An Interpersonal Model of Psychotherapy: Linking Patient and Therapist Developmental History, Therapeutic Process, and Types of Outcome

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This study empirically evaluated a 3-stage causal model based on interpersonal theory that relates patient and therapist early parental relations, the therapeutic alliance, and outcome. Data were from the Vanderbilt II database and encompassed 64 psychodynamic psychotherapies. Interpersonal variables were assessed using the Structural Analysis of Social Behavior. Initial support for the model was found, suggesting a direct effect of patient early parental relations on process and outcome, a direct effect of therapist early parental relations on process, and a direct effect of process on outcome—and thus indirect effects of both patient and therapist early parental relations on outcome mediated by the process. The psychotherapy process was assessed from 3 perspectives: patient and therapist self-report and reports by independent observers. Little convergence was found between the 3 perspectives.

The therapeutic bond, or alliance, has emerged as a central focus in psychotherapy process–outcome research, which is reflected in the large number of instruments developed to assess the bond. Horvath (1994b) has identified five main instrument clusters, which were developed independently and more or less simultaneously in the late 1970s and early 1980s: (a) the California Psychotherapy Alliance Scales (see Gaston & Marmar, 1994), (b) the Penn Helping Alliance Scales (see Alexander & Luborsky, 1986), (c) the Therapeutic Alliance Scale (see Marziali, Marmar, & Krupnick, 1981), (d) the Vanderbilt Therapeutic Alliance Scale and the Vanderbilt Psychotherapy Process Scale (see Hartley & Strupp, 1983; Suh, Strupp, & O'Malley, 1986), and (e) the Working Alliance Inventory (see Horvath, 1994a). One of the most robust findings in the field of process–outcome research is the link between the global quality of the alliance—as assessed by these and similar instruments—and outcome (see Orlinsky, Grawe, & Parks, 1994).

The Vanderbilt research group began a series of studies in the mid-1980s that defined the alliance directly in terms of the observable interpersonal behaviors between patient and therapist

using Benjamin's (1974) Structural Analysis of Social Behavior (SASB). This was done in an attempt to better understand what the therapist actually does moment by moment to foster or impede a positive therapeutic alliance. Henry, Schacht, and Strupp (1986) examined eight therapies from the Vanderbilt I database (Strupp & Hadley, 1979), selecting 4 therapists with one good outcome case versus one bad outcome case. It became apparent that even with the same therapist, the interpersonal process underlying technical interventions varied markedly from patient to patient and was linked to differential outcome.

Henry, Schacht, and Strupp (1990) expanded on this study in an attempt to understand why the alliance—defined as interpersonal process—was important to outcome. They drew on the Sullivanian theory of introjection as operationalized in the SASB (Benjamin, 1974)—namely, that individuals come to treat themselves as they have been treated by important others. In the case of therapy, it was postulated that the therapist's interpersonal behavior toward the patient would either serve to entrench a negative introject or be sufficiently different and consistent to allow for ameliorative re-introjection and introject change. To test this idea, Henry et al. measured therapeutic change directly in terms of patient introject change. They examined a sample of 14 therapies from the Vanderbilt II database (Strupp, 1993) and found that introject change was related to specific therapist interpersonal actions toward the patient. Additionally, it was found that the therapist's own introject was related to his or her tendency to engage in countertherapeutic process.

Henry and Strupp (1994) proceeded to formulate an interpersonal adaptation of Orlinsky and Howard's (1986) generic model of psychotherapy based on the two previous studies and interpersonal theory (e.g., Benjamin, 1993; Kiesler, 1982). The present study attempted to provide initial empirical support for a simplified version of this generic model, specifically, a three-stage causal

model linking patient and therapist early parental relations, in-session interpersonal process (the alliance), and outcome (as defined in both global and interpersonally specific ways; see Horvath, Gaston, & Luborsky, 1993, for a discussion of different conceptualizations of the alliance). By examining the relationship between the three types of variables within a single causal model, the present study advanced earlier alliance research by (a) providing a more differentiated picture of the basic alliance–outcome link and (b) permitting a test of the hypotheses (described below) that could not be addressed when pretreatment variables were related to the alliance alone or when the alliance was related to outcome alone.

Figure 1 schematically presents the three-stage model to be examined. Within an interpersonal perspective, the interpersonal history of the patient should theoretically be responsible for forging the expectancies and perceptual tendencies that lay the foundation for the introject and the cyclic maladaptive interpersonal patterns that are a problem in and of themselves, as well as being the matrix in which symptoms such as depression and anxiety are embedded. Similarly, because the therapeutic dyad is a two-person interpersonal system, it is equally important to explore the link between the therapist's own interpersonal history and therapeutic process. Consistent with earlier research, the psychotherapy process variables examined were measures of the interpersonal process early in therapy. The outcome variables included a variable of central importance in interpersonal theory, introject change, and more traditional outcome measures to provide a link to the broader psychotherapy research literature.

