Exploratory In-Session Process Research in Individual Psychotherapy: A Review

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The goal of exploratory process research is to describe what occurs within psychotherapy sessions, eventually leading to the development of theories based on the accumulation of replicated results. Several areas in which exploratory methods are currently being used are described: therapist techniques, client behavior, covert processes, process models, interactions between therapists and client, and therapy events. Additionally, several areas in which exploratory methods would be useful for future research are described: the links between client personality characteristics, therapy process, and outcome; the timing and quality of therapist interventions; and client readiness for the therapist interventions.

In this review, I will discuss several recent trends in the literature on exploratory in-session process research. Theoretically based process research will be reviewed by Luborsky (1990) in another article in this special series. Because of the brevity of the review, I will focus only on naturalistic or quasi-naturalistic research rather than analogue research, on individual rather than group or family therapy, and on research that codes behaviors within psychotherapy sessions rather than research that is based on global ratings of whole sessions.

Distinctions Between Exploratory and Theory-Based Research

Exploratory process research, or what has also been called discovery-oriented research (Elliott, 1984; Mahrer, 1988) or an empirical approach, describes what occurs within psychotherapy sessions from a nontheoretical stance. Researchers develop scales or categories to code occurrences in the session (e.g., therapist behavior) or to describe the experiences of the participants. Ideally, researchers maintain an attitude of openness to learning about the process from their observations.

Development of theory, based on the accumulation of replicated findings, is the ultimate goal of exploratory process research. Exploratory research thus follows the spirit of the scientific method, in which observation of clinical phenomena leads to hypothesis formulation and testing, which leads to refinement of the hypotheses, replication of the results, and finally development of theory (Kerlinger, 1973). Because of the few replicated results in process research, I believe that our research is presently in the observation and hypothesis-building stages, rather than at the theory-development stage (Hill, 1982).

Because exploratory research is not aligned with any particular clinical theory, researchers can explain findings using many different theories. Thus, rather than being atheoretical, the exploratory process researcher often is pantheoretical and aware of many perspectives. With the lack of proven outcome differences among approaches to psychotherapy (Luborsky, Singer, & Luborsky, 1975; Smith, Glass, & Miller, 1980), using many perspectives to examine data makes sense.

A potential danger of exploratory process research is that investigators sometimes study trivial things that have minimal clinical interest, simply because they are easy to measure. For example, some researchers have studied behaviors such as the use of plural words or head nods without relating these behaviors to clinical practice. A further problem is that exploratory research often generates a vast amount of data, making it hard for researchers to see the forest for the trees. For example, every detail in a case study can seem crucial for understanding the outcome, making it difficult to keep track of one's questions and to isolate certain aspects of the process to study. Another danger is that exploratory researchers may have unarticulated biases that affect the results.

In contrast with exploratory researchers, theory-based process researchers test hypotheses derived from clinical theory about how psychotherapy operates. A potential danger in theory-based research is that investigators may use research to prove what they already know to be true. In a related area, Berman (1989) reported that investigator allegiance was related to findings from comparative outcome studies. Another problem is that theory-based research can be constricted by theory. Researchers may become narrowly focused on what the theory highlights and thereby miss other potentially significant findings. Further, if the theory is wrong in its original formulation, years of research can be wasted in trying to prove or disprove an inadequately formulated theoretical premise. Finally, com-

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prehensile and contradictory theories such as psychoanalysis are virtually impossible to disprove (Liebert & Spiegler, 1987; Mahrer, 1988).

My contention is that both exploratory and theory-based process research have a role in furthering our knowledge about change processes in psychotherapy. I disagree with the position sometimes taken that exploratory process research is not valuable because it is not theory-based. For example, Lambert (1983) stated that the results of our case study (Hill, Carter, & O’Farrell, 1983) “make no clear contribution to science because they are not tied to, nor a test of, a theory of behavior change” (p. 24). This point of view expressed by Lambert (and many others) runs the risk of elevating theory to an idealized position. It is important to recognize that the origins of most of our theories are the personal impressions and biases of gifted therapists, rather than highly developed frameworks that integrate and explain a large body of empirical findings. Although it is useful to test observations from these clinical theories, it is equally useful for individual researchers to observe the therapy process and generate testable hypotheses in the service of developing empirically based theories.

Although I have made distinctions here between exploratory and theory-based research, in actuality it was not easy to classify the existing research into these two categories. Exploratory researchers have often derived their coding schemes from theory, even if they have not set out to test specific theoretical principles. Other exploratory researchers have explored the processes of specific theoretical orientations but have maintained an attitude of discovering what is present in the data rather than testing theoretical principles. In this review, I will do a selected review of research most closely approximating an exploratory approach. I will cover therapist techniques, client behavior, covert processes, process models, interactions between therapists and clients, and therapeutic events.

