

# Psychotherapy

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# Emotional Experience and Alliance Contribute to Therapeutic Change in Psychodynamic Therapy

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Accumulating evidence suggests that the therapeutic alliance and clients' contact with emotions during therapy sessions can be effective in reducing their suffering outside of sessions. However, the complex associations among these determinants are not yet clear. Using data collected in therapy on a session-by-session basis, this study explored (a) the temporal associations between emotional experience and the therapeutic alliance; (b) the temporal associations between emotional experience and clients' level of functioning; and (c) the direct and indirect associations among emotional experience, the therapeutic alliance, and functioning. Clients ( $N = 101$ ) undergoing psychodynamic therapy completed a functioning and distress measure prior to each session, and reported on their emotional experience and perceived alliance strength following each session. Longitudinal multilevel models indicated that higher therapeutic alliance scores at the end of 1 session predicted a greater emotional experience in the next session but that emotional experience did not predict subsequent levels of alliance. The results provided evidence of reciprocal prediction in which a previous emotional experience predicted a subsequent change in functioning and vice versa. Finally, the alliance predicted emotional experience, which, in turn, predicted functioning; hence, alliance strength indirectly predicted clients' level of functioning. Findings indicate that emotional experience and the therapeutic alliance are important determinants of the therapeutic process, which contribute to predict clients' improvement in functioning within psychodynamic treatment.

*Keywords:* emotional experience, therapeutic alliance, psychodynamic psychotherapy

Theoreticians and researchers have argued that experiencing emotions in the context of a good therapeutic alliance can lead to symptomatic relief (cf. Fosha, 2000; Pascual-Leone & Greenberg, 2007; Stern, 2003). Emotional experience during psychotherapy sessions have been defined as the client's ability to approach, activate, and be in contact with the experience of emotion (Greenberg & Safran, 1984; Rachman, 1980). Studies have shown that deep emotional experience during sessions is positively related to treatment outcomes across theoretical orientations and across disorders (Greenberg, 2012; Thoma & McKay, 2015; Watson & Bedard, 2006; Whelton, 2004). The findings of the relationship between emotional experience and psychotherapy outcomes has led researchers to examine parallel process variables that contribute to increased levels of emotional experience and therefore lead to symptomatic relief (e.g., Auszra, Greenberg, & Herrmann, 2013; Pos, Greenberg, & Warwar, 2009).

One such process variable is the therapeutic alliance, which was defined by Bordin (1979) as comprising (a) the emotional bond between the client and therapist, (b) their agreement on tasks, and (c) their agreement on goals. The therapeutic alliance has been extensively researched in the field of psychotherapy, with abun-

dant studies linking it with treatment outcomes (Horvath, Del Re, Flückiger, & Symonds, 2011; Zilcha-Mano, Dinger, McCarthy, & Barber, 2014). Studies have shown that emotional experiencing and processing (which include both emotional experience and cognitively orientation to this experience) predicted outcomes beyond the contribution of the therapeutic alliance (Goldman, Greenberg, & Pos, 2005; Pos, Greenberg, Goldman, & Korman, 2003). Missirlan, Toukmanian, Warwar, and Greenberg (2005) studied midtherapy emotional experience and processing during experiential therapy for depression. They concluded that emotional experience predicted improvement in self-esteem and a reduction in depressive symptomatology. They further indicated that the contribution of the therapeutic alliance became statistically nonsignificant when emotional experience was added to the analysis.

In a recent study using path analysis, Pos et al. (2009) showed that working-phase emotional experience directly predicted outcomes, whereas alliance strength contributed to outcomes indirectly through its contribution to emotional experience. Similar results were found by Auszra, Greenberg, and Herrmann (2013), who observed that optimal client in-session emotional processing mediated the association between alliance and outcome. These findings bolster the view that the therapeutic alliance not only encourages clients' compliance with treatment but also motivates them to engage in optimal emotional processing (Goldfried, 2012).

A different pathway linking emotional experience, alliance, and outcomes was suggested by Beutler, Clarkin, and Bongar (2000), who reported that the intensity of emotional experience was a strong predictor of outcomes but that this effect was mediated by the therapeutic alliance. The authors reasoned that the effect of

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emotional experience in therapy also derives from its ability to strengthen the therapeutic alliance.

Taken together, these findings suggest bidirectional links between emotional experience and therapeutic alliance. Notably, most studies examining these variables have used a limited number of sessions and ratings (typically two to three), which reflect phases within therapy rather than changes from session to session. However, the temporal associations between in-session emotional experience and symptom changes as well as the more complex session-by-session associations between emotional experience, alliance, and symptomatic change have yet to be studied.

Exploring psychotherapy processes at this fine-grained level is a central challenge posed by leading psychotherapy researchers (e.g., Crits-Christoph, Connolly Gibbons, & Mukherjee, 2013; Emmelkamp et al., 2014). Such analyses have been used to explore the association between alliance and symptoms at the session level, with results revealing complex reciprocal associations. Specifically, researchers have shown that client ratings of the therapeutic alliance predicted next-session reduction in symptoms and vice versa (Crits-Christoph, Gibbons, Hamilton, Ring-Kurtz, & Gallop, 2011; Falkenström, Granström, & Holmqvist, 2013).

The current study utilized such fine-grained session-level analyses to address several unresolved issues regarding the links between emotional experience, therapeutic alliance, and outcomes: (a) Does a strong alliance facilitate clients' emotional experience, or is the direction of influence reversed? Alternatively, is there a bidirectional influence? (b) Does greater emotional experience promote alleviation of symptoms, or vice versa? (c) Is the association between a strong alliance and symptom alleviation mediated by clients' emotional experience?