The causal model postulates three types of direct effects and one type of indirect or mediational effect, which is expected on the basis of interpersonal theory (see Henry & Strupp, 1994, for a detailed discussion of the theoretical rationale of the model). The patient's interpersonal history, specifically, his or her early parental relations, is expected to have a direct effect both on the therapy process (Arrow a) and outcome (Arrow c). Interpersonal process is also expected to have a direct effect on outcome (Arrow b). If an effect of interpersonal process on outcome—while controlling for interpersonal history—can be shown, this would help rule out the plausible alternative explanation that the relation between process and outcome is accounted for by the causal impact of interpersonal history on both variables. Demonstrating a direct effect of patient interpersonal history on interpersonal process and a direct effect of interpersonal process on outcome would also suggest an indirect or mediational effect of interpersonal history on outcome (see Cohen & Cohen, 1983). That is, part of the effect of patient history on outcome is mediated by the interpersonal process, as postulated by interpersonal theory.

In the present study, the relationship between the therapist's interpersonal history and the process and outcome was expected to
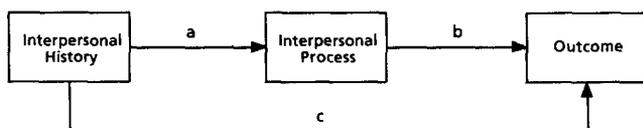
differ from that of the patient's history. A direct effect of the therapist's early parental relations on interpersonal process would be expected if this history was not adequately worked through in psychotherapy training. Because the impact of training was not known, no specific hypotheses were made. A direct effect of therapist history on outcome (i.e., an effect that is not mediated by the therapy process) was not expected. An indirect effect, however, mediated by the interpersonal process was expected if therapist interpersonal history impacted the interpersonal process.

Thus far, the term *interpersonal process* has been used without differentiating between different perspectives on the process. The issue of perspective is important, however, in developing a more complete model of the interpersonal underpinnings of psychotherapy. Three perspectives are relevant—that of the two participants in the process, the patient and the therapist, and that of independent observers. Earlier process–outcome studies using the SASB (Henry et al., 1986, 1990) were based exclusively on independent observer codings. Older research in the client-centered tradition that compared alliance ratings from all three perspectives suggests that each perspective may represent a unique vantage point (Gurman, 1977). More recent research reviewed by Horvath (1994b) has also found at best modest correspondence among the three perspectives. A further issue that has received virtually no empirical study is the question of whether or not pretreatment variables relate differentially to process variables according to the process perspective. The extent to which the different perspectives actually overlap within the SASB in terms of the affiliation–disaffiliation dimension was assessed in this study. If the convergence between the three perspectives was low, as one would expect on the basis of research with other alliance measures, the differential relationship to the pretreatment and outcome variables included in the causal model was examined.

Henry et al. (1986) turned to the SASB coding system in the search for a process measure that would permit a fine-grained analysis of the moment-by-moment therapy relationship. The SASB encompasses, however, both a coding system and the INTREX questionnaires (Benjamin, 1983), a series of self-report measures that can be applied to a wide variety of interpersonal relations and one's relation to oneself (i.e., the introject). The prescient decision to include the INTREX in the Vanderbilt II study, which assessed a wide variety of interpersonal measures, made possible the developments in the Henry et al. (1990) study and the present study by providing the necessary interpersonal data within the common metric of the SASB.

Method

The data in this study were from the Vanderbilt II Psychotherapy Research Project, a 5-year study examining the effects of training in time-limited dynamic psychotherapy (TLDP) (Henry, Schacht, Strupp, Butler, & Binder, 1993; Henry, Strupp, Butler, Schacht, & Binder, 1993; Strupp, 1993). The data assessing early parental relations in the patient and therapist have not been examined in previous studies using the Vanderbilt II database. Most of the process data examined in this study have not been used in previous Vanderbilt II studies, the only exception being the SASB independent observer ratings of the therapists' interpersonal behavior. Henry, Strupp, et al. examined the effects of training in TLDP on therapists' interpersonal behavior. No differences were found pre- to posttraining in the process variable used in this study, the amount of dissaffiliative communication on the part of the therapist, although differences were found in other process measures.

Figure 1. Causal model relating interpersonal history, interpersonal process during therapy, and outcome. Arrow a represents the direct effect of history on process, Arrow b represents the direct effect of process on outcome, and Arrow c represents the direct effect of history on outcome.

Participants

In this research project, each therapist (*n* = 16) saw 2 patients prior to training in TLDP (Cohort 1), 1 patient during training in TLDP (Cohort 2), and 2 patients after training (Cohort 3). The present study was based on Cohorts 1 and 3, providing a potential sample of 64 therapies. SASB independent codings on the training cohort were not done because the therapists were in a period of transition during this time, thus, the training cohort was not included in this study.

Patients. Patients were chosen from among adults responding to newspaper and radio announcements offering low-cost treatment by licensed therapists (see Henry, Strupp, et al., 1993, for inclusion criteria). Seventy-seven percent of accepted patients were female. More than 95% of the patients were Caucasian. The mean age of accepted patients was 41 years (range = 24–64, *SD* = 10.4). The mean education level was 3 years of college (range = seventh grade to doctorate). Sixty-eight percent of the patients had participated in previous psychotherapy.

