Emotional Arousal, Client Perceptual Processing, and the Working Alliance in Experiential Psychotherapy for Depression

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Early-, middle-, and late-phase client emotional arousal, perceptual processing strategies, and working alliance were examined in relation to treatment outcome on 4 measures in 32 clients who previously underwent experiential therapy for depression. Hierarchical regression analyses relating these variables to outcome indicated that results varied depending on the therapeutic process, phase of treatment, and outcome measure involved in the analyses. Mid-therapy arousal predicted improvements in self-esteem, whereas mid- and late treatment perceptual processing predicted reductions in client interpersonal dysfunction. Emotional arousal in conjunction with perceptual processing during mid-therapy predicted reductions in depressive and psychopathological symptomatology better than either of these variables alone. The implications of these findings for psychotherapy research and practice are discussed.

Keywords: psychotherapeutic process and outcome, major depression treatment, emotions, perception, working alliance

There are a number of models of experiential psychotherapy (e.g., Gendlin, 1981; Greenberg, Rice, & Elliott, 1993; Mahrer, 1989). Although these approaches differ in conceptual focus, all share a common goal of helping clients become aware of emotional experience within the context of a therapeutic bond; all subscribe to the importance of engaging clients in an in-depth exploration of their feelings, perceptions, and thoughts associated with problematic life events; and all believe that for therapeutic change to occur, therapy must help clients to access different facets of their experience of such events so that they can develop a fuller understanding of the meaning that the experience has for them. There is now a growing body of empirical evidence documenting that experiential therapies are effective in alleviating depression, reducing interpersonal problems, and increasing self-esteem (Elliott, Greenberg, & Lietaer, 2004; Greenberg & Watson, 1998; Watson, Gordon, Stermac, Kalogerakos, & Steckley, 2003). However, we still know relatively little about how these demonstrated changes are brought about as a result of therapy. For example, we have yet to identify the kinds of processes in which clients engage that lead to a reduction in such depressive symptoms as depressed mood or loss of interest in activities.

The literature suggests that the working alliance is an important common factor in therapeutic change. The therapeutic relationship reliably has been found to be the best predictor of psychotherapy outcome (Orlinsky, Grawe, & Parks, 1994), leading to the general consensus that the alliance "makes substantial and consistent contributions to psychotherapy outcome independent of the specific type of treatment" (Ackerman et al., 2002, p. 495). Beyond the demonstrated therapeutic effects of the working alliance, however, the change process remains comparatively unclear mainly because of its complexity as well as the multifaceted nature of the subject matter.

Whereas most approaches to psychotherapy now acknowledge that the experience of emotion is central to psychological well-being and that its expression and the way in which it is dealt with in therapy are closely associated with therapeutic change (Iwakabe, Rogan, & Stalikas, 2000), there are few comprehensive theories of emotion that address its role in the development and treatment of psychological dysfunction (Greenberg, 1993). Drawing on Frijda's (1986) emotion model, Greenberg and Safran (1987) view emotion as a biologically based response consisting of a combination of cognitive, affective, relational, and motivational components. Emotion informs the individual of his or her responses to internal or external events and thus is considered an important source of information regarding the meaning of a given event. Although emotion is generally regarded to have an adaptive function within the humanistic/experiential tradition, Greenberg (1993) suggested that affect also plays a key role in psychological dysfunction by way of underlying maladaptive emotion schemes.[1] Defined as "complex cognitive–affective structures [that]. . .store our experienced reactions plus the salient features of the situations that elicited the emotions" (Greenberg & Korman, 1993, p. 259), emotion schemes are seen to develop out of one's experiences and

[1] Greenberg, Rice, and Elliott (1993) used the term *scheme* instead of *schema* to denote an action-producing structure rather than a purely representational structure. The term *emotion* is used to stress that they are schemes that are formed around an emotion core.

interactions with the world and serve to inform one's perception, experiencing, and anticipation of future events. Emotion schemes are generally useful for dealing with the world (Greenberg & Safran, 1987) in that they provide an efficient means for the individual to save time and effort in future perceptual activities, but they can also be maladaptive when they generate emotional reactions that are not congruent with the current situation (i.e., they are overgeneralized, or misapplied, and, therefore, are no longer adaptive). For example, if one's emotional response to intimacy is one of fear based on earlier experiences of abuse at the hands of another loved one, then one's emotion scheme is considered to be maladaptive. Accordingly, it is argued that for therapeutic change to occur, therapy must attend to the client's emotion processing by bringing the client's affect into his or her current awareness in order to help access and transform maladaptive emotion schemes as well as to reflect on and make sense of emotional experience (Greenberg, 2002; Greenberg et al., 1993).

Although emotion is important for therapeutic improvement, how affect is processed determines the meaning created and the person's ultimate experience (Toukmanian, 1992). The way in which people perceive or construct their view of reality plays a significant role in the way they experience and interact with their environment. In a constructivist/experiential view (Toukmanian, 1986, 1990, 1992; see also, Greenberg & Pascual-Leone, 1995), perception is conceptualized as a dynamic, schema-driven, and experientially based process involving the anticipation, organization, and interpretation of information based on past contacts with the world (Toukmanian, 1992). According to this model, the processing of information involves both automated and controlled modes (Shiffrin & Schneider, 1977) that, in conjunction, allow the individual to function effectively and efficiently in the world. In other words, these two modes are seen to complement one another. Automated processing involves the swift, nonreflective examination of key elements in a given situation that occurs without any conscious intent or interference with other mental activity. The controlled mode of processing, on the other hand, involves the contemplative analysis of an event in one's environment wherein the individual's processing is slower and intentional. It is contended that the greater intensity of reflective thought leads the perceiver to process the available information in more depth and gain a more differentiated and, hence, richer and broader view of an experience. Thus, while automated processing is a necessary component of perceptual activity, it is the controlled mode of processing that is responsible for perceptual development or change. In fact, Toukmanian (1992) argued that psychological dysfunction is rooted in a perceptual system that is guided predominantly by automated processes. Such a system is "restricted in the kind of information it can accept and the way in which this information is processed" (Toukmanian, 1990, p. 311). Within this constructivist perceptual processing framework, the goal of therapy is to help the client to engage in a variety of mental operations that will lead to the development of a more complex and differentiated understanding of experience.