### A Psychodynamic View of Emotions in Therapy

In two comparative reviews of psychotherapy approaches, Blagys and Hilsenroth (2000, 2002) argued that affective emphasis was a main characteristic of psychodynamic therapy and could reliably distinguish this form of therapy from both CBT and interpersonal approaches. Several meta-analytic reviews have reported strong and positive associations between treatment outcomes and psychodynamic interventions that focus on evocation of emotions (cf. Diener & Hilsenroth, 2009; Diener & Pierson, 2013). However, clients' emotional experiences have received relatively little empirical attention in psychodynamic therapy (especially compared to the considerable attention they have received in experiential and cognitive-behavioral treatment). Nevertheless, the prominence of emotional experience in psychodynamic theories (cf. Shedler, 2010) suggests that such experience could play an important role in research hypotheses in this field.

Breuer and Freud (1895/1955) were the first to emphasize the importance of emotional experience during treatment. They hypothesized that the inability to express emotion at the time of trauma was the cause of hysteria (now known as conversion disorder). Symptoms would disappear once the previously unexpressed feelings were brought to awareness and relived. However, the pioneers of the psychodynamic approach including Freud tended to emphasize insight as the main mechanism of change. Alexander and French (1946) departed radically from this traditional view and suggested that the fundamental therapeutic principle is what they termed the "corrective emotional experience." In

their definition, it meant to reexpose the client to past emotional conflicts under more favorable circumstances. This concept has been overlooked for years but has recently attracted growing interest in the dynamic literature (Castonguay & Hill, 2012; Rachman, 2007). Winnicott (1965) and others from the object relations school (for a review, see Summers & Barber, 2010) emphasized the importance of experiencing painful emotions in the presence of the therapist, and borrowing his or her strength and ability to contain these emotions, which may lead to increased tolerance on the part of the client for these emotions. Inspired by these ideas as well as by attachment theories and experiential approaches, contemporary integrative and psychodynamic writers such as Fosha (2002) maintain that the mechanism of change in dynamic therapy resides in facilitating new emotional experiences and handling them together with significant others. McCullough et al. (2003) and Wachtel (1993) highlighted the therapeutic effect of exposing clients to painful emotions whose avoidance has contributed to psychopathology and problems in life. From these perspectives, psychotherapy is an opportunity to promote and maintain psychological health by using emotionally significant relationships to reexperience emotions that are too intense or painful for an individual to manage alone (Fosha, 2001, 2005; McCullough & Magill, 2009). Specifically, a good therapeutic relationship should first be established to enable clients to feel safe in reexperiencing and regulating painful or overwhelming emotions and thus achieve symptomatic relief.

### Research Questions and Hypotheses

The present study explored the role of emotional experience and its associations with alliance and symptomatic relief on a session-by-session basis over the course of psychodynamic therapy. The study structure was based on the following three hypotheses:

*Hypothesis 1:* (a) We predicted that higher therapeutic alliance scores at the end of each session would predict greater emotional experiences in the next session. (b) In addition, we expected that emotional experiences would predict subsequent levels of alliance. The first part of this prediction is based on the models of Fosha (2001) and McCullough et al. (2003) and on findings indicating that a stronger therapeutic alliance predicts deeper emotional experiences (Pos et al., 2009). Although the theoretical models presented above primarily refer to the former association rather than to the second part of the prediction, Beutler et al. (2000) argued that one of the features of emotional experience is its ability to strengthen the therapeutic relationship.

*Hypothesis 2:* (a) We expected that higher emotional experience scores at the end of each session would predict better functioning in the next session. (b) In addition, higher levels of functioning at the beginning of each session were expected to predict higher experience scores at the end of the session. The first part of the hypothesis (emotional experience predicts symptoms) was based on studies that reported this association at the treatment level (Missirlian et al., 2005); however, no study has explored this hypothesis at the session level. Although no studies have examined the reverse association (symptoms predict emotional experience), this can be inferred from studies that have noted reciprocal associations between

symptom changes and alliance on a session-by-session basis (e.g., Falkenström et al., 2013). The reasoning is that engaging in therapeutic processes, such as building a strong alliance or experiencing deep emotions, involves considerable mental resources and may thus require higher levels of functioning.

*Hypothesis 3:* We expected that the therapeutic alliance would indirectly affect client improvement through its contribution to emotional experience on a session-by-session basis. This association was observed by Pos et al. (2009) at the treatment level but has not been explored at the session level.

## Method

### Participants and Treatment

The participants were 101 adults currently in psychotherapy at a major university outpatient clinic. The clients were over 18 years old ( $M_{\text{age}} = 39.84$  years,  $SD = 14.34$ , age range 18–76 years), and the majority were female (62.4%). Of the 87 clients who provided demographic information, 44.6% were single or divorced and 42.5% were married or in a permanent relationship. Forty-nine percent had at least a bachelor's degree and 76.3% were fully or partially employed. In addition, 70.1% had been in psychological treatment before. Diagnoses were based on the Axis I *Diagnostic and Statistical Manual of Mental Disorders–IV* (text revision; American Psychiatric Association, 2000). The clinician conducting intake was not the same as the one who actually provided the treatment.

After conducting the intake, the intake operators participated in a discussion group that included two senior clinicians in order to discuss the clients' diagnoses; final diagnoses were determined by consensual agreement of at least 75% of the team members. Most clients were diagnosed as suffering from affective disorder (44.6%) or anxiety disorder (27.7%) as the primary diagnosis. Additional primary diagnoses were obsessive–compulsive disorder (4%), learning disability (2%) or others (2%). Twenty percent of the clients reported experiencing relationship problems, academic/occupational stress, or other problems but did not meet the criteria for Axis I diagnosis. According to pretreatment assessments, the mean Global Assessment of Functioning score for the sample was 65.5 ( $SD = 10.9$ , range = 41–90). A total of 84 clients completed the Outcome Questionnaire 45 (OQ-45) and Beck Depression Inventory (BDI) before treatment. The mean score for the sample was 67.05 ( $SD = 21.76$ ) on the OQ-45, and 17.88 ( $SD = 9.56$ ) on the BDI. These mean scores indicate mild to moderate symptoms of impairment in psychological, social, and occupational functioning.