Diagnostic and Statistical Manual of Mental Disorders (3rd ed.; *DSM–III;* American Psychiatric Association, 1980) diagnoses were determined by a computerized version of the National Institute of Mental Health Diagnostic Interview Schedule completed by the screening clinician. Eighty-seven percent of the patients received an Axis I diagnosis, and 67% received an Axis II diagnosis. The mean score on the *DSM–III* Global Assessment Scale as assessed by an independent clinician was 58.3 (*SD* = 6.3), and the mean Global Severity Index (GSI) score from the Symptom Checklist—90—Revised (SCL–90–R) was a *T* score of 48.1 (*SD* = 5.8) based on outpatient psychiatric norms.

Therapists. The psychotherapists participating in the study were licensed clinical psychologists (*n* = 8) and psychiatrists (*n* = 8). All of the therapists had at least 2 years full-time postinternship or postresidency clinical experience (*M* = 5.6, *SD* = 3.0) and were in private practice. There were 10 men and 6 women. All of the therapists were Caucasian.

The theoretical orientation of the therapists was "psychodynamic," in the broad sense of the term, but none of the therapists had previous training in short-term dynamic psychotherapy. All 16 therapists remained with the research project for its duration.

Therapies

All therapies were limited to 25 weekly sessions lasting 45 to 50 min. Termination before the 25th session was permitted as patient and therapist saw fit. The mean number of sessions was 21.4 (*SD* = 6.1), with a range of 4 to 25 sessions. Fifty-five patients (69%) completed 25 sessions, and 16 patients (20%) completed fewer than 16 sessions. Treatment was conducted in the therapists' private offices and was audiotaped, with the exception of Sessions 3 and 16, which were videotaped at the research clinic.

Significant differences were found between Cohorts 1 and 3 in technical interventions in line with the manualized protocol for TLDP (Henry, Strupp, et al., 1993). No differences were found, however, in the amount of therapist disaffiliative process across the two cohorts, although the training program had been designed in part to address this issue. For the purposes of the present study, no distinction was made between the therapies in the two cohorts.

Patients were stratified in terms of rated capacity for participating effectively in dynamic psychotherapy, with each therapist assigned 1 patient whose capacity was above the median and 1 whose capacity was below the median (see Henry, Strupp, et al., 1993). Except for this stratification, the patient assignment process was random.

SASB Instruments

The SASB is a circumplex model in which interpersonal behaviors are arrayed in circular fashion around two axes representing the basic interpersonal dimensions of interdependence and affiliation. The SASB contains three surfaces, or perspectives, that measure the actions and reactions of others, the actions and reactions of the self, and the internalization of interpersonal experience in the form of the introject (how one acts toward oneself). Measurement procedures encompass independent coding methods as well as self-report.

SASB coding system. The SASB coding system requires the transcription of the sample to be coded. The coding is done while viewing a videorecording of the sample or listening to an audiorecording. In the present study, videorecordings were used. Only the process level (the here-and-now interaction between speaker and listener) of the SASB system was coded, given that the content level (what is being talked about) was not of direct relevance to the hypotheses advanced here.

Because of superior psychometric properties and greater ease of coding, the Cluster version (eight categories per interpersonal surface) of the SASB coding system was used (Benjamin, 1974, 1982). The coding followed the rules outlined in the SASB coding manual (Benjamin, Giat, & Estroff, 1981). The coding was done by two separate teams of two coders. The coders within each team worked together. Disagreements within a team about a given code were settled through discussion and mutual consent. The coders, who were undergraduate and graduate research assistants, were trained and supervised by a psychology graduate student who had received extensive training from L. S. Benjamin. Coders did not know the outcome status of each case. Approximately one third of all of the coded segments were coded by both teams to assess interrater reliability. The unweighted kappa, a very conservative measure, for cluster assignment was .75.

SASB INTREX questionnaire. The SASB INTREX questionnaire (Benjamin, 1983) is a written self-report measure that assesses interpersonal relationships and the introject in terms of the SASB model. The system is flexible in that it can be used to assess any interpersonal relationship, depending on the instructions that are given. Each relationship is assessed from four perspectives: a rating of the other acting on the self, the other reacting to the self, the self acting on the other, and the self reacting to the other. The INTREX consists of 36 items for each perspective, each item corresponding to 1 of the 36 points in the SASB model. All of the items are given a rating by the patient on a scale ranging from 0 (*never, not at all*) to 100 (*always, perfectly*). Assessing the introject involves two sets of 36 items: one set for the introject "at best" (INT–B) and one set for the introject "at worst" (INT–W). The summary INTREX measure used in this study was the weighted affiliation score (Benjamin, 1977, 1982). This score summarizes the degree to which the 36 items for a given rating are centered on the affiliation axis. A high value indicates a relatively affiliative relationship, and a low value indicates a relatively disaffiliative or hostile relationship.