Research within the experiential and short-term psychodynamic therapy literatures suggests that emotional arousal, experience, and expression during therapy may be important processes in facilitating client change (e.g., Greenberg & Korman, 1993; Hilsenroth, Ackerman, Blagys, Baity, & Mooney, 2003; Hölzer, Pokorny, Kächele, & Luborsky, 1997; Pos, Greenberg, Goldman, & Korman, 2003; Rosner, 1996). Moreover, active attention to and reflection on the emotional experience are also thought to be necessary for emotion schemes to be changed and restructured (Greenberg et al., 1993; Pos et al., 2003; Warwar & Greenberg, 1999b). In other words, different ways of processing emotional material may additionally be critical in helping clients to change (Greenberg, 2002; Greenberg & Pascual-Leone, 1995, 1997; Rosner, 1996; Toukmanian, 1990). With respect to the perceptual processing model, research involving a measure of levels of client perceptual processing (Toukmanian, 1994) has found that clients are more likely to construe their experiences through complex, internally differentiating, reevaluating, and integrating kinds of mental operations in late, rather than early, therapy and that these more complex processing strategies relate to improved outcomes on measures of depression, anxiety, and self-concept (Day, 1995; Toukmanian & Jackson, 1996; Zink, 1990). Finally, in keeping with the findings in experiential therapy, results of a preliminary study of client process in short-term psychodynamic therapy suggest that positive therapeutic changes in this approach are also associated with internally differentiating and integrating manners of processing (Toukmanian & McKee, 1998).

These empirical findings clearly point to the importance of all three variables, therapeutic alliance, emotional arousal, and complex levels of client perceptual processing, as factors in therapeutic change. At the same time, they also speak to the need for research to consider these processes together as a means of focusing on what appears to be a closer approximation of the therapeutic reality, namely the integrative nature of affective and cognitive functioning (Beck, 1996; Greenberg & Safran, 1987).

In keeping with the events paradigm (Rice & Greenberg, 1984), or the idea that psychotherapy research needs to be conducted within a specific context, emotion episodes (EEs) were used in the present research as the basic unit to investigate change in emotion processing over the course of psychotherapy. EEs are viewed as indicative of underlying emotion schemes (Greenberg & Korman, 1993; Korman, 1998) and are points in therapy in which the client expresses a currently or previously experienced emotion in response to some situation or context, real or imagined. Research (Korman, 1991; Warwar & Greenberg, 2000) has demonstrated that EEs can be reliably detected in psychotherapy transcripts and that raters can differentiate segments previously identified as EEs (Greenberg & Korman, 1993).

In sum, client emotional arousal and a reflective manner of processing emotional material within the context of a strong therapeutic alliance appear to be necessary processes for therapeutic improvement (Greenberg & Pascual-Leone, 1995, 1997; Rosner, 1996; Toukmanian, 1990). The main proposition of this study was that emotion episodes, both high in emotional arousal and processed in a more controlled way, within the context of a strong therapeutic relationship, would be associated with reductions at termination in depressive and psychopathological symptomatology and with improvement in interpersonal conflict and sense of self-esteem. More specifically, we hypothesized that client emotional arousal, perceptual processing, and the working alliance, together, would be a better predictor of therapy outcome than any one of these variables alone.

Method

Participants

Therapy transcripts from 32 clients who participated in the National Institute of Mental Health (NIMH) psychotherapy research study at York University (York I Depression Study; Greenberg & Watson, 1998) were extracted and formed the basis for the present project. Clients in the NIMH study were recruited from the Toronto area in the early 1990s through a newspaper article, radio announcements, advertisements in local newspapers at mental health centers and at the university, and referrals. All sources announced that a treatment study of depression was being conducted at the Psychotherapy Research Center and that people suffering from depression who were not currently in treatment or on medication, and who wished to participate in a treatment study, should call for more information. Approximately 500 people responded. They were initially screened over the telephone and some were excluded from further participation because they were either already in treatment or on medication or would not consent to audio-/videotaping or research. Thus, 107 were invited to undergo further assessment to establish the suitability of the treatment for them.

The assessment consisted of two interviews conducted by one of three senior graduate students in clinical psychology. An initial hour-long interview was conducted to establish a preliminary diagnosis of depression and to obtain a brief history. Clients completed the Symptom Checklist–90–Revised (SCL-90-R; Derogatis, Rickels, & Roch, 1976) at the end of this interview as well as the Structured Clinical Interview for the *DSM-III-R* (SCID; Spitzer, Williams, Gibbon, & First, 1989) personality questionnaire to provide an initial screening on Axis II. If clients met the criteria for current major depression according to the *Diagnostic and Statistical Manual*, third edition, revised (*DSM-III-R*; American Psychiatric Association, 1987) and had a raw score of 1.00 on the Depression subscale of the SCL-90-R, ensuring that they were sufficiently depressed, they were asked to participate in a further assessment interview of approximately 2 hr. At this interview, clients were fully assessed in terms of Axis I and Axis II disorders on the basis of the SCID for the *DSM-III-R*, and the number of prior episodes was determined.