**Therapist Techniques**

Therapist techniques are generally regarded as important in the therapeutic endeavor, with much effort going into training therapists to use techniques appropriately. In concert, much of our process research has centered on therapist techniques.

The earliest systems for categorizing therapist techniques were developed by Porter (1943), Robinson (1950), Snyder (1945), and Strupp (1955). In these systems, therapist techniques were operationalized as verbal response modes, which are nominal categories that refer to the grammatical structure of the therapist’s verbal response, independent of the topic or content of the speech (Hill, 1982).

The next generation of measures involved ratings of facilitative conditions (e.g., empathy; Truax & Carkhuff, 1967). Although the initial work looked promising, several reviews (Gormally & Hill, 1974; Lambert, DeJulio, & Stein, 1978; Parloff, Waskow, & Wolfe, 1978) pointed out the methodological deficiencies in these measures and the evidence that facilitative conditions appeared to be applicable only to client-centered therapy.

The next and current generation of measures has returned to the early method of operationalizing therapist techniques using the nominal categories of response modes, which have better psychometric properties (Elliott, 1985; Friedlander, 1982; Hill, 1986; and Stiles, 1979). Although each measure uses different labels and definitions, Elliott, Hill, Stiles, Friedlander, Mahrer, and Margison (1987) have found convergence for six primary response modes: question, information, advisement, reflection, interpretation, and self-disclosure.

Researchers have demonstrated that therapists from different orientations use response modes that fit with their stated views of which therapist techniques are appropriate (Elliott et al., 1987; Hill, Myers, & Rardin, 1979; Stiles, 1979; Stiles, Shapiro, & Firth-Cozens, 1988; Strupp, 1955, 1957). Mahrer, Sterner, Lawson, and Dessaulles (1986) found that therapists not only used different amounts of the response modes but also used them in distinctive sequences.

Several recent studies have examined the differential effects of therapist response modes on in-session immediate outcome (e.g., helpfulness ratings, client reactions, client experiencing) in the session using structured recall techniques. Elliott, Barker, Caskey, and Pistrang (1982) found that clients rated interpretation and advisement as the most helpful and question as the least helpful response mode. Elliott (1985) found that general advisement, interpretation, and information were all positively correlated with client ratings of therapist helpfulness. Hill et al. (1983) and O’Farrell, Hill, and Patton (1986) found that therapist interpretation was associated with decreased client description of the problem and increased experiencing and insight. Barkham and Shapiro (1986) found that clients rated counselors as being more empathic (understanding) when they used more exploration (defined as intermediate between reflection and interpretation) and fewer advisements, whereas counselors rated themselves as more empathic when they used more exploration and fewer reassurances. Hill, Helms, Tichenor, et al. (1988) found that self-disclosure, interpretation, approval, and paraphrase were the most helpful response modes. A summary indicates that interpretation was the only response mode that was effective in all six studies in which immediate outcome was the criterion of effectiveness. These results support Spiegel and Hill’s (1989) conclusions about the efficacy of interpretation.

Although these results seem encouraging, response modes account for only a small proportion of the variance in immediate outcome (Elliott et al., 1982; Elliott, 1985; Hill, Helms, Tichenor, et al., 1988). For example, Hill, Helms, Tichenor, et al. (1988) found that response modes accounted for only 1% of the variance in immediate outcome, whereas individual differences between cases accounted for about 40% of the variance. Further analyses indicated that therapist intentions and client experiencing in the turn preceding the therapist intervention each contributed more to the variance than did response modes. Additionally, Hill (1989) found that client personality, therapist orientation and personality, an adequate therapeutic relationship, and events external to therapy all influenced whether or not clients incorporated changes begun in therapy. Thus, response modes are only one component of therapist interventions. Context appears to be particularly important in determining the effects of therapist interventions.

**Client Behavior**

Elliott and James (1989) recently completed a thorough review of client experiences in psychotherapy. They categorized
the existing measures into nine areas: intentions, feelings, style of self-relatedness, style of relating to the therapist, central concerns, perceptions of therapist’s intentions, perceptions of therapist characteristics, therapeutic impacts, and helpful aspects of therapy.