Extensive research on the psychometric properties of the instrument has been conducted (Benjamin, 1974, 1983). Test–retest reliabilities for dimensional ratings of the INTREX items have ranged from .85 to .93. Extensive autocorrelational analyses examining the internal consistency of the instrument have revealed reliabilities of .92 to .97 in a normal sample and .68 to .81 in a psychiatric sample.

Specific SASB Variables

Early parental relations. The measure of early parental relations used in this study was taken from the patient's and therapist's SASB INTREX questionnaire assessment of his or her relationship with each of his or her parents (or primary caregivers) during childhood between the ages of 5 and 10. Eight sets of ratings were involved: four ratings assessing the relationship to the father and four ratings assessing the relationship to the mother. Given that differential hypotheses for each parental relationship were not made, the weighted affiliation score was summed across all eight ratings, providing a single measure of the quality of an individual's relationship to his or her parents (see Hilliard, 1995, for separate analyses for mothers and fathers).

Interpersonal process. The measures of the interpersonal process during therapy were taken from Session 3, following the research strategy used

by Henry et al. (1986, 1990). Session 3 was chosen because prior research (O'Malley, Suh, & Strupp, 1983) indicated that the quality of the therapeutic alliance in time-limited therapy is well established by this time and predictive of eventual outcome. The SASB codings by independent observers were limited to the second 15 min of Session 3 because of the very time-consuming nature of the coding.

Collapsing across disaffiliative and affiliative codes in the SASB codings largely masks the variability in disaffiliative codes, given that they compose a relatively small percentage of the total number of codes. Previous research (Henry et al., 1986, 1990) has shown, however, that even small absolute amounts of disaffiliative process have a significant deleterious effect on outcome; thus, a measure of disaffiliative codes alone was used. The sum of all the codes falling in a given disaffiliative cluster was multiplied by a weight representing the relative disaffiliativeness of the respective cluster, and all of these weighted sums were added. This value was divided by the total number of thought units to correct for the amount of speech. A separate measure was calculated for therapist interpersonal behavior and for patient interpersonal behavior when separate measures were needed, and the two measures were collapsed when a summary measure was needed.

The patients and therapists in this study completed SASB INTREX questionnaires after the same session coded by the independent observers (Session 3), assessing the interpersonal process in therapy at that time. These ratings provided a participant self-report measure analogous to the independent observer codings. Eight sets of ratings were involved: four ratings assessing the relationship to the therapist (or patient) when the relationship was at its best and four ratings assessing the relationship to the therapist (or patient) when the relationship was at its worst. The correlations between the eight individual ratings were high enough to justify using the sum of the weighted affiliation scores to produce a global measure of the therapeutic relationship (see Hilliard, 1995, for details). As was the case with the SASB coding measure, a separate measure was calculated for therapist interpersonal behavior and for patient interpersonal behavior when separate measures were needed.

Outcome Measures

Introject change. The patients in this study completed SASB INTREX questionnaire ratings of their introjects at intake; following Sessions 3, 8, 16, and 22; at termination; and at the 1-year follow-up. At each administration, the patient rated twice his or her introject (i.e., how he or she related to him- or herself), with one rating pertaining to when the patient was at his or her best (INT–B) and one rating pertaining to when the patient was at his or her worst (INT–W). Almost all of the patients in this study evidenced disaffiliative introjects at intake when they described themselves at their worst. By Session 3, all of the patients—without exception—evidenced disaffiliative introjects at their worst.

The raw change from intake to termination in the weighted affiliation score for INT–B and INT–W was calculated. To control for the amount of change to be expected due to the initial level, we calculated residual introject change by removing the variance in raw change predicted by pretherapy scores. All of the analyses used these residual change scores. Research by Henry (1992) suggests that INT–B and INT–W change may differ in significant ways. For this reason, the two measures of introject change were not collapsed.

Other outcome measures. As has been pointed out by numerous authors (e.g., Strupp & Hadley, 1977), psychotherapy outcome is a multifaceted construct. Four outcome measures were examined in this study in addition to introject change. First, the GSI of the SCL–90–R (Derogatis, 1983) was used as a measure of overall degree of symptomatology from the patient's perspective. The SCL–90–R is a multidimensional self-report symptom inventory composed of 90 items, each rated on a 0- to 4-point scale. The specific SCL–90–R measure used here was a residual change score from intake to termination in the GSI.

The Global Outcome Rating (GOR) Scale was used as a measure of global outcome and was filled out by the patient, therapist, and an independent clinician, providing three separate measures of global outcome. The GOR Scale is a single item rating, on a continuum ranging from −5 (*very much worse*) to 5 (*very greatly improved*), of degree of improvement or change since the beginning of therapy. Previous research (Strupp & Hadley, 1979) suggests that this direct method of assessing global outcome corresponds closely to the kind of judgments made by patients and therapists in clinical settings.

Results

The findings on the correspondence between independent observer codings and patient and therapist self-report are presented before the findings pertaining to the causal model because the former determine which process perspectives, if any, can be collapsed when testing the causal model.