Those included in the study met the following criteria: A *DSM-III-R* diagnosis of major depressive disorder; assessed as having fewer than three previous episodes of major depressive disorder; a *DSM-III-R* Global Assessment of Functioning Scale (GAF) score of 50 or greater on the SCID, and a score of 16 or higher on the Beck Depression Inventory (BDI; Beck, 1972). They also provided written informed consent, including assent to allow audio- and videotaping of sessions. Sixty-five percent of clients rated themselves moderately to severely depressed on the BDI, and 14 clients (44%) had at least one SCID-diagnosed Axis II personality disorder (Greenberg & Watson, 1998). Individuals were excluded from the study if they did not meet criteria for major depression, had three or more previous episodes, or were depressed but had a *DSM-III-R* GAF score lower than 50, indicating that they were experiencing severe problems in social and occupational functioning. The latter groups were excluded on the grounds that they were judged to be better suited for psychopharmacological treatment than for a brief psychotherapeutic treatment of depression (Greenberg & Watson, 1998). Other exclusion criteria included current drug or alcohol abuse, current eating disorder, antisocial or borderline personality disorder, bipolar or psychotic disorder, a past history of incest, recent suicide attempts, loss of a significant other in the past year, or involvement in an ongoing violent relationship. These criteria ensured that functionally impaired depressed participants were excluded (Elkin et al., 1995) as well as others judged not suitable for a brief therapeutic treatment of depression. Sixty people were excluded from participating in the study on these grounds. An additional 11 individuals declined treatment for various reasons including scheduling issues, reconsideration, not wanting to be videotaped, or a move outside of the area. Finally, there were four dropouts in the study. Dropouts were defined as clients who withdrew or with whom treatment terminated prematurely for personal reasons, such as an illness or a sudden move (Greenberg & Watson, 1998).

The mean age of participants in this sample was 37 years ($SD = 8.9$). Twenty-one were female and 11 were male. Nine clients were single, 16 were common-law or married, and 7 were separated or divorced. In terms of education, 6 had finished high school, 7 had some college education, 15 had completed college, and 4 had postgraduate experience. Information regarding client ethnicity was not obtained in this study.

Therapists and Treatment Procedure

Participants were treated by one of 11 therapists (8 female, 3 male). One of these was a psychiatrist, 4 had doctoral degrees in clinical psychology, and 6 were advanced Ph.D. candidates in clinical psychology. Prior to the study, all therapists had had at least 2 years of person-centered therapy training and an average of 5.5 years of clinical therapy experience. They then received 24 weeks of additional training in person-centered and process–experiential therapies based on manuals created for the investigation (Greenberg et al., 1993; Greenberg, Rice, & Watson, 1994). Each therapist served as his or her own control by seeing an equal number of clients in each of the two treatment modalities. Treatment adherence was ensured by weekly supervision throughout the study with one of two clinical psychologists experienced in person-centered and process–experiential therapies.

Treatment consisted of brief person-centered (Rogers, 1957) or process–experiential psychotherapy (Greenberg et al., 1993) involving 14 to 20 ($M = 17.5$) weekly 1-hr sessions carried out according to the manuals cited above. Participants in this sample had been randomly assigned to one of the two treatment modalities (ns = 15 and 17 for person-centered and process–experiential treatment, respectively). They completed pretreatment measures at least 1 week prior to the first session and outcome measures 1 week following their final session. All therapy sessions were audiotaped and later transcribed.

Instruments

Outcome Measures

Beck Depression Inventory (BDI). The BDI (Beck, 1972) is a 21-item self-report inventory designed to measure severity of depression. Responses on each item are scored on a scale ranging from 0 to 3 and then totaled, with higher scores indicating greater severity of depression (total scores can range from 0 to 63). Scores below 10 are considered to be in the normal range, whereas those between 10 and 18 signify mild to moderate levels of depression, scores of 19 to 29 represent moderate to severe depression, and a total of 30 or more indicates a severe level of depression (Beck, 1972). Beck, Steer, and Garbin (1988) indicated internal consistency coefficients ranging from .73 to .93 and validity coefficients ranging from .66 to .86. The BDI has also demonstrated good construct validity (Beck et al., 1988), convergent validity (Gould, 1982), and divergent validity (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961).

Rosenberg Self-Esteem Scale (RSE). A 10-item form of the RSE (Bachman & O'Malley, 1977) based on Rosenberg's (1965) original version was used to assess self-esteem. This adaptation of the RSE consists of 10 statements, to which participants respond on a 5-point scale (where 1 = *never* and 5 = *almost always*), indicating how often each item is true for them (e.g., "I feel that I am a person of worth, at least on an equal plane with others"). Ratings for all items are totaled to determine self-esteem score, where higher scores denote higher self-esteem (total scores can range from 5 to 50). Internal reliability is reported to be .81, whereas construct validity was demonstrated by correlations with other variables, such as negative affect states ($r = -.51$) and happiness ($r = .54$; Bachman & O'Malley, 1977).

Inventory of Interpersonal Problems (IIP). The IIP (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988) is a 127-item self-report measure

designed to assess distress arising from interpersonal sources. Each item describes a different interpersonal situation, 78 of which begin with the phrase "It is hard for me to. . ." (e.g., be intimate), whereas the remaining 49 items begin with "These are things I do too much." Participants must rate each item on a 5-point scale (where 0 = *not at all* and 4 = *extremely*) indicating how problematic each situation is for them. Test–retest reliability for each subscale has been reported to range from .80 to .90, and reports of internal consistency for overall interpersonal dysfunction range from .82 to .94 (Horowitz et al., 1988). In terms of validity, the IIP has been shown to correlate with other measures of therapeutic change (e.g., the UCLA Loneliness Scale, the Rathus Assertiveness Schedule, the Interpersonal Dependency Inventory) and is reported to be sensitive to clinical change (Horowitz et al., 1988).

Global Symptom Index (GSI) of the Symptom Checklist–90–Revised (SCL-90-R). The SCL-90-R (Derogatis et al., 1976) is a self-report measure designed to assess psychopathology. On the basis of a 5-point scale (where 0 = *not at all* and 4 = *extremely*), participants are asked to indicate to what extent they experienced each of 90 psychopathological symptoms in the past week. The GSI provides an index of current distress levels, combining information on number of symptoms and intensity of perceived distress. Internal consistency for the SCL-90-R ranges from .77 to .90 and test–retest reliability, between .80 and .90 over a 1-week period (Derogatis & Melisaratos, 1983). Convergent validity has been found with the Minnesota Multiphasic Personality Inventory (Derogatis et al., 1976).

