougaard, Rosenbaum, Valbak, & Rehfeld, 2000). In addition, the emphasis on small units of behavior yields data very close to the momentary experiences of a therapy session and could prove useful for focused therapist training.

Using SASB, Henry et al. (1986) found different patterns of interpersonal process in good versus poor outcome clients seen by the same therapist. These patterns are summarized by Henry et al. (1990), "In terms of the underlying dimensions of SASB, therapists in poor outcome cases were exercising more hostile control and were less prone to grant friendly autonomy, while their patients were responding with a reduced level of affiliative autonomy-taking and greater hostile separation" (p. 768).

The initial finding that aspects of SASB-coded interpersonal process predict outcome was replicated by Henry et al. (1990) and others (Coady, 1991a, 1991b; Jørgensen et al., 2000). The specific SASB-coded behaviors that predicted outcome in each sample varied somewhat, with hostile separation on the part of a client consistently appearing as

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[1]Henry, Butler, Strupp, Schacht, and Binder (1993) showed that interpersonal variability, predictive of outcome, existed despite manualized training in time-limited dynamic psychotherapy. We take this finding as the basis for our assumption that similar variability may be found in a manual-driven CBT sample.

a significant predictor in all studies. Overall results suggested that behaviors containing elements of hostility in even small amounts are predictive of poor outcome. In addition, this work demonstrated that therapists could interact with clients in ways that contribute to either good or poor outcome even while otherwise employing the same nominal set of techniques.

Cognitive–Behavioral Therapy, Interpersonal Process, and Outcome:
Specific Predictions and Goals of Analysis

Interpersonal process has been presented as a common factor contributing to outcome in all therapies (Henry & Strupp, 1994). However, specific process studies using the methods described above have been conducted only with PI therapies. These therapies traditionally emphasize the role of the client–therapist relationship and encourage therapists to use the relationship to bring about change. Given this emphasis, it may not be surprising that interpersonal processes have been found to be related to outcome in previous research. By contrast, cognitive–behavioral theorists traditionally view the therapeutic relationship as less central to outcome, contributing only indirectly by facilitation of compliance with assignments or otherwise helping a client become more receptive to CBT techniques per se (e.g., Beck et al., 1979; Ellis, 1962; Eysenck, 1969; Foa et al., 1983; Persons & Burns, 1985).

Despite the reduced theoretical emphasis on the relationship in CBT, a review by Keijsers and colleagues concluded that relationship variables are of strong relevance in understanding CBT outcome (Keijsers, Schaap, & Hoogduin, 2000). They observed that overall levels of CBT alliance scores tend to be similar to, or higher than those in "insight-oriented" therapies, and that they are frequently found to correlate with outcome. A major methodological problem identified by Keijsers and colleagues for conducting interpersonally based process research from a CBT perspective is a lack of theoretical basis for such an enterprise.

In light of the above, the chief question put forward in the present study is simply whether or not SASB-coded interpersonal process measured early in therapy predicts outcome in varying forms of CBT in a manner similar to what has been found in PI therapies. We believe that this will be an important first step towards a better understanding of the role of interpersonal process across differing forms of treatment. In keeping with an increased interest in effects of treatment that last over time, good and poor outcome groups were constructed based on maintenance of high versus low outcome status between termination and 1-year follow-up assessments. A third group, conceptualized as another form of poor outcome, was also included for separate analysis and consisted of clients who had initial good outcomes but then showed marked decline over time.

Based on previous research, it was expected that clients with poor outcomes would have experienced and/or engaged in more behaviors that involved forms of hostility (as defined in the SASB model) than did those with good outcomes. Although previous research provides us with this prediction regarding hostile behaviors in general, results have not been entirely uniform in terms of specific SASB clusters. In addition, differences have been documented between typical verbal interventions used in psychodynamic and cognitive–behavioral therapies suggesting that different interpersonal stances may be associated with these two general treatment approaches (Goldfried, Castonguay, Hayes, Drozd, & Shapiro, 1997; Stiles & Shapiro, 1995; Wiser & Goldfried, 1996). Furthermore, Bordin (1979) has suggested that different kinds of client–therapist alliances (and, by implication, interpersonal processes) may be predictive of outcome in different therapies. In consideration of all these factors, we planned a secondary set of

exploratory analyses encompassing the entire range of interpersonal processes that may be associated with outcome in CBT. We also planned exploratory analyses seeking to characterize the treatments and therapists included in our sample based on interpersonal differences.

Method

Participants

Participants were selected from an existing database of 69 clients involved in a study comparing three variants of manualized CBT for GAD at the Stress and Anxiety Disorders Institute at the Pennsylvania State University (see Borkovec et al., 2002). Clients accepted for the original study received a diagnosis of GAD according to the *Diagnostic and Statistical Manual of Mental Disorders, Third Edition, Revised* criteria (DSM-III-R; American Psychiatric Association [APA], 1987). Separate diagnostic interviews were conducted by two independent interviewers (advanced psychology graduate student assessors conducted the first interview, doctoral-level therapists conducted the second interview) using the Anxiety Disorders Interview Schedule-Revised (ADIS-R; DiNardo & Barlow, 1988). Clients were included if the two interviewers both gave a primary diagnosis of GAD and excluded if they met criteria for panic disorder, major depression, substance abuse, psychosis or organic brain syndrome, had medical contributions to anxiety symptoms, or were taking antidepressant medication. The mean age for the sample of 24 clients used in the present study was 40 years, with a mean GAD chronicity of 12 years. As might be expected in a sample obtained at a university clinic, participants had high educational achievement: 33% completed high school, 42% completed college, and 25% completed graduate degrees. Of the 24 participants, 15 were women, and 9 were men. Ethnic composition was as follows: 22 clients were White, 1 was Hispanic, and 1 was African American.

Treatments

Participants received one of three variants of manualized cognitive–behavioral treatment for GAD. The three types of manualized therapy, each lasting 14 sessions (four 2-hour sessions, plus ten 90-minute sessions), consisted of (a) cognitive therapy (CT) coupled with supportive listening, (b) applied relaxation and self-control desensitization coupled with supportive listening (SCD), and (c) a combination of cognitive therapy, applied relaxation, and self-control desensitization (CT/SCD). Supportive listening was used in the first two conditions to match all conditions on total session time while maintaining equivalence in the amount of time devoted to each component of the CBT package.