Convergence Between Independent Observer Codings and Participant Self-Report

The correlations between the independent observer measures of the interpersonal process during Session 3 and the participant self-report measures of the same session were examined to determine the convergence between these measures. In only one case did the participant self-report measures correlate significantly with the independent observer measures: The patient self-report measure of his or her own interpersonal behavior correlated with the independent observer measure of patient interpersonal behavior ($r = .33$, $p < .05$, two-tailed, $n = 58$). One might expect the convergence between the two self-report measures to be higher than between two different perspectives (self-report and independent observers) because of method variance. However, this was not the case in the present data, with correlations essentially zero ($r = .00$ between patient and therapist ratings of therapist interpersonal behavior and $r = .02$ for ratings of patient interpersonal behavior, $n = 50$). Because of the low convergence, none of the process measures were collapsed over perspective.

Patient and Therapist Early Parental Relations, Interpersonal Process During Therapy, and Outcome

The analytic strategy used to test the causal model linking early parental relations, interpersonal process during therapy, and outcome was that recommended by Cohen and Cohen (1983) and by Baron and Kenny (1986). To ensure that all of the regression coefficients in these analyses were based on exactly the same sample, we used listwise deletion of missing cases ($n = 50$). All of the hypothesized links in the causal model reflected directional hypotheses. This was because disaffiliative early parental relations were expected to have a negative impact on the process and outcome, whereas affiliative early parental relations were expected to have a positive impact on the process and outcome. Furthermore, disaffiliative interpersonal process during psychotherapy process was expected to have a negative impact on outcome, whereas affiliative interpersonal process during psychotherapy was expected to have a positive impact on outcome. From this perspective, the use of one-tailed tests would have been justified. Two-tailed tests, however, are the norm in psychotherapy process–outcome research. Consequently, we report the results for both

two- and one-tailed tests and interpret the one-tailed results with greater caution. It is noteworthy that none of the correlations were large enough to be statistically significant at the less stringent one-tailed level but were in the opposite direction from that hypothesized.

First, we estimated the direct effect of patient and therapist early parental relations on therapy process using the simple regression coefficient of interpersonal process on interpersonal history. These correlations are presented in Table 1. The patient's early parental relations related to his or her own view of the interpersonal process ($r = .29$, $p < .05$, two-tailed) but not to the therapist's or independent observer's view of the process. In an analogous manner, the therapist's early parental relations related to his or her own view of the interpersonal process ($r = .32$, $p < .05$, two-tailed) but not to the patient's or independent observer's view. These findings suggest a link between interpersonal history and interpersonal process, but only within the same rater perspective.

The direct effect of interpersonal process on outcome was estimated by the partial regression coefficient of outcome on interpersonal process, with interpersonal history included in the regression equation. First, we calculated the simple correlations between interpersonal process and outcome. In all the cases in which interpersonal process related to outcome, we conducted standard multiple regression analyses to determine whether the relation held when the effect of interpersonal history was partialed out. The simple and relevant semipartial correlations are presented in Table 2.

The independent observer process measure did not relate to any outcome measures except introject change (specifically, change in INT-B, $r = .27$, $p < .05$, one-tailed). From the perspective of the therapist's self-report, the interpersonal process related to three outcome measures: symptom change ($r = .30$, $p < .05$, two-tailed), the therapist's GOR ($r = .37$, $p < .05$, two-tailed), and the patient's GOR ($r = .30$, $p < .05$, two-tailed). From the perspective of the patient's self-report, the interpersonal process related to two outcome measures: his or her own GOR ($r = .48$, $p < .05$, two-tailed) and the independent clinician's GOR ($r = .26$, $p < .05$, one-tailed). No interpersonal process measure related to INT-W change.

In the standard multiple regression analyses, we estimated the effect of the interpersonal process on outcome, with the effect of interpersonal history partialed out. Because the patient's history related only to his or her own view of the process, and because the therapist's history related only to his or her own view of the process, only patient history was entered with patient process and

Table 1
*Correlations Between Patient and Therapist History
and Interpersonal Process*

	Interpersonal process		
History	Patient	Therapist	Independent observer
Patient	.29*	.15	.03
Therapist	−.21	.32*	.02

Note. n = 50.
* $p < .05$, two-tailed.

Table 2
*Correlations (and Relevant Semipartial Correlations) Between
Interpersonal Process and Outcome*

	Interpersonal process		
Outcome	Patient	Therapist	Independent observer
Introject			
At best	−.04	.02	.27†
At worst	.07	−.02	.08
GSI	.07	.30* (.24†)	−.13
GOR			
Therapist	.15	.37* (.36*)	.20
Patient	.48* (.41*)	.30* (.32*)	−.04
Clinician	.26† (.20)	.08	.30

Note. n = 50. GSI = Global Severity Index; GOR = global outcome rating.
* $p < .05$, two-tailed. † $p < .05$, one-tailed.

only therapist history was entered with therapist process. In the case of the independent observer process measure, it was not necessary to partial out the effect of interpersonal history because this process measure was not related to either patient or therapist history.