Process Measures

Working Alliance Inventory (WAI). The WAI (Horvath & Greenberg, 1989) is a 36-item inventory rated on a 7-point Likert scale (where 1 = *never* and 7 = *always*) made up of three alliance subscales assessing bond, task, and goal. The measure has been shown to have internal consistency ranging from .87 to .93 and good predictive validity (Horvath & Greenberg, 1989). The 12-item short form of the WAI was used in the present study, for which comparable psychometric properties have been found (Tracey & Kokotovic, 1989). The short form WAI was administered to clients at the end of every session, and total scores from early, middle, and late sessions were used in the current investigation.

Emotion episodes. EEs (Greenberg & Korman, 1993; Korman, 1991) were the primary units of analysis. An EE is a segment of psychotherapy in which a client speaks about having experienced emotion in response to a situation, real or imagined. The EE segment is complete when the narrative theme changes or upon the expression of a new emotional response. A complete protocol for an EE contains five components: the situation (e.g., loss of loved one), an emotional response (e.g., sadness), a tendency toward behavior or action associated with emotion (e.g., crying), an appraisal of self or situation (e.g., "I'm alone"; "she's gone forever"), and a related concern or need (e.g., attachment). For an EE to be identified, only the emotional response or action tendency and a reported situation are required. An agreement rate of 99% has been reported for interrater reliability of emotion episode selection (Pos et al., 2003).

Client Emotional Arousal Scale–III (CEAS-III). The CEAS-III (Warwar & Greenberg, 1999a) assesses the quality and intensity of client emotions based on evaluation of the client's degree of arousal from voice and body and the degree of restriction of expression. In this rating, an "emotional voice" (Rice, Koke, Greenberg, & Wagstaff, 1979) is characterized by "an overflow of emotion into a speech pattern" (Warwar & Greenberg, 1999a, p. 5) and can be detected by attending to the following aspects: accentuation pattern, regularity of pace, terminal contours, and whether there has been a disruption of speech patterns.

CEAS-III assessment is divided into two parts: First, the client's primary emotion is identified; second, the overall level of intensity of the client's primary emotion (modal intensity) as well as the peak intensity, or intensity of the maximally aroused moment, are rated (Warwar & Greenberg, 1999a). CEAS-III ratings are based on a 7-point scale, where upper levels indicate higher arousal intensities (e.g., 1 = *Client does not express*

emotions. Voice or gestures do not disclose any emotional arousal; 4 = *Arousal is* moderate *in voice and body. Emotional voice is present; ordinary speech patterns are* moderately *disrupted by emotional overflow as represented by changes in accentuation patterns, unevenness of pace, changes in pitch. Although there is some freedom from control and restraints, arousal may still be* somewhat *restricted*; 7 = *Arousal is* extremely *intense and full* in voice and body. Usual speech patterns are *completely disrupted* by emotional overflow. Arousal appears uncontrollable and enduring. There is a falling apart quality). Warwar and Greenberg (2000) reported interrater reliability coefficients of .70 and .73 for modal and peak arousal ratings, respectively.

Levels of Client Perceptual Processing (LCPP). The LCPP (Toukmanian, 1994) assesses the way in which clients process their experiences in therapy. The LCPP consists of seven mutually exclusive categories, each category representing a particular kind of mental operation: (I) recognition, (II) elaboration, (III) externally focused differentiation, (IV) analytic differentiation, (V) internally focused differentiation, (VI) reevaluation, and (VII) integration. Levels I–III of the LCPP are representative of automated, or a nonreflective mode of processing, whereas Levels IV–VII represent a deliberate or controlled and reflective manner of processing. Therapy transcripts are coded according to Toukmanian's (1990) manual for LCPP raters, whereby judges first read all relevant segments (e.g., emotion episodes) in order to get a sense of the client's thoughts and/or to contextualize what is being said. Second, raters read the particular segment to be rated, breaking it down into "scoring units" by identifying shifts in the client's mode of processing. Finally, each scoring unit is rated using the categories listed above. The LCPP has yielded kappa coefficients ranging from .68 to .87 and has been shown to have moderately strong predictive validity for therapy outcome and for expected changes in clients' manner of processing from early to late therapy (Biggs, 1995; Day, 1995; Levitt & Angus, 1999; Toukmanian & Jackson, 1996).

Procedure

Selection of sessions. The second and third as well as the two penultimate (i.e., second to last and third to last) therapy sessions of each client were chosen and rated to represent the early and late treatment phases. In addition, two middle sessions were selected to represent middle therapy process. These sessions were selected on the basis of the clinical judgment of experienced therapists to reflect the presence of client emotional arousal. The rationale for selecting sessions high in arousal was that the theory hypothesizes that it is the processing of aroused emotion that provides the foundation for important change and therefore it is necessary to identify the high arousal sessions to adequately test the hypothesis.

Selection of segments. All EEs (Greenberg & Korman, 1993; Korman, 1991) in each client's therapy transcripts were previously identified for another investigation at York University (Pos et al., 2003; Warwar, 2003; Warwar & Greenberg, 2000). The EEs were selected by two advanced doctoral students in clinical psychology who were experienced in using the method. Both students were additionally involved in weekly training sessions, for a total of 30 hr, that involved identification of EEs. Each EE was demarcated by identifying the situation and the emotional response and/or action tendency conveyed by the client. Once the response had been isolated, the beginning of the episode was traced back to the emergence of the thematic content relevant to the emotional reaction. The EE continued until either the theme of the discourse changed or a new emotional response was expressed. EEs typically ranged from one to two and a half transcript pages in length. Reliability of EE sampling was determined by comparing by protocol each rater's identified situation and identified emotion or action tendency for each EE. Another criterion related to EE segmentation involves the location of the EE. If raters agreed on the situation and emotion, both raters must also have located the EE and noted its beginning or ending within approximately the same half page of a transcript.