The assessment of the clinical significance of changes in functioning over the treatment period was based on the Reliable Change Index (RCI; Jacobson & Truax, 1991). In order to achieve a stable indication of client change, we calculated the beginning treatment score as the mean Outcome Rating Scale (ORS) on the first three sessions, and the end score as the mean of the last three sessions. Thus, the RCI was calculated solely for clients who had more than six observations (98 clients). According to the ORS indices, 46% of the clients made a reliable change (i.e., showed increases of more than 5 points or moved from the clinical to the nonclinical range, or both), 48% did not change, and 6% of the participants showed deterioration.

The clients were assigned to therapists in an ecologically valid manner based on real-world issues such as therapist availability and caseload. The clients were treated by 62 therapists (42 women and 20 men): 26 therapists treated one client each, 33 treated two clients each, and three treated three clients each. Of the 62 therapists, 82% were master's or doctoral student trainees in the university's psychology department training program, and 18% were advanced clinical psychology interns with three or four years of experience. Each therapist received one hour of individual supervision and four hours of group supervision on a weekly basis. All therapy sessions were audiotaped for use in supervision. Supervisors were senior clinicians in psychodynamic psychotherapy. Individual and group supervisions focused heavily on the review of audiotaped case material and technical interventions designed to facilitate the appropriate use of psychodynamic psychotherapy interventions. Examination of treatment vignettes was structured to provide specific and direct feedback to supervisees. The supervisors often invited the trainees to explore the client dynamics as well as their own experience and interventions.

Individual psychotherapy consisted of once or twice weekly sessions of psychodynamic psychotherapy organized, aided, and informed (but not prescribed) by a short-term psychodynamic psychotherapy treatment model (Blagys & Hilsenroth, 2000; Shedler, 2010). The key features of this model include (a) a focus on affect and the experience and expression of emotions; (b) exploration of attempts to avoid distressing thoughts and feelings; (c) identification of recurring themes and patterns; (d) emphasis on past experiences; (e) focus on interpersonal experiences; (f) emphasis on the therapeutic relationship; and (g) exploration of wishes, dreams, or fantasies (Shedler, 2010). Treatment was open-ended in length, however given that psychotherapy was provided by clinical trainees at a university-based outpatient community clinic, these treatments were often limited from 9 months to 1 year. The mean treatment length was 22.7 sessions ( $SD = 9.1$ , range = 4–49). Of these sessions, approximately 84.0% ( $N = 1,923$ ) were available for analyses.

### Instruments and Data Collection

**Outcome Questionnaire 45 (OQ-45).** The OQ-45 is a self-report measure designed to assess patient outcomes during the course of therapy. The 45 items assess three primary dimensions: (a) subjective discomfort (e.g., anxiety and depression—"I feel blue"), (b) interpersonal relationships (e.g., "I feel lonely"), and (c) social role performance (e.g., "I have too many disagreements at work/school"). All 45 items can be aggregated to create a total score. Total scores can range from 0 to 180, with higher scores reflecting poorer psychological functioning. The OQ-45 has been shown to have good internal consistency ( $\alpha = .93$ ), 3-week test-retest reliability ( $r = .84$ ), and concurrent validity (Lambert et al., 2004; Snell, Mallinckrodt, Hill, & Lambert, 2001). This high internal consistency replicated in our sample with  $\alpha = .928$ .

**Beck Depression Inventory-II (BDI-II).** The BDI-II is a 21-item self-report measure of depression that asks respondents to rate the severity of their depressive symptoms during the previous 2 weeks using a variable Likert scale (i.e., 19 items use a 4-point scale, two items use a 7-point scale). Individual item scores are summed to create a total severity score with a range of 0 to 63. Total scores can be used to categorize respondents by depressive severity using the following ranges: 0 to 13 (minimal), 14 to 19 (mild), 20 to 28



(moderate), >28 (severe; Beck, Steer, & Brown, 1988). Analyses have revealed high internal consistency ( $\alpha = .93$ ) and significant ( $p < .01$ ) intercorrelations between the BDI-II total scale and Behavior and Symptom Identification Scale–24's Depression/Functioning ( $r = .79$ ) and Overall ( $r = .82$ ) subscales (Subica et al., 2014). It showed good internal consistency in our sample ( $\alpha = .906$ ).

**Outcome Rating Scale (ORS; Miller, Duncan, Brown, Sparks, & Claud, 2003).** The ORS is a four-item visual analog scale developed as a brief alternative to the OQ-45. Both scales are designed to assess change in three areas of client functioning that are widely considered valid indicators of progress in treatment: individual (or symptomatic) functioning, interpersonal relationships, and social role performance (work adjustment, quality of life [Lambert & Hill, 1994]). The ORS demonstrates strong reliability estimates ( $\alpha = .87$ – $.96$ ) and moderate correlations between the ORS items and the OQ-45 subscale and total scores (ORS total–OQ-45 total:  $r = .59$ ). This correlation meets expectations, given that 45 items were reduced to four (Miller et al., 2003). Respondents complete the ORS by marking agreement with four statements on a visual analog scale anchored at one end by the word *low* and at the other end by the word *high*. This scale yields four separate scores between 0 and 10 using a centimeter for the scale measurement. These four scores sum to one score ranging from 0 to 40, with higher scores indicating better functioning. Using Jacobson and Truax's definition of the RCI (Jacobson & Truax, 1991), the clinical cut-off score of the ORS was shown to be 25, and clients who change in a positive or negative direction by at least 5 points are regarded as having made a "reliable change" (Miller et al., 2003; Miller, Mee-Lee, Plum, & Hubble, 2005).

The between- and within-person reliabilities for the scale were computed using procedures outlined by Cranford et al. (2006) for estimating reliabilities for repeated within-person measures, and the reliability levels were considered high in the current study (within = .90, between = .96).