The primary goal of the CT component was to help clients identify and challenge perceptions and interpretations that provoke anxiety. The techniques used included self-monitoring of inaccurate thoughts, examination of evidence supporting anxiety-provoking beliefs, search for alternative explanations, exploration of underlying schema, logical analysis of thoughts and predictions, and decatastrophizing (Beck & Emery, 1985).

The goal of applied relaxation and self-control desensitization components was to help clients identify cues of anxiety (e.g., images, somatic reactions, stressful events) and to rehearse in the session and in daily life the coping skills to reduce such anxiety. Among the techniques used were the self-monitoring and early detection of anxiety triggers, progressive and applied relaxation training, stimulus control methods, and imaginal rehearsal of coping skills to fear-arousing situations.

The original study found that clients who received each variant of therapy improved substantially, showing overall effect sizes similar to previous research examining forms of CBT for GAD. No differences were found between treatment variants or between therapists across a variety of symptom-focused outcome indices including the measure of end-state functioning used to form the groups in this study (described below). Scales from a self-report measure of interpersonal problems, the Inventory of Interpersonal Problems-C (IIP-C; Alden, Wiggins, & Pincus, 1990) were found to be associated with aspects of outcome for the sample as a whole, further serving to motivate the present exploration of in-session interpersonal dynamics (for more detail regarding treatments, treatment sample, and results, see Borkovec et al., 2002).

Measures of Clinical Functioning

Six separate, well-established, and validated outcome measures for GAD were collected prior to therapy, at termination, and at a 12-month follow-up. These measures included (a) the Penn State Worry Questionnaire (PSWQ; Meyer, Miller, Metzger, & Borkovec, 1990), a measure of worry that distinguishes GAD from all other anxiety disorders (Brown, Antony, & Barlow, 1992), (b) reactions to Relaxation and Arousal Questionnaire (RRAQ; Heide & Borkovec, 1983), a factor-analytically derived measure of fear of relaxation, (c) the State-Trait Anxiety Inventory-Trait subscale (STAI-T; Spielberger, Gorsuch, & Lushene, 1970), a self-report inventory of anxiety, (d) a diary-based anxiety measure in which clients rated their average level of anxiety on a 100-point severity scale 4 times a day over a period of 2 weeks prior to therapy, and 1 week before the termination and follow-up assessments (see Barlow et al., 1984), (e) the Hamilton Anxiety Rating Scale (HARS; Hamilton, 1959), an interview-based rating of anxiety administered at the end of the ADIS-R interview, and (f) Assessor Severity of GAD anxiety symptoms (Barlow et al., 1984), a 0–8-point global rating by the ADIS-R assessor indicating the severity of GAD symptoms and rated at the end of the ADIS-R interview. Further information regarding these measures is contained in Borkovec et al. (2002).

Therapists

This study involved three Ph.D. therapists (two women and one man) who saw the majority of cases (91%) in the larger study sample. The male therapist had served in a prior GAD study (Borkovec & Costello, 1993). All therapists underwent extensive training before the study began, including instruction and demonstrations by T. D. Borkovec (who authored the treatment manuals), viewing of therapy tapes, and role-playing. All followed detailed protocol manuals and demonstrated a high degree of adherence with all of the CBT protocols (only seven minor breaks in protocol were observed in an integrity check involving 15,945 statements and 20% of the total sample; see Borkovec et al., 2002 for more detail). The therapists who were new to GAD protocol treated a pilot client with combined CT/SCD before seeing their first study client. Therapists met with T. D. Borkovec in weekly supervision meetings, and session audio was reviewed to ensure the quality and fidelity of each treatment.

Case Selection and Group Formation

A contrasting groups approach was chosen for this study due to the time-intensive nature of process data collection, as well as to parallel the work in PI therapies described in the

introduction. Twenty-four total cases were selected from a larger available sample of 69. The 24 cases were selected for their fit to three outcome group types (good, poor, and declined, described below) each containing eight cases (mirroring group sizes in each of the previous PI studies). Cases were selected to ensure roughly equal representation of therapists and treatment variants across outcome groups. Nevertheless, the design was not fully crossed. Ten CT cases, six SCD cases, and eight CT/SCD cases were included in the sample. The number of cases seen by each of the three therapists were 11, 8, and 5, respectively.

Client outcome was based on a measure of clinical status termed *end state functioning* (ESF). End state functioning is defined as the number of outcome instruments (of the six measures described above) on which the client scored within one standard deviation of the mean of nonanxious normative samples (PSWQ, RRAQ, STAI-T, and HARS), or a score that exceeded a face-valid level for meaningful change when norms were not available; a score of 2 (*mild*) or less on the 9-point assessor severity and 20 (*slight anxiety*) or less on diary severity. In this study, as in the Borkovec et al. (2002) study, high ESF was defined as normal range scores on four, five, or six of the six instruments, whereas low ESF was defined by scores in the normal range on zero to three of the measures.

Clients who completed therapy were selected for analysis if they fit one of the following outcome patterns: (a) a good outcome group, defined as participants scoring as high ESF both at posttherapy and at 12-month follow-up, (b) a poor outcome group defined as participants scoring as low ESF at posttherapy as well as at 12-month follow-up, and (c) a declining outcome group of participants who scored as high ESF posttherapy, but low ESF at 12-month follow-up. Outcome groups were thus not directly based on change scores compared to pretreatment baseline. However, as a measure of clinical versus normal-range functioning with which to test what we expected to be a relatively robust effect, we felt it was adequate for our purposes, especially given the strict requirements for severity and diagnosis required for initial inclusion in the comparative treatment study. Before treatment, most subjects were outside the normal range of functioning on all six measures, with the largest pretreatment ESF for any subject being a value of two.

Interpersonal Process Measure

The SASB (Benjamin, 1979, 1987, 1996) was used to code interpersonal process between client and therapist. The SASB is a coding system and descriptive language for interpersonal behavior based on a circumplex model. Interactions are divided into small units for coding called *thought units*, each of which consist of about one spoken sentence. Thought units are assigned a code based on underlying dimensions of the SASB model: Focus, Affiliation, and Interdependence (see Figure 1).