Ratings. Following EE segmentation, two other independent raters, blind to the outcome status of each client and to the nature of the present study, rated each segment on the CEAS-III by watching videotaped therapy sessions while following along with the therapy transcripts. Raters were two senior undergraduate students who had prior therapy experience in volunteer positions and had been supervised by registered psychologists. In addition, these raters had attended other supervised workshops at the York Psychotherapy Research Clinic. Training consisted of approximately 40 hr of rating and discussing videotaped excerpts of therapy with an experienced rater. Judges were given the same segments to rate independently in order to establish reliability. During training, raters had weekly 4-hr meetings over a 2-month period to discuss the rating scale and any discrepancies arising between them or between them and the expert judge. Once raters had mastered the scale, they were given sessions to rate on emotional arousal from every client. Each EE segment was given modal and peak emotional arousal ratings. In the present study, ratings of modal arousal were used and viewed as most representative of the levels of client emotional arousal occurring throughout treatment. The raw mode scores on the CEAS-III were averaged for each client across each session. The means of the two early, two middle, and two late sessions were taken as measures of early, middle, and late process, respectively.

Finally, the EEs were further rated by another set of two independent judges on the LCPP to determine client levels of perceptual processing. Before rating began, two graduate-level students underwent approximately 20 hr of training according to Toukmanian's (1994) manual for LCPP raters until they attained a minimum interrater reliability of $k = .75$ on a sample of therapy transcripts that were not part of the present investigation. The first judge then proceeded rating for the present study, rating all six therapy sessions for each of 24 clients (i.e., 144 transcripts). The second judge rated all six therapy sessions for the remaining 8 clients (i.e., 48 transcripts) as well as one tenth of the EE segments previously rated by the first judge to establish interrater reliability.

As the LCPP is a categorical scale, raw LCPP ratings were transformed into low and high proportions in order to create continuous data. That is, the relative frequency of low and high client perceptual processing was calculated for each client for each emotion episode. As per the model, low processing was established as the proportion of clients' responses rated as Category I, II, and III on the LCPP. The proportion of client verbalizations falling within Categories IV and above were classified as high processing. As with the CEAS-III, once the mean proportion of low and high processing was determined for each client across each session, a low–high mean proportion score was established for each time period by averaging the means of the two early, middle, and late low–high processing proportions for each client. Our analyses reflect the use of high perceptual processing proportions; thus, an LCPP score of .40 would suggest that, on average, 40% of client verbalizations in a particular therapeutic phase were reflective of high levels of client perceptual processing.

Results

A sample of 64 early, middle, and late sessions was used to establish reliability of EE sampling. Two raters independently selected EEs from the 64 sessions. EEs were then compared by protocol for the identified situation and the identified emotion or action tendency. Cohen's kappa for the agreement between the two judges' EE selection was found to be $k = .79$ ($p < .01$; Warwar & Greenberg, 2000). In terms of emotional arousal, interrater reliability was assessed on a sample of 798 emotion episodes, and the intraclass correlation coefficient was found to be .75 ($p < .01$; Warwar, 2003) on the CEAS-III. Both coefficients were greater than .74 and considered to be excellent (Cicchetti & Sparrow, 1981). A sample of 192 emotion episodes was used to determine the interrater reliability on the LCPP measure. The overall absolute

proportional agreement between the two judges on 796 scoring units was .789, with a corresponding kappa coefficient of .73 ($p < .01$), reflecting a good level of interrater reliability (Cicchetti & Sparrow, 1981).

Table 1 presents the means and standard deviations for all process and outcome measures. The correlations between the process measures and the pre- and posttreatment scores on the outcome measures are reported in Table 2. As indicated, emotional arousal and the LCPP were significantly and negatively related to the posttreatment BDI and SCL-90–R, whereas middle- and late-phase working alliance was significantly and inversely correlated with the BDI at termination. During the middle and late phases, the LCPP was the only process measure significantly and negatively correlated with the IIP at termination. Note that in all analyses involving the WAI, one case was excluded on account of missing data from one client.

A series of hierarchical regression analyses was carried out to test the predictive ability of the three process measures (CEAS-III, LCPP, WAI) in relation to the four outcome instruments (BDI, RSE, IIP, SCL-90-R). To control for clients' pretreatment level of pathology, the prescores on each outcome measure being tested were forced into each regression model in the first block to determine the amount of variance they accounted for. Each process variable was then added separately to determine whether it significantly predicted outcome on its own. Finally, all of the variables were added to the analyses to determine whether the prediction model improved.

Table 1

Means and Standard Deviations for Process and Outcome Measures

Measure	M	SD
Arousal		
Early	2.79	0.38
Middle	2.96	0.45
Late	2.97	0.40
LCPP		
Early	0.22	0.13
Middle	0.31	0.12
Late	0.34	0.17
WAI		
Early	60.58	10.96
Middle	66.99	10.96
Late	69.55	10.55
BDI		
Pre	24.59	6.08
Post	9.16	5.13
RSE		
Pre	19.84	6.12
Post	26.59	6.57
IIP		
Pre	1.76	0.43
Post	1.08	0.47
SCL-90-R		
Pre	1.48	0.41
Post	0.61	0.27

Note. $N = 32$. Pre = pretreatment; Post = posttreatment; Arousal = modal arousal; LCPP = Levels of Client Perceptual Processing (high); WAI = Working Alliance Inventory; BDI = Beck Depression Inventory; RSE = Rosenberg Self-Esteem Scale; IIP = Inventory of Interpersonal Problems; SCL-90-R = Symptom Checklist–90–Revised.