**Session Rating Scale (SRS; Duncan et al., 2003).** The SRS is a four-item visual analog scale designed specifically for everyday clinical use. This scale demonstrates good reliability estimates across a range of client populations (.88); test–retest reliability also demonstrated satisfactory results ( $r = .64$ ). Concurrent validity calculations have provided a correlation of .48 between the SRS and Revised Helping Alliance Questionnaire. Correlations between SRS items and the Working Alliance Inventory subscales range from .37 to .63 (Campbell & Hemsley, 2009; Duncan et al., 2003). Compared with its longer counterparts, the SRS has advantages such as cost-effectiveness, brevity, simple administration, and easy interpretation of results in the measurement of clinical outcomes (Campbell & Hemsley, 2009).

Respondents complete the SRS by marking agreement with four statements on a visual analog scale anchored at each end by statements pertaining to how they relate to the therapist. The respondent is asked to rate the relationship, goals/method, approach/method and overall experience of the therapy session. This rating yields four separate scores between 0 and 10 using a centimeter for the scale measurement; these scores sum to one score ranging from 0 to 40. In the current study, the SRS displayed an average inter item correlations of .70 with individual correlations ranging from .69 to .72. The between- and

within-person reliabilities for the scale were good (within = .84, between = .88).

**Emotional Experience Self-Report and Emotional Experience Therapist-Report (EE-SR and EE-TR).** The EE-SR is a bipolar scale inquiring about clients' estimates of their own emotional experience during the session. Developed specifically for the purposes of this study, this scale was inspired by observer-based rating systems that measure the depth of clients' experiences of emotions such as the Experiencing Scale (Klein, Mathieu-Couglan, & Kiesler, 1986). Clients are asked to use the cursor to mark the extent to which they experienced their feelings in a rich and vivid manner on a scale ranging from 0 (*In today's session, I was disconnected from my emotions*) to 7 (*In today's session, I was emotionally involved, and I fully and vividly experienced my emotions*). ICC estimates indicated that 42.83% of the variance in this item was accounted for by differences between clients whereas 57.17% of the variance was accounted for by between-session changes. This suggests that the EE-SR is both stable (in measuring the same person over time) and sensitive (in picking up changes within the person). Test–retest reliability was .61. The EE-TR, a parallel therapist version in which therapists were asked to rate their clients' level of emotional experience, was administered after every session. The client and therapist versions in the present sample were moderately correlated,  $r = .35$ ,  $p < .001$ , suggesting some convergent validity. In the current study we only used the EE-SR in the analyses as we were interested in the clients' perspective regarding their own emotional experience.

## Procedure

The study was conducted in a university-based outpatient clinic between August 2013 and August 2014. The study procedures were part of the routine battery in the clinic. Clients were asked to sign consent forms if they agreed to participate in the voluntary study, and they were told that they could choose to terminate their participation in the study at any time without jeopardizing the treatment. Clients were also told that their data would not be transferred to their therapist and that their anonymity would be preserved.

The OQ-45 and BDI were administered to clients as part of the intake procedure (i.e., at pretreatment). The session questionnaires were completed by the clients electronically using computers located in the clinic rooms and software that time-stamped their responses. The ORS was completed before each therapy session, and the SRS, EE-SR, and EE-TR were completed immediately after each therapy session.

## Data Analytic Strategy

The session-level dataset had a hierarchical structure; as a result, individual observations were not independent of one another. For this reason, hierarchical data violate the assumption of independent observations made by traditional statistical methods. Instead, multilevel modeling (MLM), a powerful statistical method, was used to handle this type of data (Hox, 2010). When using this method, the researcher must ensure that the predictor variables are centered around each client's mean in order to isolate the within-subject effects (Raudenbush & Bryk, 2002). Moreover, because the requirement for no significant change in means over time is frequently violated in treatment data, the models should control for nonstationarity (i.e., time trend; Curran & Bauer, 2011). We dealt

with these factors by applying the recommendations in Curran and Bauer (2011). Specifically, for each client and for each session-level variable (i.e., experience, functioning, and alliance), we estimated a linear regression model in which the session-level variable was regressed on the session number, and we then saved the residuals as new variables. As both group-mean-centered and time-detrended estimates, these variables were then used in our MLM models.<sup>1</sup> Because this procedure requires at least three observations for each client, those with fewer than three recorded sessions were excluded from the analyses (a total of three cases). In our models, we also used the lagged outcome as a covariate, which allowed us to control for auto-regression as well as to treat the outcome as the change score from the previous session.<sup>2</sup> All session-level analyses were conducted using SAS PROC MIXED.

## Results

### Experience and Alliance

To test whether alliance predicted experience, the following two-level (session nested within clients) model was estimated:

Level 1:

$$\text{Experience}_{i,t} = \beta_{1i} \times \text{Alliance}_{(t-1)i} + \beta_{2i} \times \text{Experience}_{(t-1)i} + e_{it}$$

Level 2:

$$\beta_{1i} = \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20} + u_{2i}$$

In this model, the reported experience (assessed using the EE-SR) of client  $i$  at time  $t$  was modeled on Level 1 by the previous session ( $t - 1$ ) alliance (assessed using the SRS), while controlling for the level of experience in the previous session ( $t - 1$ ). Note that because the predicted variable was centered on each client's mean, the intercept was constrained to zero in this model (i.e., it was not estimated). On Level 2, the slopes ( $\beta_{1i}$  and  $\beta_{2i}$ ) were modeled as fixed effects (i.e., the sample's mean effects) as well as random effects (i.e., the deviation of the client's effects from the fixed effects). As Table 1 (Model 1a) shows, as hypothesized, the previous session alliance predicted greater client experience. To test whether this effect was qualified by treatment length, we employed an additional two-level model with treatment length as both a main effect and a moderator; neither the main effect ( $b < 0.001$ , 95% CI  $[-0.007, 0.003]$ ,  $SE < 0.001$ ,  $ns$ , effect size  $< .001$ ) nor the interaction of treatment length with alliance ( $b < 0.001$ , 95% CI  $[-0.002, 0.003]$ ;  $SE < 0.001$ ,  $ns$ , effect size  $< .001$ ) was significant. However, the alliance remained a significant predictor of experience ( $b = 0.03$ , 95% CI  $[0.006, 0.054]$ ,  $SE = 0.01$ ,  $p = .032$ , effect size  $= .08$ ). Effect sizes were estimated with semipartial  $R^2$  for linear mixed models (Edwards, Muller, Wolfinger, Qaqish, & Schabenberger, 2008).