All of the semipartial correlations for interpersonal process were significant, with the exception of the semipartial correlation between patient-rated process and the independent clinician's GOR. This indicates that in most cases in which interpersonal process and outcome were related, they continued to be related when the effect of interpersonal history was partialed out.

Next, we examined the evidence for a direct effect of patient interpersonal history on outcome. Evidence for such a direct effect would exist if patient early parental relations related to outcome when the effect of interpersonal process on outcome was partialed out. First, we calculated the simple correlations between interpersonal history for both patient and therapist and outcome. In all the cases in which patient or therapist interpersonal history related to outcome, we conducted standard multiple regression analyses that partialed out the effect of interpersonal process on outcome. The simple correlations and relevant semipartial correlations are presented in Table 3.

Patient history was related to two outcome measures: symptom change ($r = .27$, $p < .05$, one-tailed) and patient GOR ($r = .30$, $p < .05$, two-tailed). Therapist history was not related to any outcome measure. To assess the direct effect of the patient's interpersonal history on outcome, we conducted a standard multiple regression analysis in which both the patient's interpersonal history and the patient's interpersonal process were entered. Because the patient's history did not relate to the other interactant's view of the process, only the patient's view of the process was entered with patient history.

The effect of the patient's early parental relations on symptom change remained almost unchanged when the effect of the therapy process was partialed out. This suggests that the effect of the patient's early parental relations on symptom change was direct (i.e., not mediated by that aspect of the therapy process assessed in this study). The effect of patient history on the patient's GOR was less when the effect of interpersonal process was partialed out and

Table 3

Correlations (and Relevant Semipartial Correlations) Between Interpersonal History and Outcome

	Interpersonal history	
Outcome	Patient	Therapist
Introject		
At best	.16	.15
At worst	−.05	.17
GSI	.27† (.26†)	.23
GOR		
Therapist	.14	.09
Patient	.30* (.17)	−.03
Clinician	.22	−.17

Note. $n = 50$. GSI = Global Severity Index; GOR = global outcome rating.

* $p < .05$, two-tailed.   † $p < .05$, one-tailed.

the semipartial correlation coefficient was no longer significant. This suggests that the mediator variable, interpersonal process, played a significant role in this case. A direct effect (in addition to the indirect effect) of history on this outcome variable was not ruled out, however, because the correlation was not reduced to zero.

We examined the indirect effect of interpersonal history on outcome by multiplying the regression coefficient representing the direct effect of interpersonal history on interpersonal process by the partial regression coefficient representing the direct effect of interpersonal process on the outcome measures to which it related. Whenever one is dealing with regression coefficients that reflect moderate effect sizes, as was the case here and in most of psychotherapy process–outcome research, the size of any indirect effects will be small. In studies with adequate statistical power, mediational effects would always result in a correlation between the antecedent variables and outcome, even when there was no direct effect of the antecedent variable on the outcome variable. This was not the case in our data, presumably because of a lack of statistical power.

Overall, the data provide tentative support for all of the predicted links in the model. Figure 2 presents a summary of all the findings in this section.[1]

Discussion

The present study was designed to empirically explore a three-stage interpersonal model of therapeutic process and outcome that is believed to be a common factor operating in all psychotherapies, although this study only examined psychodynamic psychotherapy. It expanded on the existing research base by (a) including a theoretically central patient variable, early parental relations, to help rule out an important third-variable explanation for previous findings linking interpersonal process during therapy (or more generally, the therapeutic alliance) and outcome and to examine the direct effect of this patient variable on outcome; (b) including the same variable for therapists to more completely capture the interactive, dyadic nature of the system under study; and (c) including measures of all three basic perspectives on the interpersonal process during therapy (patient and therapist self-report and

independent observer codings) to examine the convergence of the three basic process perspectives and differential relations of these three perspectives to patient and therapist antecedent variables and outcome.

The Interpersonal Model of Process and Outcome

The results provide tentative support for all of the hypothesized links in the basic three-stage interpersonal model (see Figure 2). The data suggest that the patient's early parental relations have both a direct effect on outcome and a mediational or indirect effect on outcome through their effect on therapy process. The data also suggest that the therapists' early parental relations have a direct effect on the therapy process, which in turn has a direct effect on outcome. This finding implies that the extensive training in psychodynamic psychotherapy that the therapists in our sample had received was not adequate in correcting the impact of their own interpersonal histories on their psychotherapeutic work. This is consistent with the finding in a previous study (Henry et al., 1990) that the psychotherapist's introject (i.e., the intrapsychic representation of one's interpersonal history) is related to the therapist's tendency to engage in problematic interpersonal process in psychotherapy. It is also consistent with the results of the Vanderbilt II study (Henry, Schacht, et al., 1993; Henry, Strupp, et al., 1993; Strupp, 1993) on training in TLDP, which found that training in manualized therapy, even when the training emphasized the ongoing therapeutic transactions, was insufficient to alter underlying interpersonal process.