Table 2
Pearson Product–Moment Correlations on Pretreatment and Posttreatment Outcome Measures and Process Measures by Time

Variable	Pretreatment				Posttreatment			
	BDI	RSE	IIP	SCL-90-R	BDI	RSE	IIP	SCL-90-R
Early								
Arousal	−.06	.14	−.14	.08	−.36*	.20	−.17	−.24
LCPP	−.18	−.02	−.15	.00	−.35*	.09	−.34	−.51**
WAI	.03	.27	−.07	.23	−.20	.39*	−.07	−.29
Middle								
Arousal	.16	.04	−.19	.01	−.56**	.33	−.27	−.60**
LCPP	−.13	−.05	−.22	−.04	−.54**	.17	−.48**	−.80**
WAI	.03	.08	.03	.24	−.42*	.29	−.18	−.38*
Late								
Arousal	.15	−.11	.13	.07	−.36*	.09	−.12	−.36*
LCPP	−.01	.03	−.02	.24	−.44*	.21	−.37*	−.66**
WAI	−.05	.02	.24	.33	−.50**	.20	.02	−.33

Note. $N = 32$. Arousal = modal arousal; LCPP = Levels of Client Perceptual Processing (high); WAI = Working Alliance Inventory; BDI = Beck Depression Inventory; RSE = Rosenberg Self-Esteem Scale; IIP = Inventory of Interpersonal Problems; SCL-90-R = Symptom Checklist–90–Revised.
* $p < .05$.   ** $p < .01$.

With the pretreatment outcome scores entered first into each model, we conducted initial hierarchical regression analyses examining the independent predictive ability of each process index in relation to each outcome measure across all phases of therapy. These analyses indicated that arousal, the LCPP, and the WAI were all strong individual predictors of outcome on the BDI and the SCL-90–R, particularly in the middle and late phases of treatment. In terms of reduction in depression, the process indices independently explained between 17% and 31% of the variance. With respect to psychopathological symptoms, the three process measures separately accounted for between 16% and 63% of the variance. Midtherapy arousal was also found to be predictive of improvements in self-esteem, whereas middle- and late-phase LCPP accounted for 11% to 12% of the variance on the IIP. The process measures were then entered together into further hierar-

chical regression analyses to determine their joint predictive ability.

In terms of depression, Table 3 shows that emotional arousal and client perceptual processing during midtreatment significantly increased outcome prediction, explaining 41% of the variance. In late treatment, adding the working alliance to perceptual processing improved prediction, explaining 34% of the variance in reduction of depressive symptoms (see Table 4).

With regard to both self-esteem and interpersonal problems, there were significant individual findings. However, when added, the process measures were not found to be significantly better predictors of outcome than when considered separately.

There were also a number of findings concerning decreases in psychopathological symptomatology. First, client perceptual processing was found to be the only process significantly predictive of

Table 3
Summary of Hierarchical Regression Analysis for Middle Therapy Variables Predicting Depressive Symptomatology at Therapy Termination

Variable	R_{total}	R_{change}	R^2_{total}	R^2_{change}	F_{change}	df	β
Step 1							
BDI (pre)	.093	−.093	.009	.009	0.25	1, 29	−.093
Step 2							
BDI (pre)		−.026					−.026
Middle arousal	.550	−.542	.303	.294	11.81	1, 28	−.546**
Step 3							
BDI (pre)		−.101					−.105
Middle arousal		−.289					−.343†
Middle LCPP	.637	−.321	.406	.103	4.69	1, 27	−.383*
Step 4							
BDI (pre)		−.100					−.104
Middle arousal		−.235					−.304
Middle LCPP		−.297					−.363†
Middle WAI	.642	−.077	.412	.006	0.26	1, 26	−.093

Note. $N = 31$. Pre = pretreatment; BDI = Beck Depression Inventory; LCPP = Levels of Client Perceptual Processing (high); WAI = Working Alliance Inventory.
† $p < .07$.   * $p < .05$.   ** $p < .01$.

Table 4
Summary of Hierarchical Regression Analysis for Late Therapy Variables Predicting Depressive Symptomatology at Therapy Termination

Variable	R_{total}	R_{change}	R^2_{total}	R^2_{change}	F_{change}	df	β
Step 1							
BDI (pre)	.093	−.093	.009	.009	0.25	1, 29	−.093
Step 2							
BDI (pre)		−.100					−.100
Late LCPP	.454	−.444	.206	.197	7.00	1, 28	−.444*
Step 3							
BDI (pre)		−.119					−.119
Late LCPP		−.270					−.292†
Late WAI	.585	−.368	.342	.136	5.57	1, 27	−.399*

Note. $N = 31$. Pre = pretreatment; BDI = Beck Depression Inventory; LCPP = Levels of Client Perceptual Processing (high); WAI = Working Alliance Inventory.
† $p < .10$.   * $p < .05$.

change in the early phase of treatment, accounting for 26% of the variance. Neither emotional arousal nor the working alliance added to the model in this phase. Second, client perceptual processing in addition to arousal at midtreatment increased prediction significantly, accounting for 70% of the variance. The working alliance did not add significantly to the model at this point (see Table 5). Table 6 shows that arousal and perceptual processing in late therapy significantly improved outcome prediction by explaining 58% of the variance in general distress symptoms. Again, the working alliance did not add to the model in this phase.

Finally, when all variables across periods were analyzed (see Table 7), late-treatment client perceptual processing added significantly to midtherapy arousal, accounting for 58% of the total variance in predicting change in psychopathological symptomatology. Midtherapy working alliance was not a significant contributor to this model.

Discussion

The main goal of this study was to investigate how clients process emotion in brief experiential therapy for depression. We proposed that examining client emotional arousal, perceptual processing, and the working alliance together, within the context of EEs, would be a better predictor of therapeutic improvement than any one of these variables alone. Overall, there was strong support for each of these predictors for each outcome measure. More importantly, the results revealed that the relationship between the process and outcome measures varied markedly with the type of outcome index and the therapeutic phase in which the processes were assessed, indicating that specific types of outcome are associated with particular types of process. They further indicated that the relationship between process and outcome depends on when in therapy the process is being measured.