Two of the best measures of client behavior are the Experiencing Scale (Klein, Mathieu-Coughlan, & Kiesler, 1986) and the Client Vocal Quality System (Rice & Kerr, 1986). Both were developed originally from client-centered therapy but have been used extensively with other theoretical orientations. The Experiencing Scale measures client involvement in therapy. At low levels, discourse is impersonal or superficial; at high levels, feelings are explored, and experience serves as the basic referent for problem resolution and self-understanding. In summarizing the results of extensive research, Klein et al. reported that client neuroticism, introspection, and cognitive complexity led to high experiencing levels; high levels of experiencing were found in conjunction with helpful therapeutic interventions; and high levels of experiencing, particularly in later phases of therapy, have been associated with better outcome.

The Client Vocal Quality System (Rice & Kerr, 1986) classifies client statements into one of four categories (focused, emotional, external, or limited) on the basis of six features of the voice (energy, primary stresses, regularity of stresses, face, timbre, and contours). Rice and Kerr reported that several studies have found evidence that clients were in more productive therapeutic states when they used focused as compared with externalizing or limited voices. The research on both the Experiencing Scale and Client-Vocal Quality System indicates that manner of expressiveness is a key factor in determining client productivity or involvement in treatment.

Another approach to examining client behavior has been to examine what comprises good moments in therapy. Mahler and Nadler (1986) compiled a list of moments in therapy when clients manifest therapeutic progress (e.g., exploration of feelings, emergence of previously warded-off material, expression of insight, expression of strong feelings toward the therapist, and expression of new ways of being and behaving). These categories have been used by both Mahler, Dessaulles, Nadler, Gervaize, and Stern (1987) and Martin, Martin, and Slenon (1987). To be more reflective of all client behaviors in therapy, this list could be expanded to include negative client behavior, such as resistance.

Additionally, attention needs to be given to strong emotion in clients (Nichols, 1974; Nichols & Bierenbaum, 1978). Some research has been done on client laughter (Gervaize, Mahler, & Markow, 1985; Mahler, Markow, Gervaize, & Boulet, 1987), but minimal attention has been given to other strong emotions, such as crying and anger. Inasmuch as moments of strong emotion may mark catharsis or movement in clients, they merit further study.

Covert Processes

The cognitive revolution has hit psychotherapy process research, bringing an awareness that overt behavior does not reveal all that is happening. Kagan (1975) introduced the notion that many different events occur on different levels for therapy participants and that greater awareness of these covert events enhances the therapeutic enterprise. Researchers have since incorporated these ideas into researchable measures, using forms of stimulated recall from tapes. For therapists, the interest has centered around therapist intentions or covert reasons and goals for their interventions (Elliott & Feldstein, 1978; Hill & O’Grady, 1985; Martin, Martin, Meyer, & Slenon, 1986). For example, Hill and O’Grady found that therapist intentions changed across both sessions and treatments and differed for therapists of different theoretical orientations. Kelly, Hall, and Miller (1989) found that the clarity (i.e., articulateness and concreteness) of therapist intention was positively related to ratings by clients and judges’ ratings of counseling outcome. Whether the clarity was related to the type or appropriateness of the intention was not studied.

From the client’s perspective, the focus has been on covert reactions to therapist interventions (Elliott, 1985; Elliott, James, Reimenschuessel, Cislo, & Sack, 1985; Hill, Helms, Spiegel, & Tichenor, 1988; Martin et al., 1986; Martin, Martin, & Slenon, 1989; Rennie, 1985; Thompson & Hill, 1988). For example, Hill, Helms, Spiegel, et al. reported that clients had mostly positive reactions, including feelings of being supported and understood, self-understanding, and new ways to behave. Further, more disturbed clients had more negative and fewer positive reactions in therapy.

Stiles (1987; 1988a) raised a methodological issue about covert processes, noting that therapist intentions occur on many different levels of awareness. For example, the therapist may be aware of his or her intention and intend for the client to be aware of it, the therapist may be aware of his or her intention but not intend for the client to be aware of it, or the therapist may not be aware of his or her intention. The levels of awareness probably apply to client reactions. Future studies need to measure these levels.

Process Models

The above-mentioned overt and covert behaviors for clients and therapists have been combined into models that describe the therapeutic interaction. Hill and O’Grady (1985) suggested that at any given moment, the therapist draws from theory and from diagnostic formulations and clinical observations of the client to develop an intention for the impact he or she wants to have on the client. To implement the intention, the therapist decides to use specific verbal and nonverbal interventions. The client’s reactions to the therapist’s interventions determine how he or she responds to the therapist. Based on the therapist’s perception of the client’s response, the therapist formulates the next intention and intervention to meet the altered needs of the client, yielding a continually evolving process.