To test whether experience predicted the strength of alliance, the following two-level model was estimated:

Level 1:

$$\text{Alliance}_{i,t} = \beta_{1i} \times \text{Experience}_{(t-1)i} + \beta_{2i} \times \text{Alliance}_{(t-1)i} + e_{it}$$

Level 2:

$$\beta_{1i} = \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20} + u_{2i}$$

In this model, the reported alliance of client  $i$  at time (session)  $t$  was modeled on Level 1 by the client's level of experience in the previous session ( $t - 1$ ) while controlling for alliance in the previous session ( $t - 1$ ). Again, on Level 2, the slopes were modeled as both fixed and random effects. As Table 1 (Model 1b) shows, contrary to our hypothesis, previous session experience did not predict a stronger alliance.

### Experience and Functioning

To test whether experience predicted functioning, the following two-level model was estimated:

Level 1:

$$\text{Functioning}_{i,t} = \beta_{1i} \times \text{Experience}_{(t-1)i} + \beta_{2i} \times \text{Functioning}_{(t-1)i} + e_{it}$$

Level 2:

$$\beta_{1i} = \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20} + u_{2i}$$

In this model, the reported functioning (assessed using the ORS) of client  $i$  at time (session)  $t$  was modeled on Level 1 by the client's experience level in the previous session ( $t - 1$ ) while controlling for the level of functioning in the previous session ( $t - 1$ ). Again, on Level 2, the slopes were modeled as both fixed and random effects. As Table 1 (Model 2a) shows, as hypothesized, previous session experience predicted greater functioning. To test whether this effect was qualified by treatment length, we employed an additional two-level model with treatment length as both the main effect and moderator, and we found that neither its main effect ( $b = 0.01$ , 95% CI  $[-0.018, 0.033]$ ,  $SE = 0.01$ ,  $ns$ , effect size  $< .001$ ) nor its interaction with experience ( $b = -0.03$ , 95% CI  $[-0.077, 0.011]$ ,  $SE = 0.02$ ,  $ns$ , effect size  $= .06$ ) was significant; however, experience remained a significant predictor of functioning ( $b = 0.48$ , 95% CI  $[0.115, 0.839]$ ,  $SE = 0.18$ ,  $p = .03$ , effect size  $= .10$ ).

To test whether functioning predicted experience, the following two-level model was estimated:

Level 1:

$$\text{Experience}_{i,t} = \beta_{1i} \times \text{Functioning}_{(t-1)i} + \beta_{2i} \times \text{Experience}_{(t-1)i} + e_{it}$$

Level 2:

$$\beta_{1i} = \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20} + u_{2i}$$

Functioning was reported before each session, and this reporting was based on the entire previous week, whereas experience was

<sup>1</sup> Wang and Maxwell (2015) recently pointed out that in situations in which the process that unfolds over time (such as treatment) is what one actually wants to explain, time-detrending the variables may lead to inaccurate results. To address this concern, we reran our analyses using the person-mean centering approach advocated by Wang and Maxwell, and found identical pattern of results (complete results can be obtained by request).

<sup>2</sup> We opted for two-level MLM (sessions nested within therapeutic dyads) and not three-level MLM (sessions nested within clients nested within therapists) for the following reasons: (a) the three-level unconditional models for *functioning* and *experience* estimated the Level 3 random effects of both variables to be zero, meaning that no variance was explained by the therapist level; (b) though the unconditional model for *alliance* estimated the Level 3 random effect of this variable to be significant (estimate = 6.54,  $SE = 3.39$ ,  $p = 0.027$ ; ICC = 0.18), the design effect was less than 2 (i.e., design effect = 1.12), indicating no need for estimating random effects at Level 3 (Muthén & Satorra, 1995; Peugh, 2010).

Table 1  
Emotional Experience, Alliance, and Functioning Ratings: Models 1a, 1b, 2a, and 2b

	Model 1a—Outcome: Experience; Predictor: Alliance			Model 1b—Outcome: Alliance; Predictor: Experience			Model 2a Outcome: Functioning; Predictor: Experience			Model 2b Outcome: Experience; Predictor: Functioning		
	<i>b</i> (SE) [95% CI]	<i>p</i>	Effect size <sup>a</sup>	<i>b</i> (SE) [95% CI]	<i>p</i>	Effect size	<i>b</i> (SE) [95% CI]	<i>p</i>	Effect size	<i>b</i> (SE) [95% CI]	<i>p</i>	Effect size
Predictor ( $\gamma_{10}$ )	.03 (.01) [.008, .054]	.009	.10	-.10 (.15) [-.395, .202]	.521	.01	.37 (.17) [.031, .717]	.033	.09	.02 (.01) [.001, .029]	.024	.09
Lagged outcome ( $\gamma_{20}$ )	-.11 (.04) [-.186, -.038]	.003	.10	.05 (.04) [-.037, .132]	.269	.02	.19 (.03) [.122, .250]	<.001	.33	-.04 (.03) [-.106, .027]	.243	.02

Note. Experience = Emotional Experience Self-Report; Alliance = Session Rating Scale; Functioning = Outcome Rating Scale; CI = confidence interval. *p* values for fixed effects were based on two-tailed *t* tests using the Satterthwaite method for computing *df*. Effect sizes were estimated with semipartial  $R^2$  for linear mixed models (Edwards et al., 2008), where  $R^2 \leq .01$  represents small effect size; medium  $\leq .09$ ; large  $\leq .25$ .

reported at the end of each session; therefore, in this model, the reported experience of client *i* at time *t* was modeled on Level 1 by the client's pre-session (*t*) functioning level while controlling for the client's experience in the previous session (*t* - 1). Again, on Level 2, the slopes were modeled as both fixed and random effects. As Table 1 (Model 2b) shows, as hypothesized, pre-session functioning reports predicted greater experience. Again, to test whether this effect was qualified by treatment length, we employed an additional two-level model with treatment length as both the main effect and moderator, and the results indicated that neither its main effect ( $b < 0.001$ , 95% CI [-0.007, 0.003],  $SE < 0.001$ , *ns*, effect size  $< .001$ ) nor its interaction with functioning ( $b < 0.001$ , 95% CI [-0.001, 0.002],  $SE < 0.001$ , *ns*, effect size  $< .001$ ) was significant. Functioning approached significance only in predicting experience ( $b = 0.01$ , 95% CI [-0.001, 0.029];  $SE = 0.01$ ,  $p = .07$ , effect size = .04).