To elaborate, the experiential model of therapy used in this study maintains that a heightened level of emotional arousal is necessary for client processing and therapeutic improvement. Our results indicated that arousal is indeed an important predictor of reduction in depressive and psychopathological symptomatology (Rosner, 1996; Warwar, 2003; Warwar & Greenberg, 1999b) and of increased levels of self-esteem but only with respect to arousal in midtherapy. Though unexpected, this finding is not surprising

Table 5
Summary of Hierarchical Regression Analysis for Middle Therapy Variables Predicting Symptom Checklist–90–Revised (SCL-90-R) Scores at Therapy Termination

Variable	R_{total}	R_{change}	R^2_{total}	R^2_{change}	F_{change}	df	β
Step 1							
SCL-90-R (pre)	.090	.090	.008	.008	0.24	1, 29	.090
Step 2							
SCL-90-R (pre)		.135					.135
Middle arousal	.616	−.609	.379	.371	16.74	1, 28	−.611**
Step 3							
SCL-90-R (pre)		.095					.095
Middle arousal		−.236					−.274*
Middle LCPP	.839	−.569	.703	.324	29.5	1, 27	−.661**
Step 4							
SCL-90-R (pre)		.081					.084
Middle arousal		−.232					−.295*
Middle LCPP		−.562					−.672**
Middle WAI	.839	.040	.705	.002	0.14	1, 26	.051

Note. $N = 31$. Pre = pretreatment; LCPP = Levels of Client Perceptual Processing (high); WAI = Working Alliance Inventory.
* $p < .05$.   ** $p < .01$.

Table 6
Summary of Hierarchical Regression Analysis for Late Therapy Variables Predicting Symptom Checklist–90–Revised (SCL-90-R) Scores at Therapy Termination

Variable	R_{total}	R_{change}	R^2_{total}	R^2_{change}	F_{change}	df	β
Step 1							
SCL-90-R (pre)	.109	.109	.012	.012	0.36	1, 30	.109
Step 2							
SCL-90-R (pre)		.135					.136
Late arousal	.381	−.365	.145	.133	4.51	1, 29	−.366*
Step 3							
SCL-90-R (pre)		.283					.292*
Late arousal		−.264					−.267*
Late LCPP	.758	−.656	.575	.430	28.32	1, 28	−.683**

Note. $N = 32$. LCPP = Levels of Client Perceptual Processing (high).
* $p < .05$. ** $p < .01$.

given that more often than not the working phase in experiential treatment is midtherapy. The data further revealed that the observed mean value of emotional arousal on the CEAS-III was 3, which at first glance may appear lower than one would expect in an experiential approach to therapy. This may have been a function of the use of modal (i.e., the intensity of arousal in which clients were engaged most of the time) rather than peak (i.e., highest attained level of arousal) levels of arousal during emotion episodes. The use of mean values may also have contributed to an averaging effect. However, a closer inspection of the distribution of arousal scores indicates that the standard deviation value was 0.45, suggesting that in fact approximately 34% of the sample had arousal levels of 4, which is the midpoint value of the 7-point CEAS-III scale. This level is considered to be ideal for the type of therapy used wherein the focus is not on catharsis but rather on facilitating sufficient emotional arousal for processing to occur.

With respect to the perceptual processing variable, we found that higher levels of client perceptual processing were predictive of changes in depressive symptomatology. This is in line with previous research, which has also shown that client engagement in more complex mental operations is related to reductions in depres-

sion (Day, 1995). More importantly, however, the present research showed that facilitating the processing of emotional material in a more reflective manner, in addition to arousing emotions, is associated with a greater reduction in clinical symptoms than when attending to one process alone. This finding is consistent with experiential theory and prior research (Greenberg & Pascual-Leone, 1995, 1997; Toukmanian, 1990; Warwar, 2003; Warwar & Greenberg, 1999b). The study also lends support to the experiential model of treatment of depression (Greenberg & Watson, 1998; Greenberg, Watson, & Goldman, 1998; Watson et al., 2003) that assumes that basic emotions need to be aroused and reorganized, that arousal provides the motivation for reorganization, and that cognitive processing is needed to make sense of and guide emotion. This investigation supports the notion that therapy is enhanced when client emotion is vividly produced and reprocessed in a more controlled and differentiated manner.

In terms of interpersonal problems, deeper levels of client perceptual processing in mid- and late therapy were the only therapeutic processes predictive of improvement, suggesting that when clients learn to construe problematic interactions in a more reflective fashion, that is, by differentiating, reevaluating, and integrat-

Table 7
Summary of Hierarchical Regression Analysis for Mid- and Late Therapy Variables Predicting Symptom Checklist–90–Revised (SCL-90-R) Scores at Therapy Termination

Variable	R_{total}	R_{change}	R^2_{total}	R^2_{change}	F_{change}	df	β
Step 1							
SCL-90-R (pre)	.090	.090	.008	.008	0.24	1, 29	.090
Step 2							
SCL-90-R (pre)		.135					.135
Middle arousal	.616	−.609	.379	.371	16.74	1, 28	−.611**
Step 3							
SCL-90-R (pre)		.154					.159
Middle arousal		−.462					−.548**
Middle WAI	.624	−.099	.389	.010	.43	1, 27	−.121
Step 4							
SCL-90-R (pre)		.250					.265
Middle arousal		−.209					−.279
Middle WAI		−.073					.089
Late LCPP	.761	−.436	.579	.190	11.77	1, 26	−.538**

Note. $N = 31$. WAI = Working Alliance Inventory; LCPP = Levels of Client Perceptual Processing (high).
** $p < .01$.

ing emotional material, their level of interpersonal dysfunction improves.