In the SASB model, attentional focus of an interpersonal behavior may be on others or on the self and is represented by separate surfaces of the model (a third focus, the Introject, is more intrapsychic in nature and was not employed in this study). Focus on Other behaviors (Surface 1, with descriptors shown in **bold** type) describe transitive actions that are to, for, or about another person. They are prototypically parentlike and examples are **Protect, Blame,** and **Neglect**. Focus on Self behaviors (Surface 2, underlined descriptors) describe intransitive reactions to perceptions of what is going to be done to, for, or about the self. They are prototypically childlike and examples are Trust, Sulk, and Wall-Off. Affiliation is represented by a horizontal dimension ranging from
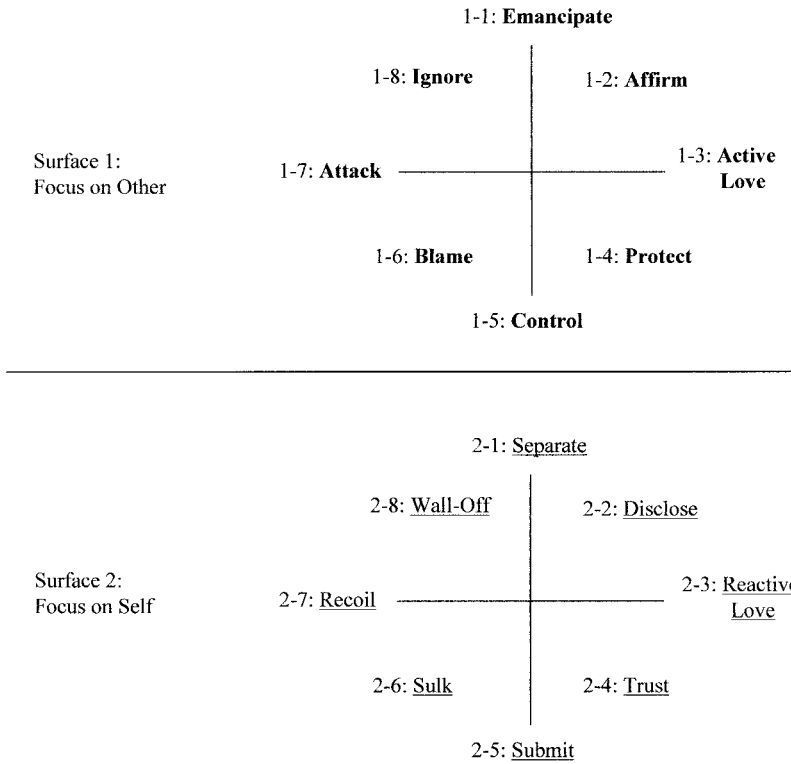
Figure 1.   The structural analysis of social behavior (SASB), cluster version. Each surface separately repre-
sents behavioral focus (on Others or the Self). Vertical lines represent degree of Interdependence; horizontal
lines represent degree of Affiliation on each surface. SASB clusters with two-digit codes and descriptive labels
are presented in circular order around each surface. The figure combines two figures. One from *Interpersonal
Diagnosis and Treatment of Personality Disorders (2nd ed.)* by L. S. Benjamin, 1996, p. 55, New York: Guilford
Press. Copyright 1996 by Guilford Press. Used with permission; and From "Use of the SASB Dimensional
Model to Develop Treatment Plans for Personality Disorders, I: Narcissism" by L. S. Benjamin, 1987, p. 53,
Journal of Personality Disorders, *1*, 43–70. Copyright 1987 by Guilford Press. Used with permission.

friendliness/love to attack/recoil on each focus. Interdependence is a dimension that
ranges from enmeshment (control/submit) to differentiation (grant autonomy/take auton-
omy) on each focus.

Each of the 16 behaviors listed around the perimeter of the SASB cluster model
represents a different combination of the focus distinction and the underlying dimen-
sions. A single descriptor typifies behavior in each region of the model (Benjamin, 1996).
In addition, using the conventions of the earlier, two-word cluster model, each position
around the circumplex is identified with a two-digit numeric code (Benjamin, 1987). The
first number indicates the focus of a behavior (1 = other, 2 = self), while the second
number (1 through 8) indicates the position of a given cluster around the circumplex. So,
for example, 1–4: **Protect**, represents a combination of moderate affiliation and moder-
ate enmeshment focused on another person, and 2–1: Separate, represents a combination
of neutral affiliation, and extreme differentiation focused on the self. For the purposes of
this study, the SASB variables may be thought of as 16 discrete, but dimensionally related,
behavioral descriptors assigned to any given thought unit.

Typically, individual behaviors in psychotherapy are well captured by a single SASB
code. Some behaviors, however, are best described with more than one code (e.g., when

a thought unit communicates something that is simultaneously hostile and friendly) and are called *complex*. Dyadic patterns of behavior can also be described. Especially relevant to this study is complementary behavior, defined as behaviors that share the same location on the model (i.e., reflect the same combination of affiliation and interdependence), but have opposite focus (Benjamin, 1979, 1996). Complementarity is one of the predictive principles of SASB in that a given behavior is thought to pull for its complementary response. An example would be a patient's open disclosure about private thoughts and feelings (friendly focus on the self as separate from the therapist: 2–2: <u>Disclose</u>). This behavior finds its complement in a therapist's friendly listening and understanding (friendly and autonomy-granting focus on the patient: 1–2: **Affirm**).

Procedure

Audiotaped segments of 30 minutes in length were selected for coding from the 2-hour, third session of therapy. The third session was chosen to facilitate comparison with previous research as well as to measure interpersonal process at a point in therapy when the alliance is generally thought to be well-established (Henry & Strupp, 1994). The treatment manuals for each of the three variants of CBT recommend specific shifts of technique toward the middle of each session (e.g., from supportive listening to a focus on beliefs and cognitions). The half-hour segments were chosen from the middle of the sessions to capture interpersonal process across the shift in an attempt to capture the overall interpersonal nature of each treatment package. We did not focus on specific techniques or treatment components, but attempted instead to characterize each dyad's interpersonal process across all elements of their treatment. The fact that a non-CBT component was included in two of the treatments limits our ability to address CBT technique in a strict sense. However, we believe that the global approach employed here will still yield useful information to advance understanding of treatment packages. Our stance here parallels that taken in previous work with PI treatments. Previous studies did not isolate specific forms of technical intervention for analysis, instead sampling interpersonal process thought to be representative of the total therapeutic relationship.