Examining the direct effect of therapy process on outcome (controlling for the effect of early parental relations) helped to rule out a plausible alternative explanation for the findings of a large number of alliance–outcome studies—namely, that the alliance–outcome link reflects only the causal impact of interpersonal history on both variables. The finding that the process–outcome relation held in most cases when interpersonal history was partialed out strengthens the case for a direct causal effect of therapy interpersonal process on outcome. Early parental relations alone, however, do not fully account for the variance in patients' and therapists' tendency to engage in disaffiliative process during therapy. Perhaps a combined measure encompassing interpersonal history, current interpersonal relationships, and current introject would best predict patient and therapist dyads who are at risk of engaging in the disaffiliative processes that have been linked to poor outcome.

It should be emphasized that the causal model examined here is far from a comprehensive interpersonal model of psychotherapy, not to mention a comprehensive model of psychotherapy in general. Even in a comprehensive interpersonal model, we would not expect interpersonal antecedent and process variables to account for all of the variability in outcome. Other antecedent variables (e.g., biological variables) and other process variables (e.g., specific technical interventions, such as exposure) are clearly impor-

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[1] We conducted separate analyses that controlled for therapist effects (see Crits-Christoph & Mintz, 1991) by either collapsing across therapists or including therapists as a separate variable in the multiple regression analyses, depending on the analysis. The pattern of findings was largely similar to the traditional approach presented here. The interested reader is referred to the study by Hilliard (1995) for these additional analyses.
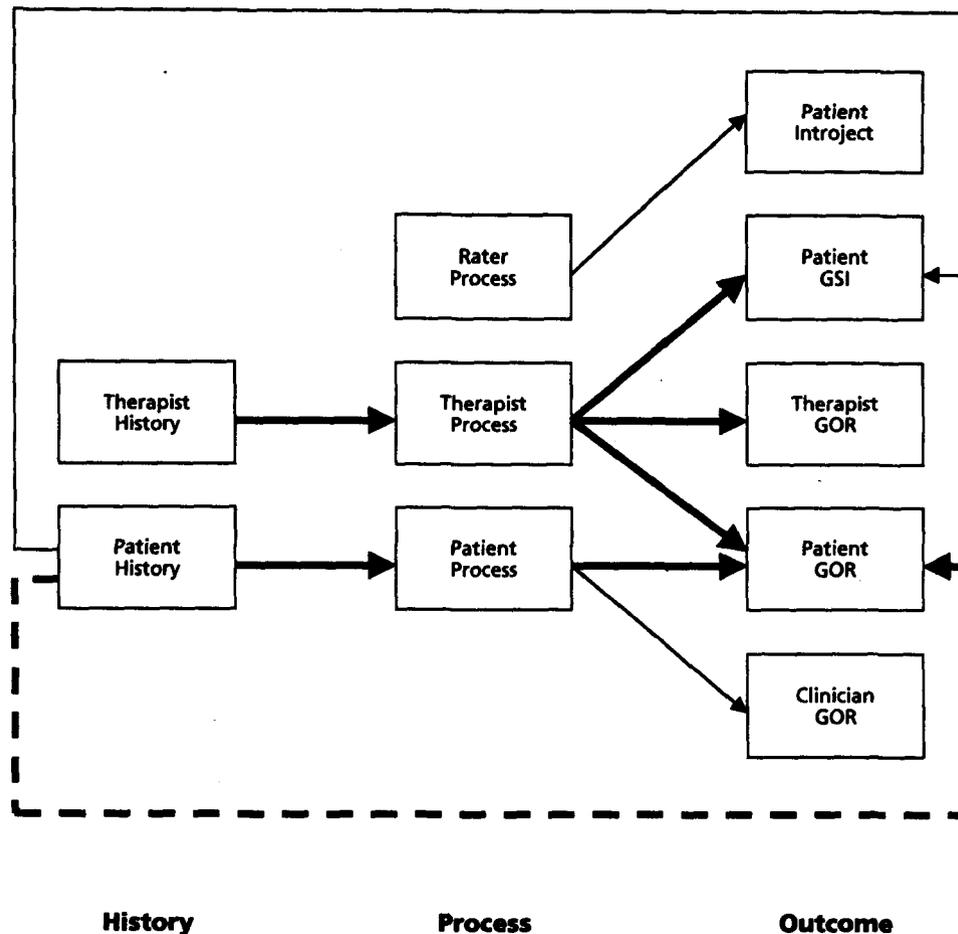
History **Process** **Outcome**

Figure 2. Summary of direct and indirect effects relating patient and therapist interpersonal history, interpersonal process, and outcome. A thick solid arrow indicates an effect—at the two-tailed critical value—that holds when the other variable in the model is partialed out. A thin solid arrow indicates the same as a thick solid arrow—at the one-tailed critical value. A thick broken arrow indicates an effect—at the two-tailed critical value—that no longer holds when the other variable in the model is partialed out. GSI = Global Severity Index; GOR = global outcome rating.

tant in their own right and in terms of how they interact with interpersonal variables.

