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Is Affect Experiencing Therapeutic in Major Depressive Disorder?

Examining Associations Between Affect Experiencing and Changes to the Alliance

and Outcome in Intensive Short-Term Dynamic Psychotherapy

Joel M. Town[1, 2], Alison Salvadori[3], Fredrik Falkenström[4], Stacy Bradley[5],

Gillian Hardy[6]

[1] Clinical Trial and Population Studies, Plymouth University Peninsula Schools of
Medicine, Plymouth, UK

[2] Department of Psychiatry, Dalhousie University, Halifax, Canada

[3] Berkshire Healthcare NHS Foundation Trust, Berkshire, UK

[4] Centre for Psychotherapy Research and Education, Karolinska Institutet, Stockholm &
Stockholm Health Care Services, Stockholm County Council.

[5] Centre for Emotions & Health, Dalhousie University, Halifax, Canada

[6] Department of Psychology, University of Sheffield, UK

Correspondence concerning this article should be addressed to: Dr. Joel Town,
Clinical Trial and Population Studies, Plymouth University Peninsula Schools of
Medicine & Dentistry, Rm N10, ITTC Building, Plymouth Science Park, Derriford,
Plymouth, Devon, UK, PL6 8BX. Email: joel.town@plymouth.ac.uk

Abstract

Affect experiencing, defined as the facilitation of client in session bodily arousal and visceral experiencing of affect, is a distinct theoretical process presumed to contribute to therapeutic improvement. This study examined the role of affect experiencing in the treatment of Major Depressive Disorder by exploring its association to client distress and therapeutic alliance on a session-by-session basis. A case series design was used to conduct an intensive analysis of the treatment process of four clients who received time-limited Intensive Short-Term Dynamic Psychotherapy (ISTDP), two of whom were considered 'recovered' and two who showed 'no change' based upon post-treatment outcomes. Consistent with our hypothesis, we found that cross-correlations between affect experiencing and client distress discriminated between 'recovered' and 'no change' clients. In 'recovered' clients, there was evidence that higher in-session peak affect experience was associated with reduced subsequent distress seven days later. The results did not provide consistent evidence for a reverse effect, showing that lower distress during the preceding week predicted higher affect experiencing in that session. Finally, there was evidence that affect experiencing is an in-session activity that can promote the strengthening of the therapeutic alliance. These collective findings suggest that affect experiencing is an important treatment process that contributes to alliance formation and psychotherapeutic improvement. Clinical implications include further evidence that Psychodynamic therapists can utilize affect experiencing as an active change ingredient for depression.

Keywords: affect experiencing, psychodynamic psychotherapy, therapeutic alliance, major depressive disorder, case series design

An integrative principle across psychotherapies is that when emotions are regulated sufficiently to be processed the combination of their arousal and cognitive reflection on their meaning contributes to positive change (Whelton, 2004). The in-session bodily arousal of emotions, or affect experiencing, reflects the degree to which a patient viscerally experiences then expresses their feelings during therapy. Although specific processes such as affect experiencing are described in meta-psychological theories, emotional processing is more commonly employed as an overarching theoretical construct to refer to the way in which emotions are addressed in therapy. Thus, while different clinical emotion processing theories have been proposed (Baker, 2001; Foa & Kozak, 1986; Greenberg, 2010; Rachman, 2001; Teasdale, 1999), empirical research informing what constitutes effective emotion processing within therapy has received less attention and results are inconclusive. Exploring associations between therapeutic improvement and putative ingredients of change, such as types of emotional processing, is therefore required to test proposed mechanisms of action.

To date, existing research amongst the various emotion processing constructs which have been described (Greenberg & Paivio, 2003), the Emotional Experiencing Scale is the most widely used measure of in-session emotion processing. It measures the degree of client involvement in the process of exploring new feelings and meanings in relation to the self (Greenberg & Safran, 1989). A meta-analysis of 10 studies found that depth of emotional experiencing was a small to medium predictor of symptom improvement (Pascual-Leone & Yeryomenko, 2016). While the Emotional Experiencing Scale may be measuring an important factor contributing to psychotherapeutic change, it measures a distinct change process (Greenberg, Warwar, & Malcolm, 2008), therefore a

more complete understanding of emotion processing could be provided by examining other related constructs. Affect experiencing has been found to be a significant predictor of psychotherapeutic change for processing trauma (Foa, Zoellner, Feeny, Hembree, & Alvarez-Conrad, 2002), resolving unfinished business (Greenberg & Malcolm, 2002) and discriminating successful psychotherapy outcomes according to reduced healthcare costs and improved functional status (Town, Abbass, & Bernier, 2013). Affect experiencing and depth of emotional experience are overlapping constructs (Warwar, 2003) but the latter focuses on verbal expression and does not include arousal of bodily affects in its conceptualization.