Audiotaped segments were transcribed and then divided into thought units for coding. Thought units were reviewed by the coding team for consensus as part of the coding process. The unitizing procedure was thus not independently analyzed for reliability. However, it has been generally found to show high agreement (e.g., Henry et al., 1986, 1990) and was estimated in another treatment sample by members of the same research team as kappa = .89 (Critchfield, 2002). Coders used the SASB cluster model (as described previously) to code the moment-by-moment interpersonal process between client and therapist using both the session transcript and audiotape. The coding procedure followed manualized instructions for the SASB model (Benjamin & Cushing, 2000; Benjamin, Giat, & Estroff, 1981). Coders were blind to the outcome group status of clients.

Reliability of Structural Analysis of Social Behavior Coding

Coders consisted of graduate and advanced undergraduate students from the Psychology Department at the University of Utah who received extensive training in SASB coding. Training involved didactic presentations as well as hands-on work with sample materials, extending over the course of several weeks. At the end of the training period, raters were allowed to contribute codes for analysis only if they were able to generate a weighted kappa (Cohen, 1968) of .70 or greater in comparison to a set of criterion codes generated for preselected material.

After training, coding was done with pairs of coders working together as a team, arriving at a consensus for each unit. A minimum of 10% of the total number of thought units for each session was coded independently by each member of a paired team to assess for reliability, with approximately 100 units coded in this manner for each session. Differences were resolved by discussion and mutual consent, with further training provided if necessary. Overall, the level of agreement between coders was very good. The average weighted kappa for the 16×16 matrix produced by all possible codes was .81 (range = .64 to .86), with one outlying comparison[2] in which the weighted kappa was .42. Additionally, a high degree of cross-site reliability was found with coders at Pennsylvania State University, who coded some of the same material for purposes of a different study, resulting in an average intersite kappa of .82.

Results

The frequency of observation of each SASB cluster was tallied and then divided by the number of thought units for each interactant. This was done to account for differences in overall activity levels between client and therapist as well as between dyads. Each component of a complex code was counted separately. Analyses were conducted in separate phases. First, a set of analyses tested the specific hypothesis that higher levels of interpersonal hostility would be associated with poorer outcome. An exploratory approach was then employed to discover whether SASB-coded interpersonal behaviors taken as a whole are associated with outcome. Therapist effects were not modeled as a random factor in these analyses based on lack of significant findings for them in the full sample reported by Borkovec et al. (2002). This choice also facilitates a more direct comparison with the SASB-based work cited in the introduction. Interpersonal differences are explored directly between treatment packages and between therapists in separate analyses.

Interpersonal Hostility and Outcome

A measure of interpersonal hostility was formed for therapist, client, and the dyad, by summing behaviors on the left side of the SASB model: 1–6: **Blame**, 1–8: **Ignore**, 2–6: Sulk, and 2–8: Wall-off. Consistent with previous research, the more primitive manifestations of hostility captured by SASB clusters 1–7: **Attack** and 2–7: Recoil were not observed.

Two separate sets of analyses were used to examine differences between (1) the good and poor outcome groups, and (2) the good and declining outcome groups. Within each set of analyses, client hostility, therapist hostility, and the combined dyadic level of hostility were examined separately. The non-parametric Mann-Whitney U statistic was used given the presence of marked differences in the variability of each group's hostility scores. Contrary to our expectation, none of the six total analyses revealed significant between-group differences (all $ps > .05$, one-tailed). Further analyses compared the percentage of complex codes and hostile complex codes between groups to follow up on previous research finding significant outcome differences for these variables (Henry et al., 1986, 1990). No significant differences were found for complex codes of any kind in this sample (all $ps > .05$, one-tailed).

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[2] With this case included, the average weighted kappa for the project was .76. The low agreement rate in this outlying case was due to a misunderstanding of the coding procedure, and was easily corrected upon discussion.

Close inspection of the hostility scores showed an interesting pattern. Most of the hostility scores were very low for all dyads, typically ranging between proportions of .00 to .03 (one exception, but still considered low, was a good outcome case at .06). A handful of dyads formed a clearly separable group with high levels of hostility in proportions ranging between .12 and .26 of all codes given. The five dyads with high levels of hostility (whether from client, therapist, or both) were all in the two poorer outcome groups. A reanalysis of the data combining the two poorer outcome groups showed a significant *t*-test result for client and combined hostility, but not for therapists: t_{client} (16.32) $= -1.88$, $p < .05$; $t_{therapist}$ (20.67) $= -1.53$, $p > .05$; $t_{combined}$ (18.11) $= -1.77$, $p < .05$ (all *p*s one-tailed, with equal variances not assumed). However, none were significant using the non-paramteric Mann-Whitney U statistic ($U_{client} = 58.00$; $U_{therapist} = 61.50$; $U_{combined} = 63.50$, all *p*s $> .05$, one-tailed).

Exploratory Analysis of Global Interpersonal Process and Outcome

Analyses were conducted separately for client and therapist to explore for differences between the good and poor outcome groups as well as between the good and declining outcome groups. For each analysis a $2 \times 2 \times 8$ (Outcome $\times$ Focus $\times$ SASB Cluster) analysis of variance (ANOVA) was performed to include all SASB behaviors while simultaneously controlling for Type I error. A mixed, between-subjects (Outcome) and within-subjects (SASB Focus and cluster) model was used following the exploratory data analytic procedure used by Henry et al. (1986, 1990).

As expected, significant main effects for Focus in each of the four analyses indicated that therapists focused primarily on clients whereas clients focused primarily on themselves. Significant main effects of Cluster for therapist and client as well as Focus $\times$ Cluster interactions were also expected and observed (see Tables 1 and 2). These results merely indicate that therapists and clients made differential use of the various SASB-coded behaviors in keeping with their respective roles. Contrary to expectation, none of the analyses revealed significant interaction effects involving Outcome (all *p*s $> .05$). Further inspection of each SASB cluster using the Mann-Whitney U statistic showed no significant differences between outcome groups for any of the interpersonal variables (all *p*s $> .05$, two-tailed).