The Importance of Perspective in Process Ratings

Lack of convergence by source. The present results revealed almost no overlap among the three different process perspectives in terms of the SASB affiliation–disaffiliation dimension. This lack of convergence is consistent with most alliance–outcome research using other instruments (as reviewed by Gurman, 1977, and by Horvath & Greenberg, 1994). In this study, process rating *source* was confounded with process rating *method.* The patient and therapist used exactly the same method, the SASB INTREX system, a self-report measure. The independent observers used the SASB process coding system, in which they coded each thought unit, and the codings were aggregated across each therapy. This difference introduces method variance, which could contribute toward the lack of convergence (see Hilliard, 1995, for a detailed discussion of the different aspects of method variance involved in

the two types of SASB process measures). One specific way the impact of method variance could be explored in future research would be to have the independent observers fill out the SASB INTREX assessment of the therapeutic relationship in addition to the thought-unit-by-thought-unit codings (or a similar procedure with other alliance measures when parallel systems are available).

Method variance alone, nevertheless, does not account fully for the lack of convergence between the different perspectives because there was no convergence between the patient and therapist ratings, although they used the same method. One should keep in mind that the measures of convergence used here were cross-sectional correlations (i.e., correlations across individuals), as is typically the case in process–outcome research. Perhaps the correspondence among the different perspectives would only be apparent when examined over time within individual therapeutic dyads (see Hilliard, 1993). It is also possible that the different perspectives tend to converge, showing an increase in the cross-sectional correlations over time. There is some evidence suggest-

ing that the latter may occur (Horvath & Greenberg, 1994). Until more is known about the conditions under which the different process perspectives converge or diverge, it would appear judicious in future research to assume that each rating source is a distinct variable.

The differential relationship of process perspective to patient and therapist variables and outcome. Interpersonal process during psychotherapy is clearly not a unitary phenomenon in our data, as reflected by the general lack of convergence between the three process perspectives. In this situation, it would not be surprising if each process perspective were to relate differentially to both patient and therapist antecedent variables and outcome. The pattern is clear-cut with reference to patient and therapist antecedent variables. A therapist's early parental relations impact only his or her own assessment of the process, but not the patient's or independent observer's assessment. Analogously, a patient's early parental relations impact only his or her own assessment of the process, but not the therapist's or independent observer's assessment. One might conclude that the impact of early parental relations reflects only a "bias" in the respective patient and therapist process ratings. These "biased" process ratings, nevertheless, relate—differentially—to outcome and thus deserve to be taken seriously.

Horvath and Symonds (1991) concluded in their meta-analysis of the alliance–outcome relationship that patient and independent observer ratings of the alliance were comparable predictors of outcome and that both were superior to therapist ratings. The present results are not consistent with this conclusion. The therapist process ratings predicted three different outcome measures, whereas the patient process ratings predicted only two and the independent observer ratings predicted only one. The three outcome measures we used were very different: a single, retrospective global change rating on a Likert-type scale; a general pre–post therapy symptom change with a 90-item standardized self-report; and an intrapsychic, or introject, change as measured by a theoretically based interpersonal circumplex system (the SASB). Although all of the outcome measures that we used were predicted by at least one of the process measures, in only one case did more than one of the process perspectives relate to the same outcome measure.

Henry, Strupp, Schacht, and Gaston (1994) have observed that "there is some evidence that the alliance–outcome relationship may not hold for all types of therapeutic outcome" (p. 485). The present data are consistent with this observation. To the extent that this finding is not due to the notorious lack of statistical power in psychotherapy process–outcome research, the alliance–outcome relationship appears to depend on both the particular alliance perspective and the particular aspect of outcome assessed. An important task for future research will be to clarify which specific aspects of the alliance are captured by each process perspective and assessment method and why these specific alliance aspects relate to certain aspects of outcome but not to others.

The results pertaining to the theoretically derived outcome measures—change in patient INT-B and INT-W—were on the whole disappointing. The self-report process measures did not relate to either measure of introject change. The independent observer codings related to INT-B change in the one-tailed test but fell slightly short of reaching significance in the two-tailed test ($p = .06$). The independent observer codings did not relate to INT-W

change. If the differential relation between self-report and independent observer measures proves to be reliable, it would raise the interesting prospect that the independent observers, in their thought-unit-by-thought-unit codings of the interpersonal process, are assessing a deeper (i.e., outside conscious awareness) level of the interpersonal process, which in turn impacts the deeper level outcome measure of introject change.

Conclusion

The vast majority of research on the alliance to date has focused on instrument development and establishing the link between the global quality of the alliance and outcome. A few studies have moved on to examine the impact of patient pretreatment variables on the alliance (see Horvath, 1994b). Our sense is that the field is increasingly ripe for a shift to more complex designs that attempt to discern the causal network in which the alliance–outcome link is embedded. The present study was an initial attempt to move in this direction from an interpersonal perspective. This type of research involves the commitment of significant research resources, but we are confident that this direction bears promise in moving the field toward a more adequate understanding of the role the alliance plays in psychotherapy.

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