Contiguous components of this model have been related. Therapist intentions seem to be connected with therapist response modes, although some of the intentions can be achieved through more than one response mode, and some of the response modes are used for more than one intention (Hill, Helms, Tichenor, et al., 1988; Martin et al., 1989). Hill, Helms, Tichenor et al. (1988) found that the combination of intentions and response modes provided the best description of therapist behavior in predicting client behavior.

Martin (1984) described a similar model that relates client
change to a continuous cycle of counselor intention, counselor behavior, client perception, client cognitive processing, and client behavior. Results of several studies (Martin et al., 1986; Martin et al., 1989; Martin, Martin, & Slemon, 1987) have shown that ratings of session effectiveness are related to consistency in the various parts of the chain.

An important question from these models is whether participants need to be aware of the other person's covert activities. Several studies have found that client awareness of therapist intentions is either not related or negatively related to outcome (Fuller & Hill, 1985; Horvath, 1988; Martin et al., 1986; Martin et al., 1987). We do not yet know the reason for this unexpected finding, but perhaps when clients are trying to figure out what therapists are doing, they are not involved in their own tasks in therapy. Alternatively, clients may not need to be aware of therapist intentions for specific interventions but may need to be aware of therapists' general goals for therapy.

Another smaller set of studies has examined whether therapists need to be aware of client reactions. Rennie (1985) found that clients often hid negative reactions to therapists, presumably out of deference. Thompson and Hill (1988) found that therapists were able to perceive positive client reactions more often than negative reactions. Further, they found that when therapists were aware that their clients reacted by getting more involved in the tasks of therapy (labeled therapeutic work), their next therapist interventions were helpful. In contrast, when therapists were aware that clients had negative reactions, their next interventions were less helpful, suggesting that therapists have difficulty responding to client negativity.

**Interactions Between Therapists and Clients**

Several measures have been developed for studying the interaction between therapists and clients. Some researchers have been studying relational control, or the mutual influence and extent to which each member of the system is allowed to define, control, or determine what will occur in the transaction. Some of these systems examine which person introduces topics and whether the other person acquiesces to that topic determination (e.g., Friedlander & Phillips, 1984), whereas others examine the patterns of response modes between the participants, assuming that different patterns indicate complementary or symmetrical interactions (Ericson & Rogers, 1973; Heatherington, 1988; Lichtenberg & Barke, 1981; Mark, 1971; Tracey & Ray, 1984).

Another method for classifying interpersonal interactions is the Structured Analysis of Social Behavior (SASB; Benjamin, Foster, Roberto, & Estroff, 1986). Interpersonal interactions are coded in terms of focus (Other, Self, Introspection), the degree of interdependence and affiliation, and on nine topics (e.g., approach/avoidance, need for fulfillment, and intimacy).

These approaches are important because they go beyond examining individual contributions to the therapy process to examining the unique system created by the two individuals. They are also important because they have made extensive use of sequential analyses for examining how one participant's behaviors affect the other within subsequent turns in sessions.

**Events Approach**

The events approach is similar to the generic process models described above except that the focus is on the change process within specific types of events within therapy. Kelman (1969) suggested that there are auspicious moments of opportunity for psychological change. Elliott (1983) contended that process research should focus on these key, critical, decisive, or significantly helpful or hindering events in psychotherapy. From this perspective, an aggregate of everything that occurs in therapy is not as important as whether significantly helpful or hindering events have occurred.

Several researchers have asked clients and therapists to indicate the most and least helpful events within particular sessions or across treatment. Llewelyn, Elliott, Shapiro, Hardy, and Firth-Cozens (1988) found that during treatment the most common helpful impacts for clients were problem solution, awareness, and reassurance, whereas the most common hindering impact for clients was unwanted thoughts. Martin and Stelmaczonek (1988) found that events that involved expressions of insight and understanding, provisions of personal material, descriptions and explorations of feelings, and expressions of new ways of being or behaving were recalled by counselors and clients as important. Cogar and Hill (1989) found that clients and therapists both cited therapist techniques as helpful more often than they cited therapist interpersonal behavior, client tasks, or client interpersonal behavior as helpful. These studies indicate that clients and therapists do identify specific events within therapy as being important.

Several approaches have been suggested for studying these significant events. Horowitz and his colleagues (Horowitz, 1979; Horowitz, Marmar, & Wilner, 1979) have studied patient states and state transitions. The problem states of a person are carefully described in terms of behavior and subjective experiences. The states are distinguished from other states before, during, and after therapy. A configurational analysis is done to relate changes in states to in-therapy events.