Table 1
Selected ANOVA Results: Good Versus Poor Outcome Comparisons

	F	df	η^2	Significance
Therapists				
Focus (F)	1618.61	1, 14	1.00	$p < .05$
Cluster (C)	1928.03	7, 8	1.00	$p < .05$
F $\times$ C	662.40	7, 8	1.00	$p < .05$
Outcome (O) $\times$ F $\times$ C	0.65	7, 8	0.36	*ns*
Clients				
F	6719.23	1, 14	1.00	$p < .05$
C	5035.73	7, 8	1.00	$p < .05$
F $\times$ C	1291.39	7, 8	1.00	$p < .05$
O $\times$ F $\times$ C	0.49	7, 8	0.30	*ns*

Table 2

Selected ANOVA Results: Good Versus Declined Outcome Comparisons

	F	df	η^2	Significance
Therapists				
Focus (F)	879.54	1, 14	0.98	$p < .05$
Cluster (C)	4222.54	7, 8	1.00	$p < .05$
F × C	149.06	7, 8	0.99	$p < .05$
Outcome (O) × F × C	0.79	7, 8	0.62	*ns*
Clients				
F	4202.88	1, 14	1.00	$p < .05$
C	35,144.29	7, 8	1.00	$p < .05$
F × C	2720.70	7, 8	1.00	$p < .05$
O × F × C	0.62	7, 8	0.35	*ns*

Interpersonal Process Differences Between Variants of Cognitive-Behavior Therapy

Two separate 3 × 2 × 8 (Treatment × Focus × SASB Cluster) analyses of variance (ANOVAs), with between- and within-subjects components paralleling those in the outcome analyses just presented, were conducted for client and therapist to explore possible interpersonal process differences between treatment packages. As before, significant main effects were observed for the within-subjects factors of Focus and Cluster, as well as for the Focus × Cluster interaction (all $ps < .05$). In this case, a significant Treatment × Focus × SASB Cluster interaction was observed for both client and therapist behaviors: $F_{\text{Therapist}} (14, 30) = 2.12, p < .05, \eta^2 = .50$; $F_{\text{Client}} (14, 30) = 2.18, p < .05, \eta^2 = .50$. Significant differences between treatments were observed on the following SASB variables for therapists: 1–2: **Affirm**, 1–4: **Protect** and 1–5: **Control**; and for clients: 2–2: Disclose and 2–4: Trust. Post-hoc analyses were conducted using Tukey's HSD method. Means and standard deviations are presented in Table 3.

As might be expected, the two treatment variants that contained a reflective listening component contained more 1–2: **Affirm** and less 1–4: **Protect** and 1–5: **Control** on the part of therapists than did the CT/SCD condition. Client behaviors tended to complement this pattern, showing more 2–2: Disclose and less 2–4: Trust in the treatments that contained a reflective listening component (see Figure 2).

Therapist Interpersonal Process Differences

Two separate 3 × 2 × 8 (Therapist × Focus × SASB Cluster) analyses of variance (ANOVAs) were conducted, again with between- and within-subjects components that paralleled those in the previous analyses and that yielded similar main and interaction effects for Focus and Cluster. The Therapist × Focus × Cluster interaction was not significant at the .05 level across therapists for client behaviors: $F_{\text{Client}} (14, 30) = 1.64, p = .13, \eta^2 = .43$. Surprisingly, the same interaction only trended toward significance for therapist behaviors: $F_{\text{Therapist}} (14, 30) = 1.90, p = .07, \eta^2 = .47$, suggesting relative uniformity among the therapists in their interpersonal relating. Behaviors that differed most notably across therapists and appeared to contribute to the trend included 1–5: **Control**, and 2–2: Disclose.

Table 3

Mean Percent and Standard Deviation of SASB Cluster Codes by Treatment and Interactant

	Clients			Therapists		
	CT	SCD	CT/SCD	CT	SCD	CT/SCD
Focus on Other						
1–1: **Emancipate**	0.0	0.0	0.0	0.2	0.4	0.1
	(0.0)	(0.0)	(0.0)	(0.2)	(0.3)	(0.2)
1–2: **Affirm**	0.4	0.5	0.7	61.4_a	51.4_a	27.8_b
	(0.3)	(0.4)	(0.3)	(4.3)	(5.6)	(4.9)
1–3: **Active Love**	0.0	0.0	0.0	1.1	0.7	0.0
	(0.0)	(0.0)	(0.0)	(0.7)	(0.9)	(0.8)
1–4: **Protect**	1.5	0.3	0.3	30.2_a	40.2	54.8_b
	(0.4)	(0.5)	(0.4)	(5.0)	(6.5)	(5.6)
1–5: **Control**	0.4	0.6	0.8	2.8_a	1.9_a	14.0_b
	(0.4)	(0.6)	(0.5)	(2.2)	(2.8)	(2.5)
1–6: **Blame**	0.3	2.6	0.1	0.6	1.3	1.7
	(0.9)	(1.2)	(1.0)	(0.7)	(0.8)	(0.7)
1–7: **Attack**	0.0	0.0	0.0	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
1–8: **Ignore**	0.4	0.1	0.1	3.5	4.7	1.7
	(0.2)	(0.2)	(0.2)	(1.4)	(1.9)	(1.6)
Focus on Self						
2–1: Separate	4.0	4.3	3.8	0.6	0.5	0.4
	(1.0)	(1.4)	(1.2)	(0.3)	(0.4)	(0.3)
2–2: Disclose	77.2_a	69.4	52.5_b	4.7	3.0	6.0
	(5.3)	(6.8)	(5.9)	(1.7)	(2.2)	(1.9)
2–3: Reactive Love	0.6	0.6	0.5	1.1	1.8	0.5
	(0.2)	(0.3)	(0.3)	(0.5)	(0.7)	(0.6)
2–4: Trust	12.4_a	19.1_a	39.7_b	1.7	1.9	0.7
	(3.7)	(4.8)	(4.2)	(0.6)	(0.8)	(0.7)
2–5: Submit	3.3	1.5	2.7	0.0	0.0	0.2
	(1.8)	(2.3)	(2.0)	(0.1)	(0.1)	(0.1)
2–6: Sulk	0.8	2.2	0.3	0.2	0.7	0.1
	(0.6)	(0.8)	(0.7)	(0.2)	(0.3)	(0.2)
2–7: Recoil	0.0	0.0	0.0	0.0	0.0	0.0
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
2–8: Wall Off	3.3	3.5	1.1	0.0	0.2	0.3
	(1.5)	(1.9)	(1.6)	(0.2)	(0.2)	(0.2)