To date, current research on the role of affect experiencing in treatment for depression has focused on Experiential Therapy. Using the observer rated Client Expressed Emotional Arousal Scale (Warwar & Greenberg, 1999), early studies reported that arousal of expressed emotion in key episodes of the working phase of therapy predicted positive therapeutic outcome (Missirlian, Toukmanian, Warwar, & Greenberg, 2005; Warwar, 2003). Using a client self-report version of this scale, arousal was not found to predict therapeutic outcome, prompting the conclusion that not all arousal of emotion is the same (Greenberg et al., 2008). When emotional arousal was averaged over successive minutes of therapy and across all treatment sessions, it was the productivity of arousal, not arousal alone that distinguished better and worse outcome cases (Greenberg, Auszra, & Herrmann, 2007). When it was established that measurement of emotional arousal using the CEEAS included dysregulated high arousal that may be a sign of distress, high levels of arousal of expressed emotion were no-longer predicted to show a direct linear relationship with outcome. As expected, subsequent findings showed that

high arousal was only helpful up until a certain point when the increased frequency of this type of emotional processing became detrimental (Carryer & Greenberg, 2010). The nature of emotional processing was expanded to attend to the type of emotion and degree to which it is regulated, alongside the level of emotional arousal, this more detailed conceptualization of affect experiencing was operationalized within the Emotional Productivity Scale (Auszra, Greenberg, & Herrmann, 2010). As expected, the predictive validity of expressed arousal of any emotion became redundant while client emotional productivity was found to be a sole independent predictor of improvement in symptoms of depression and general psychiatric symptoms at the end of therapy (Auszra, Greenberg, & Herrmann, 2013).

Although this program of research highlights the importance of the activation of emotions for therapeutic gains to be achieved, certain methodological issues limit the interpretation of these findings to inform clinical practice: first all of these studies use correlational designs therefore causal inferences cannot be made and second, studies fail to explore the sequential processes through which changes unfold session-by-session. Third, research showing the relationship between affect experiencing and treatment outcome across treatment modalities is limited and few studies have explored this association in Psychodynamic Therapies.

Therapist focus on encouraging the expression and experiencing of feelings is recognized as a characteristic feature of Short-Term Psychodynamic Psychotherapies (STPP) (Blagys & Hilsenroth, 2000). Indeed, a meta-analysis including 10 STPP studies found that therapist facilitation of affect was positively associated with treatment improvement (Diener, Hilsenroth, & Weinberger, 2007). The demonstration of an

association between specific therapist technique in STPP and patient improvement is evidence supporting the treatments effectiveness but further research is required to establish if this relationship is mediated by emotional processing. Existing empirical studies of STPP have largely examined the association between patient in-session affect experiencing and therapeutic benefit in a limited number of treatment sessions and found heightened experiencing predicted larger improvements at the end of treatment (Johansson, Town, & Abbass, 2014; Kramer, Pascual-Leone, Despland, & de Roten, 2015; Town et al., 2013).

The most definitive study conducted to date on STPP and emotional processing, which included a large sample of patients (n = 101), found a positive temporal association between in-session client ratings on the Emotional Experiencing Scale and subsequent levels of client functioning after controlling for current level of functioning (Fisher, Atzil-Slonim, Bar-Kalifa, Rafaeli, & Peri, 2016). This result offers important but preliminary support to the possibility that depth of experiencing is a causal mechanism of change in STPP. However, as the psychometric properties of the process measure utilized had not been validated, these findings require replication with a validated in-session observer measures. Furthermore, to the best of our knowledge, the relationship between affect experiencing and subsequent levels of client functioning have not been examined in STPP.