With regard to general symptomatology, clients' manner of processing was highly predictive of change in this variable across all phases of therapy, signifying that how clients deal with information relevant to troubling experiences may be a viable index of the progress of therapy. That perceptual processing was the only variable related to change in the early phase also implies that those who come to therapy with a capacity for engaging in more reflective thought about their problems may do better in the end. Furthermore, in addition to higher intensity of emotional arousal, more reflective processing, particularly during midtreatment, appears to enhance the client's ability to deal adaptively with information and contribute to greater therapeutic change. This result corroborates Kelly's (1955/1991) argument that the process of client loosening and tightening of cognitive constructs contributes to therapeutic change during therapy. Arousing emotions in midtreatment appears to help clients engage in the process of exploration, relaxing their previously fixed responses to events. The more clients are able to engage in this search, the more they may begin to explore their reactions and perceptions. As therapy continues, clients may shift again toward a tightening mode, in which they make meaning based on inner information and integrate previously undifferentiated material. Thus, toward the end of therapy, higher perceptual processing becomes a more prominent change factor as clients begin to reformulate and make sense of their emotional experience.

The results concerning the working alliance were somewhat intriguing, as the alliance did not predict treatment gains on the outcome measures except for depressive symptoms. In addition, given that the therapeutic relationship is viewed as a major curative factor in experiential therapy through which clients are thought to gain experience in a positive bond, it is interesting that, unlike previous research showing that the alliance itself is related to outcome, the working alliance in this study was not related to changes in interpersonal relating. This result is likely a function of the measure used to assess clients' perceptions of interpersonal problems in that the IIP may not capture the kinds of process that the working alliance measures, such as task collaboration and goal agreement. Typically, the WAI overall score is used in the psychotherapy literature and has been found to be predictive of outcome (Horvath, 1994). However, our results may be closer to previous research (Weerasekera, Linder, Greenberg, & Watson, 2001), which shows that only the bond component of the WAI correlated with gains on the IIP. This supports the present contention that the nature of the process–outcome relationship is likely very specific and precise.

The present study was directed toward providing some answers regarding how psychotherapy works. Although one might expect that it would be helpful for clients to come to treatment with some ability for emotional exploration, the present finding that clients' early capacity for arousal and perceptual processing was generally not predictive of outcome suggests that clients do not necessarily need to come to therapy with such abilities. Instead, it appears that therapy may help some clients develop the capacity to process in these ways (Gendlin, 1996; Toukmanian, 1992). The results also indicate that the establishment of the therapeutic alliance by the late phase of therapy may be important for decreases in depressive symptoms. That the alliance did not predict treatment gains on the

other outcome measures may have been due to the significant correlations among the three process measures. In experiential treatment, therapists generally promote a therapeutic alliance and a safe bond to facilitate client processing when emotions are aroused. This probably is demonstrated in the moderately strong relationship among the process measures used in this study. In line with Weerasekera et al. (2001), we suggest that future investigation consider the complex nature of the alliance–outcome relationship in order to sharpen understanding of the role of the working alliance in experiential therapy for depression.

Over the course of experiential psychotherapy, the client's moment-to-moment understanding and experience of emotional information is believed to shift from a rigid, fixed state to a looser, more explorative phase, and finally to a "tightening" stage, characterized by a broader and richer personal understanding of emotional experience. Thus, whereas the results of this study indicate that facilitating client emotional arousal, perceptual processing, and the therapeutic alliance are important elements of therapist interventions, it is clear that they must be delivered in a manner that is sensitive to the interrelations between type of process, type of outcome, and timing. However, it should be understood that we are not making inferences of sequentiality in this article: Therapeutic process and change are complex phenomena and this particular study cannot answer questions of causation. One process likely follows another, but we cannot elucidate that sequence from this research. The present findings do demonstrate that client emotional arousal and client perceptual processing at midtherapy accounted for a large proportion of the variance in the decreases of self-reported depressive and psychopathological symptoms, more than any variable alone. Toward the end of therapy, the working alliance and continued reflective thinking became important in predicting a decrease in self-reported depression. In contrast, more controlled ways of processing emotional information across mid- and late treatment predicted decreases in interpersonal dysfunction, whereas improvements in self-esteem were facilitated by assisting the client in arousing strong emotions in response to particular events during midtherapy. In view of these findings, it appears that maximizing particular client processes at particular points in treatment for particular gains might best facilitate effective therapy.

As Westen, Novotny, and Thompson-Brenner (2004) pointed out, the randomized controlled trial methodology underlying the empirical assessment of treatment efficacy often imposes limitations on the generalizability of results. One limitation of the present study was that the sample consisted mainly of clients who were suffering from mild to moderate levels of depression. Thus, it is not known how the processes under consideration relate to those experiencing more severe levels of dysfunction. In addition, the individuals who participated in this research were screened for a number of other disorders as well as high suicide risk and concurrent psychotherapy or psychomedication. Whereas client homogeneity is often viewed as an important control mechanism when testing treatment efficacy, a relatively homogeneous sample likely does not mirror the reality of clinical practice (Chambless & Hollon, 1998; Westen et al., 2004). Further research is necessary with a clinically broader sample to extend the implications of the present findings.

One further potential drawback of the current research is the use of self-report inventories to measure treatment outcome. Indeed,

"improvements" in self-reported symptomatology could conceivably be better accounted for by the demand characteristics inherent in research participation or by the client's expectations of therapy. One way of circumventing this issue would be to include observer- or therapist-rated outcomes. Such an approach may be advisable given Horvath's (2001) finding that therapist or external ratings of outcome are more closely related to client-reported alliance than is self-reported outcome.

The results of the current study indicate that we cannot evaluate therapeutic change on the basis of single and static process and outcome measures alone. A case in point is the working alliance, which, though shown to be an important process in previous inquiries, became less vital in the context of other significant process indicators. Thus, future research should consider the conceptual relationship between the types of process and outcome measures used and the time in therapy at which process is measured. It is only when these relationships are understood that we will be able to begin to apply them to practice and deliver interventions in a manner that is sensitive to the phase of therapy and to the importance of type of client process in the moment. This understanding may also be extended to clinical training where nonspecific training practices can give way to more specific guidance and instruction, helping us to refine the development of clinicians' skills.

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