Note. n for CT, SCD, and CT/SCD dyads are 10, 6, and 8, respectively. Client and Therapist data analyzed separately. Ratio of client to therapist total thought units = 1.32. Means in the same row with differing subscripts are $p < .05$ using Tukey's HSD comparison. Means with no subscripts are not significantly different from other scores in the same row. *SD*s are in parentheses below each mean.

Discussion

Overall Findings

Interpersonal process behaviors measured early in treatment were not found to be strong predictors of outcome in this sample. Although it is consistent with previous research that the few dyads with relatively high levels of interpersonal hostility were found only in the two poor outcome groups, these cases were rare. A follow-up analysis contrasting the good outcome group with a combination of the two poor outcome groups suggested more
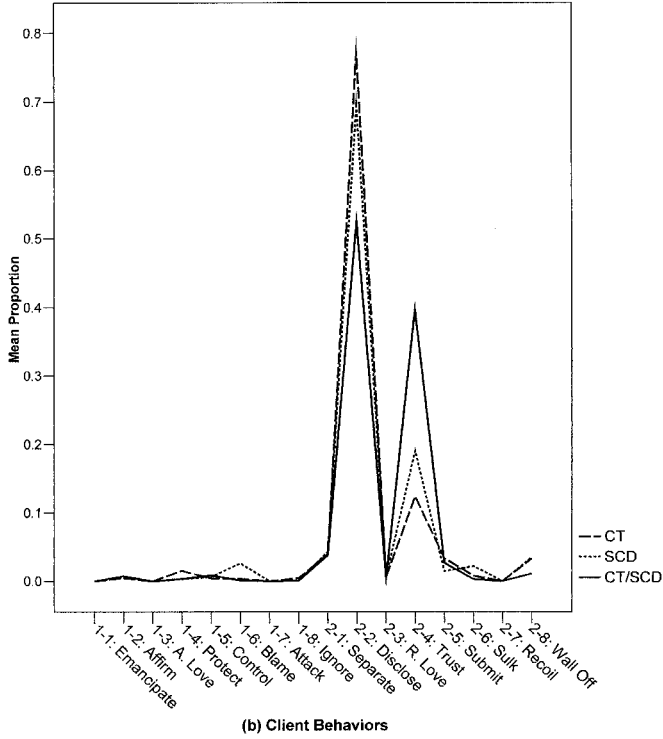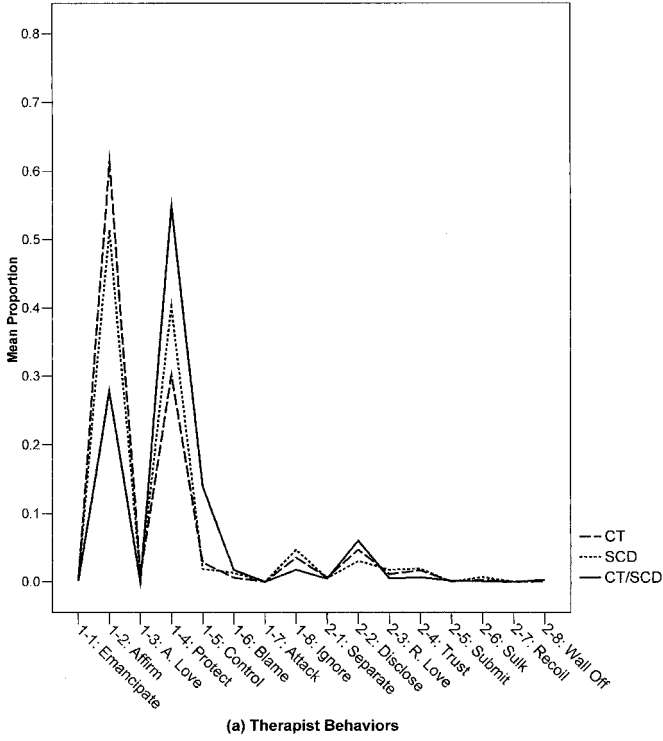
Figure 2.   Profile of SASB-coded interpersonal behaviors for (a) therapists and (b) clients based on mean proportions for each variant of CBT.

hostility in poorer outcomes. Even this finding was equivocal, however, yielding a non-significant result when the analysis was conducted using a nonparametric statistic to adjust for differing group variances. Similarly surprising was that, on the whole, neither client nor therapist interpersonal behaviors differed significantly between therapists (although trends were apparent).

The general lack of significant findings predicting outcome could be attributed to any of a multitude of factors. One possibility is simply that, as some have argued, the interpersonal relationship does not impact outcome in CBT (e.g., Ellis, 1962). In line with this explanation, some studies have failed to find a significant relationship between the alliance and outcome in CT (DeRubeis & Feeley, 1990; Feeley, DeRubeis, & Gelfand, 1999). In his review of the evidence related to CT however, Waddington (2002) reported that "an association between the therapeutic relationship and outcome has been observed more often than not" (p. 184).

It could also be the case that interpersonal process is related to outcome in CBT after all, but that we did not have sufficient power to detect the relationship due to a small sample size. Significant findings from previous studies suggested large effects would exist and be detectable in small samples. However, the observed (post hoc) power in the present study was low, ranging between .11 and .31.

A major contributor to reduced power seems to be the lower than expected levels of interpersonal hostility, which have been thought to drive the process-outcome link in other work. Good outcome cases in this study, as in other work (Coady, 1991a; Henry et al., 1986, 1990), had low rates of hostility. For poor outcomes, however, previous studies reported hostile SASB codes averaging 13% to 16% for therapists and 9% to 13% for patients. This stands in contrast to group averages in the present study of between 4% and 8%.