### Combined Models

In the separate models reported above, we found that both alliance and functioning predicted client experience. We were also interested in examining whether these effects held when estimating both of these predictors in the same model. Thus, the following two-level model was estimated:

Level 1:

$$\text{Experience}_{it} = \beta_{1i} \times \text{Functioning}_{(t)i} + \beta_{2i} \times \text{Alliance}_{(t-1)i} + \beta_{3i} \times \text{Experience}_{(t-1)i} + e_{it}$$

Level 2:

$$\beta_{1i} = \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20} + u_{2i}; \beta_{3i} = \gamma_{30} + u_{3i}$$

In this model, the reported experience of client *i* at time *t* was modeled on Level 1 by the client's pre-session (*t*) functioning and previous session (*t* - 1) alliance while controlling for his or her experience in the previous session (*t* - 1). Again, on Level 2, the slopes were modeled as both fixed and random effects. As Table 2 (Model 3) shows and as we found in the separate models, both functioning and alliance predicted greater client experience. Using functioning and alliance *SDs* to contrast the standardized effects, we found that they were not significantly different from one another,  $t(69.5) = 0.38$ ,  $p = .703$ , indicating that both variables predicted experience to approximately the same extent.

Additionally, in the separate models reported above, we found that experience was a significant predictor of functioning but not of the strength of the alliance. However, to directly test for this differential pattern, the following two-level multivariate multilevel model was employed (Baldwin, Imel, Braithwaite, & Atkins, 2014).

Level 1:

$$\begin{aligned} \text{Outcome}_{hi} &= \beta_{1i} \times \text{Expe}_{(t-1)i} \times \text{DV1} \\ &+ \beta_{2i} \times \text{Functioning}_{(t-1)i} \times \text{DV1} + e_{hi} \times \text{DV1} \\ &+ \beta_{3i} \times \text{Expe}_{(t-1)i} \times \text{DV2} \\ &+ \beta_{4i} \times \text{Alliance}_{(t-1)i} \times \text{DV2} + e_{hi} \times \text{DV2} \end{aligned}$$

Level 2:

$$\begin{aligned} \beta_{1i} &= \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20} + u_{2i}; \beta_{3i} = \gamma_{30} + u_{3i}; \beta_{4i} \\ &= \gamma_{40} + u_{4i} \end{aligned}$$

Table 2  
Emotional Experience, Alliance, and Functioning Ratings: Models 3 to 5

	Model 3—Outcome: Experience			Model 4			Model 5				
	<i>b</i> (SE) [95% CI]	<i>p</i>	Effect size	<i>b</i> (SE) [95% CI]	<i>p</i>	Effect size	<i>b</i> (SE) [95% CI]	<i>p</i>	Effect size		
Functioning ( $\gamma_{10}$ )	.02 (.01) [.003, .029]	.017	.11	<b>Outcome: Functioning</b>							
Alliance ( $\gamma_{20}$ )	.03 (.01) [.004, .049]	.022	.08	Experience ( $\gamma_{10}$ )	.36 (.17) [.018, .702]	.039	.09	<b>A path:</b> Alliance	.03 (.01) [.009, .056]	.007	.09
Lagged outcome ( $\gamma_{30}$ )	-.09 (.03) [-.162, .019]	.014	.12	Lagged outcome ( $\gamma_{20}$ )	.18 (.03) [.119, .247]	<.001	.32	Experience <b>B path:</b> Experience	.40 (.17) [.049, .747]	.041	.16
				<b>Outcome: Alliance</b>				Functioning <b>C' path:</b> Alliance	.01 (.04) [-.059, .088]	.729	.00
				Experience ( $\gamma_{30}$ )	-.09 (.15) [-.391, .209]	.546	.01	Functioning			
				Lagged outcome ( $\gamma_{40}$ )	.04 (.04) [-.040, .129]	.293	.02	Alliance			
								Functioning			

Note. Experience = Emotional Experience Self-Report; Alliance = Session Rating Scale; Functioning = Outcome Rating Scale; CI = confidence interval.

Using two dummy-coded variables (i.e., DV1 and DV2), we modeled the reported *h* (i.e., functioning or alliance) outcome on Level 1 based on the client's previous session experience (i.e.,  $\beta_{1i}$  for functioning as the outcome and  $\beta_{3i}$  for alliance as the outcome) while controlling for the previous session outcome (i.e.,  $\beta_{2i}$  for functioning as the outcome and  $\beta_{4i}$  for alliance as the outcome). Again, on Level 2, the slopes were modeled as both fixed and random effects. As Table 2 (Model 4) shows and as we found in the separate models, experience predicted greater functioning but did not predict a stronger alliance. Using the procedure outlined by Baldwin et al. (2014) for directly comparing effects when the measured outcomes have a different metric, we found that these effects were marginally different from one another,  $t(58.7) = 1.76$ ,  $p = .083$ .