Greenberg (1986) defined events as consisting of the patient problem marker, the therapist operation, the client performance, and the immediate in-session outcome. To analyze events, Greenberg (1984) proposed using a task analysis, in which the researcher specifies the hypothesized idealized client performance and compares that ideal performance with descriptions of actual client resolution from a series of cases. In a resolution of a conflict event, Greenberg (1980) found that clients changed from an initial externally focused, harsh critical stance to a more internally focused stance. Further, use of gestalt two-chair dialogue at an in-therapy statement of a split has been found to lead to greater depth of experiencing than empathic reflection or focusing (Greenberg & Clarke, 1979; Greenberg & Dompierre, 1981; Greenberg & Higgins, 1980; Greenberg & Rice, 1981). Using a task-focused approach for studying the resolution of problematic reactions in client-centered therapy, Wiseman and Rice (1989) found that productive client behavior was facilitated by therapist use of productive voice and task-specific interventions. Stiles, Shapiro, and Elliott (1986) suggested that researchers follow three steps for analyzing events: (a) Identify particular types of clinically significant events for study, (b) identify the context and sequence of occurrences within the event, use multiple measures of therapy process, and (c) develop working models to show how the change process works. Elliott (1984), in a study of client insight events, postulated several stages for
insight events. In the context stage, clients were engaged in self-understanding but became blocked and indirectly requested help, indicating to the therapist a state of readiness for an intervention. In the intervention stage, the therapist gave an interpretation about some core interpersonal issue in a manner that was multipart, redundant, interactive, and softened. In the impact stage, the client first indicated mild agreement, then moved to an insight experience characterized by newness, accuracy, relief, and enhanced alliance with the therapist, and finally moved to a greater unfolding of the material with greater self-exploration and self-interpretation.

Conclusions

In the exploratory process research area, there are currently several well-developed measures for which good reliability and validity have been demonstrated. Furthermore, Elliott et al. (1987) provided a model for future developers of process measures in their comparative study of six different therapist response modes systems. As a step in the development of new process measures, researchers should demonstrate the similarity of their measure to existing measures. This would enhance the concurrent validity of instruments in this area, facilitating comparisons among studies.

In addition, several new methods (linking behaviors with immediate outcome, sequential analyses, comprehensive process analyses, task analyses, and qualitative approaches) have been developed in response to critiques about the inadequacies of the traditional approach of correlating the frequency of process events with treatment outcome (Gottman & Markman, 1978; Hill, 1982; Hill, Helms, Tichenor, et al., 1988; Russell & Trull, 1986; Stiles, 1988b).

Although these new approaches are helpful for analyzing process data, particularly in regard to the immediate outcome of the intervention or the event, further work is still needed linking process with more distal outcome. We have not yet devised methods to determine the influence of specific therapist techniques or events on session or treatment outcome. Nor have we figured out how therapist techniques and the therapeutic relationship (e.g., working alliance, transference) interact to influence treatment outcome. We also need to know how extratherapy events combine with in-session events to produce change (e.g., how support systems reinforce or hinder change).

Additionally, more work needs to be done relating stable client personality characteristics (e.g., dominance, introversion) to what therapist techniques are offered, how techniques are responded to by clients, and how clients experience the therapy process. One of the few process measures for which client pretreatment personality variables have been related to in-session behavior is the client Experiencing Scale (Klein et al., 1986).

More of our measures need to attend to these individual differences between clients, so that we do not fall prey to uniformity myths that process events are similar for all clients.

Another area that needs attention is the timing of therapist techniques and events within treatment. It is not important just that an interpretation, for example, be given, but a client must be ready for it. The readiness of clients for various therapeutic interventions needs to be operationalized further. The preliminary work on client states or markers (e.g., Horowitz, 1979; Rice & Greenberg, 1984) may be a promising approach to studying readiness.

Relatedly, further work needs to be done on the quality or competence of therapist interventions. Schaffer (1982) has argued that therapist interventions should be measured in three dimensions: type, manner, and quality. Although many measures exist for type and manner, few exist for quality. Perhaps the closest is Elliott’s (1986) 9-point scale of helpfulness, which clients and therapists use to rate therapist interventions during a videotape recall. The conceptual and methodological issues involved in developing such measures of quality are indeed formidable, inasmuch as judgments of quality are extremely subjective, depending on such things as perspective (therapist, client, external judge) and theoretical orientation.

In summary, we need to make links between the pretherapy input variables (such as client and therapist personality characteristics), the in-session and out-of-session events (both of which need to be defined and operationalized more clearly), and immediate and distal outcome.

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