What might account for this study's limited range of hostility? It could be the case that CBT techniques simply do not run the same risks for evoking hostile interpersonal process as do PI therapies, as has been suggested by other authors (cf., Gabbard, Horowitz, Allen, Frieswyk, Newson, Colson, & Coyne, 1994; Henry et al., 1994; Piper, Joyce, McCallum, Azim, & Ogrodniczuk, 2002). Another possibility is that the manuals we followed had strict protocols. That fact together with the close weekly supervision may have served to constrain and "standardize" interpersonal processes. We expected that this interpersonal standardization would not be the case based on the experiences of prior investigators. However, the level of detail contained in the CBT manuals and the intensity of supervision provided to this sample seem, in retrospect, to be much higher than in the studies we attempted to replicate. Our additional finding of relative interpersonal uniformity among therapists is consistent with research suggesting that therapist effects are reduced in more standardized treatments (Crits-Cristoph & Mintz, 1991).

Other differences between this study and earlier work may also be relevant and are worth noting. Gender is often cited as an important variable associated with interpersonal dynamics, including hostility. Henry et al. (1986) studied only male clients aged 18–25. However, the Coady (1991a) and Henry et al. (1990) samples were much more similar to the present study in terms of gender and age. Previous studies almost exclusively used male therapists, and a larger number of them, which could have impacted findings. Focus on different diagnostic groupings ("pure" GAD in the present study vs. mixed outpatient groups with mood and anxiety problems) may have also been important. Finally, earlier work defined good and poor outcome based on maximum contrasts between high and low change scores from pre- to posttreatment, whereas the present study formed groups based on good versus poor end state functioning observed over one year. These group formation strategies have conceptual overlap, but are not identical.

*Patterns of Interpersonal Behavior for Cognitive–Behavioral Therapy Variants
and Qualitative Comparison With Psychodynamic-Interpersonal Therapies*

The major positive finding of this study was that significant interpersonal process differences existed between the variants of CBT. In retrospect, treatment differences were expectable given the inclusion of a reflective listening condition in two of the three variants. This is because reflective listening is a technique that has clear ramifications for interpersonal process and in this case, led to an observable increase in use by therapists of the SASB-based interpersonal behavior 1–2: **Affirm**, and a corresponding reduction in the proportion of controlling therapist behaviors—SASB 1–4: **Protect** and 1–5: **Control**—relative to CT/SCD.

The idea that variability in interpersonal process can be determined by therapy protocol is interesting in itself. Interpersonal differences between the treatment variants demonstrate an interplay between relationship and technique. This general observation is consistent with theoretical perspectives that emphasize technique and relationship variables as interacting, impacting, and implicating one another across all forms of therapy (e.g., Castonguay, 2002; Henry & Strupp, 1994; Strupp & Anderson, 1997). However, our findings illustrate the important corollary that while interpersonal process may be a factor present in all therapies, it is also a factor that is not necessarily used in the same way by all therapies. The differential use of the relationship may sometimes be a separate issue from what in all of this interplay of variables is predictive of outcome. For example, some evidence suggests that affirming therapist expressions (SASB 1–2: **Affirm**) can have different in-session impacts, as well as be differentially linked to eventual outcome, depending on type of therapy (Karpiak & Benjamin, 2004). In the present study, reflective listening was not intended to be an active ingredient, as in PI therapies, but was instead employed to standardize and control time spent in treatment.

Despite specific areas of difference, each treatment variant was for the most part dominated by behaviors that are prototypic for all kinds of individual psychotherapy, and that have shown greatest frequency in other studies. Specifically, therapists exhibited a great deal of affirming (SASB 1–2: 39%) and protecting behaviors (SASB 1–4: 40%), whereas clients acted in complementary ways by disclosing (SASB 2–2: 67%) and trusting (SASB 2–4: 19%). Although sequential analyses were not undertaken, global evidence of interpersonal complementarity can be inferred from the increased level of client disclosure (SASB 2–2) associated with the two treatment conditions in which therapists employed more affirming behavior (SASB 1–2), as well as from the increased level of client trust (SASB 2–4) in the condition in which therapists were more directive (SASB 1–4 and 1–5).

It is illuminating to compare the mean interpersonal profiles generated in this sample with those from previous work (compare Figures 2 and 3). Overall patterns of therapist interpersonal behavior appear quite similar across CBT and PI treatment studies. This similarity includes presence of noticeable within-type variability associated with the relative balance of SASB 1–2: Affirm and 1–4: Protect; in more general terms, the relative balance of "supportive" versus "directive" behaviors. Similarities between CBT and PI profiles may be due, in part, to the presence of a reflective listening condition in two of the three CBT variants. However, one PI study (Henry et al., 1986) showed therapists behaving very similarly to those in the CT/SCD condition, with a greater proportion of directive statements (SASB 1–4: Protect, 56%) relative to affirming statements (SASB 1–2, 21%).