Based upon their findings, Fisher and colleagues also examined whether the presence of a strong therapeutic alliance contributed to this process-outcome relationship, as has been suggested (Greenberg & Pascual‐Leone, 2006). They found that higher alliance scores at the end of one session predicted greater emotional experiencing in the

next session (Fisher et al., 2016). This was consistent with previous evidence that alliance facilitates clients' engagement in emotional processing in experiential treatment for depression (Pos, Greenberg, & Warwar, 2009). Together these two studies support the assumption that only in the context of having formed a strong working alliance can clients optimally engage in emotion processing (Greenberg & Watson, 2006; Pos, Greenberg, & Elliott, 2008) and this may be common across treatment modalities. Conversely, the hypothesis that the importance of depth of experiencing may be in its ability to strengthen the therapeutic alliance has produced mixed findings (Beutler, Clarkin, & Bongar, 2000; Fisher et al., 2016).

Role of Emotions in Psychodynamic Therapy

Modern psychodynamic theory of focal or short-term psychodynamic psychotherapy (STPP) derived from the drive model, emphasize the central concepts of intrapsychic conflict, impulse, feelings, anxiety, and defense. Unprocessed impulses and feelings become repressed due to the conflict associated with conscious experiencing. When current circumstances activate this emotion-laden content, anxiety and defenses activate. Treatment with this formulation includes the activation and processing of emotional content to find a functional way of mediating conflicts. For example, in Intensive Short-Term Dynamic Psychotherapy (ISTDP), "the major emphasis is on the patient's actual experience of feelings" (Davanloo, 2005 p35). Thus, affect experiencing is considered to be a primary change ingredient in this therapy.

Current Study and Research Objective

This study aimed to consider the process of therapeutic change in ISTDP, a model of STPP describing affect experiencing as a change ingredient. To test this theory, we selected a measure derived from ISTDP principles in order to maximize external validity. The Affect Experiencing Scale (AES), from the Achievement of Therapeutic Outcomes Scales (ATOS) (McCullough, Larsen, et al., 2003), captures patient access to the visceral components of affect using in-session observer ratings of psychotherapy audio-visual recordings. Previous research using the ATOS found that increased levels of affect experiencing was related to a more compassionate and realistic sense of self and others (Berggraf, Ulvenes, Øktedalen, et al., 2014; Schanche, Stiles, McCullough, Svartberg, & Nielsen, 2011). In line with these findings and those of Fisher and colleagues (2016), we aimed to examine evidence of within-client associations between affect experiencing and changes in self-reported distress ratings on a session-by-session basis. We also tested for a bidirectional relationship between affect experiencing and therapeutic alliance ratings in the subsequent session.

Given there is only preliminary evidence for these hypothesized associations within STPP models and this study is the first to examine these questions in ISTDP, we consider this exploratory research, designed to focus on theory-practice links and inform future research. We therefore used a single-case replication design to allow theory driven hypotheses to be studied and on case-by-case basis to attend to differences in what actually happened within treatments.

Study hypotheses predicted a series of significant process outcome associations in participants who achieved good outcomes at the end of treatment but these associations were not expected in participants who experienced limited therapeutic gains after 20

sessions: first, it was predicted that a higher peak rating of in-session affect experiencing would be associated with reduced participant self-reported distress levels at the beginning of the next session; second, reduced distress levels over the previous 7 days would predict higher subsequent peak affect experiencing that session; third, higher post session (a) client and (b) therapist ratings of therapeutic alliance would predict greater peak affect experiencing ratings in the next session; and fourth that peak affect experiencing would be associated to subsequent (a) client and (b) therapist alliance ratings in the next session.

Method

Design

The present study uses a replicated single-case A-B-phase design to examine purported associations between process and outcome variables on a session-by-session basis within four participants who each received a 20-session course of ISTDP. Sessions 1 – 20 of the treatment process were studied. Repeated measurements were taken during the baseline phase (A phase) and once treatment had commenced (B phase), for each participant. This enabled a comparison between outcome scores in the baseline and the intervention phase. Rather than examining the performance of aggregates or groups of individuals, this study adopts what is known as an intensive analysis research paradigm (Safran, Greenberg, & Rice, 1988). From this approach, the psychotherapy process of individual participants is studied in detail and attempts are then made to generalize through replication on a case-by-case basis. Simulation Modelling Analysis (SMA) (Borckardt & Nash, 2014) was used to analyze the relationship between in-session processes and post-session symptom change over the course of treatment.