### Testing the Alliance → Experience → Functioning Indirect Effect

In the results reported above, we found that alliance predicted experience, which in turn predicted (and was predicted by) functioning. To test a mediational model in which this indirect effect was directly estimated, we followed Zhang, Zyphur, and Preacher's (2009) recommendations for testing a Level 1–Level 1–Level 1 mediational model. Specifically, the *A* path (i.e., the association between alliance and experience) was estimated using the following equations:

Level 1:

$$\text{Experience}_{(t-1)i} = \beta_{1i} \times \text{Alliance}_{(t-2)i} + \beta_{2i} \times \text{Experience}_{(t-2)i} + e_{(t-1)i}$$

Level 2:

$$\beta_{1i} = \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20}$$

In these equations, the reported experience of client *i* at time ( $t - 1$ ) was modeled by this client's reported alliance at time ( $t - 2$ ; the *A* path) while controlling for the client's reported experience at time ( $t - 2$ ).

The *B* path (i.e., the associations between experience and functioning) and *C'* path (i.e., the associations between alliance and functioning) were estimated using the following equations:

Level 1:

$$\text{Functioning}_{ti} = \beta_{1i} \times \text{Alliance}_{(t-2)i} + \beta_{2i} \times \text{Experience}_{(t-1)i} + \beta_{3i} \times \text{Functioning}_{(t-1)i} + e_{ti}$$

Level 2:

$$\beta_{1i} = \gamma_{10} + u_{1i}; \beta_{2i} = \gamma_{20} + u_{2i}; \beta_{3i} = \gamma_{30}$$

In these equations, the reported functioning of client *i* at time ( $t$ ) was modeled by this client's reported alliance at time ( $t - 2$ ; *C'* path) and reported experience at time ( $t - 1$ ; *B* path) while controlling for the client's reported functioning at time ( $t - 1$ ).

To assess the confidence interval for indirect effects, these two mixed models were run simultaneously (Bauer, Preacher, & Gil, 2006), and Monte Carlo simulations with 20,000 resamples were used (Selig & Preacher, 2009). As Table 2 (Model 5) shows, the alliance predicted client experience (*A* path), which, in turn, predicted client functioning (*B* path). Additionally, as predicted, this



indirect effect was significant (estimate = 0.0131, 95% CI [0.001, 0.068]).<sup>3</sup>

## Results Summary

We found (a) that alliance predicted experience (Model 1a), but not vice versa (Model 1b); (b) that experience predicted functioning (Model 2a) and vice versa (Model 2b); and (c) that the indirect path of alliance → experience → functioning was significant (Model 5).

## Discussion

One of the core aims of contemporary psychotherapy research is to identify the factors that contribute to therapeutic change and to determine the processes (or sequences) that link them (e.g., Barber, 2009). Consistent with this broad aim, the goal of this study was to explore the role of emotional experience and its association with the therapeutic alliance and symptomatic relief in a session-by-session context of psychodynamic therapy.

This study was based on the core psychodynamic theoretical assumption that psychotherapy promotes clients' well-being by providing them with a unique opportunity to explore and experience intense or painful emotions within a safe and supportive relationship (Fosha, 2001, 2005; McCullough et al., 2003). In our view, fully testing this assumption requires an examination of both alliance strength and emotional experience as ongoing time-varying processes that develop and change throughout treatment (Crits-Christoph et al., 2011). We adopted this fine-grained session-by-session approach that allowed us to use within-person, time-detrended models with three hypotheses in mind.

The results partly supported our first hypothesis by demonstrating that higher therapeutic alliance scores at the end of one session predicted greater emotional experience in the next session. Emotional experience, however, did not predict subsequent alliance strength.

The temporal association revealed in the data may suggest that whereas a good therapeutic alliance facilitates the emergence of deep emotions, emotional experience by itself does not necessarily strengthen the therapeutic alliance. The finding that alliance predicts subsequent emotional experience is consistent with the psychodynamic theoretical view which posits that the client's capacity to experience and work through his or her emotions is a reflection of a healthy therapeutic relationship. This theoretical view also offers a way of understanding the absence of a reverse association: specifically, sessions in which emotional experience was deep are likely to be those in which alliance is already strong; further increases in alliance therefore become unlikely. An alternative explanation for this nonsignificant finding is that another variable, such as the type of emotion experienced or the therapist's interventions, could moderate the association between emotional experience and alliance. For example, the strength of the alliance in the subsequent session may continue rising if clients experience positive emotions (following new insight) in that session but may remain stable or even decrease if clients experience negative emotions. Likewise, alliance in the subsequent session may continue rising if therapists use appropriate self-disclosure in that session but may remain stable or even decrease if they miss the opportunity to do so. Such a possible moderating effect could be examined in future studies.

The therapeutic alliance has been found to predict subsequent emotional experience (or processing) in previous studies exploring the working and termination phases of therapy (e.g., Pos et al., 2009). However, these studies were based on a limited number of sessions (e.g., Auszra et al., 2013; Pos et al., 2009) or considered the alliance in the analysis only to ensure that it was not a confounding factor (e.g., Kramer, Pascual-Leone, Despland, & de Roten, 2015). The current study extends previous work by charting the temporal precedence of alliance over emotional experience from session to session.

The results fully supported our second hypothesis by demonstrating a reciprocal association between emotional experience and functioning. The findings underscore the importance of a rich and vivid emotional experience within psychotherapy, not only as a goal but also as a possible means (i.e., a process variable) leading to better functioning and well-being. This result also suggests that better functioning contributes to a reinvestment in the therapy process.

Most previous studies of the association between in-session emotional experience and client outcomes have used the overall treatment outcome as the dependent variable and the *between*-client variation in emotional experience scores in a limited number of working phase sessions as the predictor (e.g., Missirlian et al., 2005). Although this client-level association between emotional experience and outcomes is important, the question of the time course of this effect remains unanswered. Moreover, this approach does not ensure that the salubrious effect of emotional experience will also occur within clients, as between-client and within-client effects are often quite different (cf. Curran & Bauer, 2011). The present study extends the literature by finding that the *within*-client association between emotional experience and subsequent functioning holds on a session-by-session basis; indeed, this association holds even when controlling for previous level of functioning, thus alleviating concerns regarding reverse causation. Thus, our results lend strong support to the possibility that emotional experience serves as a causal mechanism of change in psychotherapy.