Client behaviors showed strong similarity among the PI variants, contrasting the variability present among client behaviors in the CBT treatment variants. Of particular
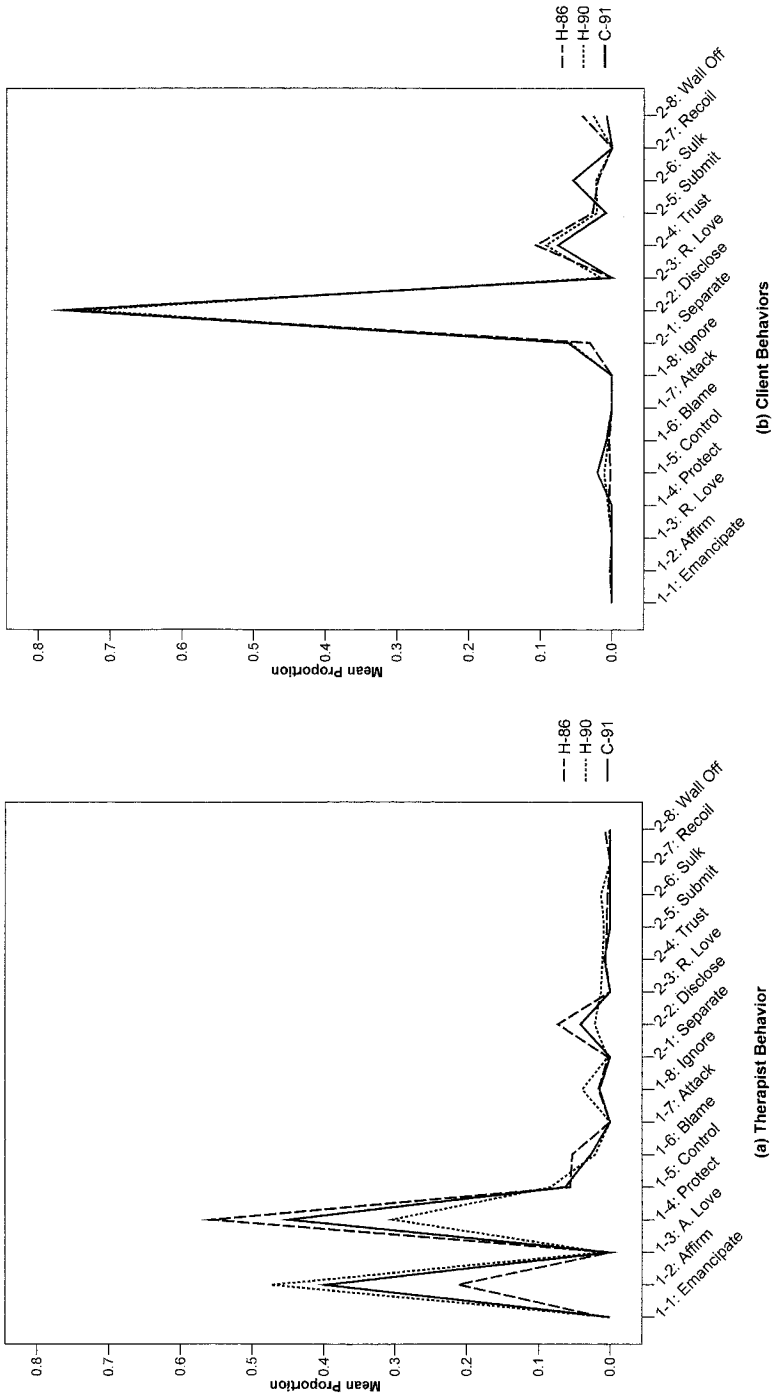
Figure 3.   Profile of SASB-coded interpersonal behaviors for (a) therapists and (b) clients based on mean proportions for PI treatments. Profiles are based on proportions constructed from group means for combined good and poor outcome clients reported in each previously conducted study that provided data amenable to comparison. H-86 from "Structural Analysis of Social Behavior: Application to a Study of Interpersonal Process in Differential Psychotherapeutic Outcome" by W. P. Henry, T. E. Schacht, & H. H. Strupp, 1986, p. 29, *Journal of Consulting and Clinical Psychology*, *54*, 27–31. Copyright 1986 by American Psychological Association. Adapted with permission; H-90 from "Client and Therapist Introject, Interpersonal Process, and Differential Psychotherapy Outcome" by W. P. Henry, T. E. Schacht, & H. H. Strupp, 1990, p. 772, *Journal of Consulting and Clinical Psychology*, *58(6)*, 768–774. Copyright 1990 by American Psychological Association. Adapted with permission; and C-91 from "The Association Between Client and Therapist Interpersonal Processes and Outcomes in Psychodynamic Psychotherapy," by N. F. Coady, 1991, p. 131, *Research on Social Work Practice*, *1(2)*, 122–138. Copyright 1991 by Sage Publications. Adapted with permission.

note is that clients in the Henry et al. (1986) study do not appear to have shown a greater proportion of SASB 2–4: <u>Trust</u> in the presence of more directive therapist behavior. Presence of SASB 2–4: <u>Trust</u> remained at roughly 75% across the PI studies, despite variability in therapist 1–4: Protect, which ranged from 30% to 56%. This evidence suggests greater interpersonal complementarity may be associated with the relational context of CBT. More research would be needed to address such possibilities and their relevance to outcome.

Qualitative comparison of the treatment profiles is consistent with research documenting similarities and differences in standard technical interventions (e.g., reflection, interpretation, advisement, and so on) associated with CBT versus PI therapy (Goldfried et al., 1997; Stiles & Shapiro, 1995; Wiser & Goldfried, 1996). In past studies, as in the present comparison, clear-cut distinctions between "brands" of treatment are often difficult to make based solely on empirical process variables. Our results, together with this literature, suggest that different forms of treatment share more in common than one might expect based on the theoretical literature, both on a technical and an interpersonal level of analysis.

Conclusion

Specific in-session interpersonal behaviors have only recently begun to be studied, and the specific impacts of most interpersonal behaviors in therapy are not yet fully understood. Previous studies investigating the relationship between moment-by-moment interpersonal process and outcome in PI therapies have found a significant association. This study, however, using a similar sample size and design as was used in previous work, but focusing on variants of CBT for GAD, found little evidence for such a connection.

The results of this small study are, of course, only suggestive. A number of factors, discussed above, could have contributed to our unexpected lack of significant outcome results. Major limitations of the study include the small sample size and restricted range of interpersonal hostility. The present nonsignificant findings do not contradict previous conclusions in the literature that interpersonal hostility can negatively impact a therapy. Very little hostility was observed to have occurred in this highly structured and supervised treatment. When hostility was present to any substantial degree, it was only in the poorer outcome dyads. We hope that the present efforts will be valuable to provide guidance for future research in terms of (a) helping to establish minimum hypothesized effects in different therapeutic settings, (b) developing prototypic interpersonal profiles associated with differing forms of treatment, and also to (c) help map some of the factors that may impact analysis of interpersonal behavior in the therapeutic situation.

It is our hope that treatment manuals and therapist training programs of the future might be able to incorporate specific, focused guidance for management of ongoing interpersonal process in the context of specific techniques as well as broad guidance for therapy in general (cf., Castonguay, Schut, Constantino, & Halperin, 1999). However, for this to occur, further research is required to build on the existing knowledge base and determine the precise role(s) that interpersonal processes play in different forms of therapy.

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