Participants and Recruitment.

Participants were referrals for psychotherapy within a secondary care community mental health team who met specific study inclusion criteria: a diagnosis of a major depressive disorder and a BDI II score > 19 at baseline; not in receipt of psychotherapy within 6 months of the beginning of treatment or currently undergoing additional talking therapy treatment; no contraindications to the use of standard ISTDP such as a diagnosis of psychosis, active alcohol and substance dependence or a life threatening physical condition e.g., ulcerative colitis. Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) diagnoses were established using the Mini-International Neuropsychiatric Interview (MINI) (Lecrubier et al., 1997) by a trained researcher.

The study sample was four participants with a mean age of 42.25 years (SD = 14.53, Range = 40 – 62); all participants were women; participants' presentations could be characterized as 'treatment resistant depression' having failed to show a satisfactory response to at least two trials of antidepressant medications (based on recommended dosage and duration); three of the participants (75%) also presented with at least one comorbid anxiety disorder. All treatments were delivered by a male doctoral level clinical psychologist in his late twenties with 1-year post qualification experience and 2 years of supervised training in the ISTDP model.

All participants provided informed written consent to participate in the study and for their data to be used for research. The study was approved by the Leicestershire, Northamptonshire and Rutland Research Ethics Committee and written informed consent was received from all participants.

Treatment

ISTDP is a time-limited form of psychotherapy delivered according to published treatment recommendations (Abbass, 2015; Davanloo, 2000, 2005). The therapeutic process involves the delivery of specific emotion-focused interventions tailored to a patient's capacity to process and tolerate feelings. ISTDP begins with a psychodiagnostic interview that focuses with the patient on relational situations in which strong emotional activation occurred. In cases without anxiety thresholds, indicating sufficient affect tolerance, treatment proceeds to the rapid removal of the resistance and experiencing of complex affect laden material. The focus is on the transference relationship between the therapist and patient. These interventions include pressure to mobilize emotions and the systematic challenge to defences (Davanloo, 2005). The "Graded Format" of ISTDP (Davanloo, 1990) is required when anxiety affecting the smooth muscle, motor tone or cognitive perceptual functioning is identified. This involves specific interventions to promote emotional awareness and build anxiety tolerance.

Typically, treatment sessions were weekly, lasting 60 minutes. The scheduled duration of the treatment course was 20 sessions, with an option to continue treatment as decided by both the patient and therapist. All treatments were video-recorded; the therapist regularly reviewed treatment tapes to promote adherence to the model.

Outcome Measures

Beck Depression Inventory II (BDI-II). The BDI-II (Beck, Steer, & Brown, 1996) is a 21-item self-report measure of the severity of symptoms of depression. Each

response is rated on a 4-point scale ranging from 0-3; the ratings are then summed to give one overall score. Scores of 14-19 are indicative of mild depression, 20-28 of moderate depression and 29-63 of severe depression. The BDI II has an internal consistency (α) of 0.91 for psychiatric outpatients (Beck, Steer, Ball, & Ranieri, 1996) and a one-week test-retest correlation of .93 (Beck, Steer, & Brown, 1996). The BDI-II was completed by the patient before each treatment session.

Clinical Outcomes in Routine Evaluation-Outcome Measure (CORE-OM). The CORE-OM (Barkham et al., 2001) is a 34 item self-report measure with items being scored on a 5-point scale. As well as giving a global measure of distress, information on four different dimensions can be gained, namely: well-being, problems, functioning, and risk. The CORE-OM has an internal consistency (α) of 0.75-0.95 (Evans et al., 2002). The CORE-OM score is the mean of all completed items multiplied by 10. A cut-off score of 10 is recommended to distinguish between a clinical and non-clinical population with higher scores indicating increased distress (Connell, Barkham, & Mellor-Clark, 2007). The test-retest correlation based on an outpatient sample is reported as $\geq$ .80 for intervals up to 4 months (Barkham, Mullin, Leach, Stiles, & Lucock, 2007). The CORE-OM was completed by the patient before each treatment session.