One way of accounting for the reverse association (i.e., client functioning predicts emotional experience) is by recognizing that deep emotional experience is a metabolically costly endeavor requiring substantial mental resources. When clients are improving (i.e., showing higher functioning), they are likely to have more abundant resources, which can then be reinvested in a deeper experience in the session.

An alternative way of accounting for this directional association between functioning and emotional experience follows the reasoning put forward by Falkenström et al. (2013) and Crits-Christoph et al. (2011) to explain the (similarly reciprocal) association between symptoms and alliance. Those authors posited that a client who experiences a decrease in symptoms during treatment is likely

<sup>3</sup> Although the association between alliance and functioning reported on the same session was positive and significant ( $b = 0.14$ , 95% CI [0.039, 0.240],  $SE = 0.05$ ,  $p = .007$ , effect size = .01), alliance failed to predict functioning in the next session ( $b = 0.02$ , 95% CI [-0.062, 0.094],  $SE = 0.04$ ,  $ns$ , effect size < 0.003). This means that the total effect (the C path) in our mediational model was not significant. Importantly, recent developments in mediation analysis suggest that indirect effect should be tested and can be valid even in the absence of a direct effect (for more information, see Hayes, 2009).

to demonstrate greater trust in the effectiveness of the treatment, thus strengthening the therapeutic alliance. This type of trust could certainly affect the client's emotional experience as well by increasing his or her willingness to become emotionally involved during a session. To test both the resource allocation and trust explanations, future studies could include measures aiming to assess these mediators.

The results fully supported our third hypothesis that alliance would exert an indirect effect on client functioning via its contribution to emotional processing. These findings are consistent with previous studies showing such mediation at the between-client level (Auszra et al., 2013; Pos et al., 2009); however, these results also extend the previous work by demonstrating that this mediation occurs at the within-client level.

This study is the first to find support for the complex session-by-session associations among alliance, emotional experience, and functioning. This research answers the call of psychotherapy process scholars who, noting the abundance of evidence for the role of the therapeutic alliance, have emphasized the importance of clarifying how the alliance contributes to therapeutic change (Crits-Christoph et al., 2011; Safran & Muran, 2006). As we have shown, one means by which a strong alliance may lead to therapeutic change is by facilitating a deeper emotional experience. Accordingly, alliance may be more than simply a process variable (exerting its own effect on client outcomes); it may also be a context variable—a fertile ground promoting other change processes, such as deeper emotional experience.

### Limitations and Future Directions

Several limitations of this study should be noted. First, this study was designed as a naturalistic field study of clients in psychodynamic therapy, without a nontreatment (or alternative treatment) control group. In addition adherence tests were not conducted; hence, the results cannot be attributed solely to the psychotherapy treatment offered, nor can they be specifically linked to this therapeutic orientation.

However, although this type of design is inherently limited in its internal validity, it benefits from substantial external validity, as it more accurately reflects the reality of clinical work with clients in public clinics (Levy & Ablon, 2009).

Second, the reliance on trainee therapists can be considered a limitation as well. This may limit the generalizability of the findings to processes in therapies implemented by more experienced clinicians.

Third, although the EE-SR that was developed specifically for the current study to assess the client's emotional experience demonstrated moderate test-retest reliability and sensitivity to change over time, more research is needed to further investigate its validity and reliability.

Fourth, this study assessed both process and outcome variables only from the clients' perspective. Considering emotional experience from the client's perspective can also be regarded as an advantage, as leading emotion researchers (e.g., Wallbott & Scherer, 1989) have argued that emotional experience is best indexed by the introspective reports of an experiencing subject. Indeed, many studies of emotional experience in psychotherapy have relied on external ratings (e.g., Auszra, Greenberg, & Herrmann, 2010; Klein et al., 1986; Town, Hardy, McCullough, &

Stride, 2012; Warwar & Greenberg, 1999). Future studies could explore these variables from the perspectives of therapists and/or objective observers.

The analyses conducted in this study, particularly the use of the lagged outcome as a covariate in each model, were aimed at reducing the threat of reverse causation. Nonetheless, we are cautious in assuming causality in any of the models, including the model documenting mediation, as some unmeasured (fourth) variables could have influenced all three constructs (i.e., emotional experience, alliance, and functioning). One such variable may be the therapist's empathy toward the client. Recent research suggests that therapist's empathy indirectly affected treatment outcome through the mediation of first-session alliance and working phase emotional experience (Malin & Pos, 2015). Future studies could further investigate the complex association across these variables on a session-by-session basis.

Finally, although alliance is considered to be an essential factor in treatment, it is important to remember that other factors such as attachment or transference may also interact with emotional experience to predict outcome. For example Garrison, Kahn, Sauer, and Florczak (2012) found that individuals with insecure attachment orientations were less likely to disclose their emotion in front of others, which may indicate they will be less emotionally involved in therapy. Further studies could explore the association of emotional experience with different components of the client's relationship and how it relates to treatment outcome.

### Summary

By identifying the determinants of therapeutic change, psychotherapy research can aid therapists to recognize and increase the occurrence of salutary processes and, by extension, improve treatment outcomes (Johansson et al., 2010). This study is one of the first studies to examine such determinants on a session-by-session basis. We explored the within-client temporal processes occurring in the treatment of 101 clients receiving psychodynamic therapy. We examined two determinants of therapeutic change: the therapeutic alliance and emotional experience. Our findings advance the idea that these two determinants work in a synergistic way to predict improvement in clients' functioning and well-being. The results suggest that supportive therapeutic relationships, marked by a strong alliance, are crucial to experiencing deep emotions, and that the opportunity to experience deep and vivid emotions promotes clients' functioning and well-being. Therefore, therapists should pay more attention to these processes and should specifically aim to establish close and significant relationships in which clients can fully experience their emotions and thus obtain symptomatic relief.

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