Inventory of Interpersonal Problems – Short Circumplex Form (IIP-SC) (Soldz, Budman, Demby, & Merry, 1995): The IIP-SC is a 32-item version of the 64-item circumplex form (IIP-C) (Alden, Wiggins, & Pincus, 1990) developed from the original 127-item Inventory of Interpersonal Problems (Horowitz, Rosenberg, Baer, Ureño, & Villaseñor, 1988). The IIP-SC was completed pre and post therapy to measure distress arising from interpersonal sources. Respondents rate the 32 items describing an aspect of

their 13licitin using a 5-point scale ranging from 0-4, with higher scores reflecting increased distress. The internal consistency of the measure is reported as (α) .89 and the test-retest correlation for a generic outpatient sample as .83 (Soldz et al., 1995).

Process measures.

   Affect Experiencing Scale (AES). The AES is taken from the Achievement of Therapeutic Objectives Scale (McCullough, Larsen, et al., 2003). The ATOS contains seven subscales designed to be used by observers to evaluate aspects of the psychotherapy process when applied to segments of videotaped sessions. Each measure comprises a 100-point rating scale divided into 10-point increments. Each of the increments is grounded in behavioural examples of the aspect of process in question. One of the sub-scales, the AES, was used in the present study to measure adaptive emotional arousal during the therapy session. Raters consider three components of emotional arousal in a 10-minute segment of therapy: the peak degree of arousal, the duration of the affective response and the relief in the experience of the feeling. A score is then awarded between 1 and 100, with higher scores reflecting fuller affective experiencing.

   Previous studies have found that the ATOS has adequate psychometric properties (Berggraf, Ulvenes, Wampold, Hoffart, & McCullough, 2012; Carley, 2007; McCullough, Kuhn, et al., 2003; Ryum, Støre-Valen, Svartberg, Stiles, & McCullough, 2014; Valen, Ryum, Svartberg, Stiles, & McCullough, 2011). Valen et al. (2011) examined the inter-rater reliability of ATOS and sensitivity to change. They reported that raters achieved intraclass correlations (ICCs) of .60 to .87 across the various scales demonstrating adequate reliability. Change in subscale ratings between an early and late

treatment sessions was in the theoretically expected direction. Using generalizability analyses, Berggraf et al. (2012) further demonstrated the dependability of the ATOS scales by examining variability in raters scores on the ATOS scales. ATOS is sensitive to differences among patients and differences were found among subscales within patients. Variability between raters scoring was negligible and did not contribute to measurement error. This shows that reliable raters can simultaneously rate multiple ATOS subscales without confounding the data with measurement error. Berggraf et al. (2012) reported a .90 generalizability coefficient on the AES. Evidence of the validity of the ATOS subscales include studies that examined the theoretically derived factor structure (Ryum et al., 2014), predicted relationships with other process variables (Carley, 2007; Town, Hardy, McCullough, & Stride, 2012) and outcome variables (Berggraf, Ulvenes, Hoffart, McCullough, & Wampold, 2014).

Working Alliance Inventory (WAI). The WAI (Horvath & Greenberg, 1989) is a self-report measure used to assess the quality of the alliance between therapist and patient. The tool comes in a different form for therapist and patient. The WAI comprises 12 statements reflecting an aspect of the therapeutic relationship and respondents score each item using a 7-point scale, with higher scores indicating a stronger alliance. The therapist and patient completed this measure separately following each therapy session. The scores from the short 12-item version used in this study have been found to reflect those of the longer 36-item form (Busseri & Tyler, 2003). Reliability estimates (α) of the WAI range from 0.84-0.93 (Fenton, Cecero, Nich, Frankforter, & Carroll, 2001).

Procedure

Baseline Assessments: Before therapy commenced, two measures of symptom distress (CORE-OM and BDI-II) were taken on three different occasions in order to establish a baseline level of functioning. The first of these measures was taken at an introductory assessment interview, the second when they attend for diagnostic assessment and the third before the first therapy session. During the assessment interview, before session 20, and at 6-month follow-up, participants also completed the IIP-SC.

Selecting segments for coding: All psychotherapy sessions were video recorded. For the purposes of this research study, the part of the therapy session of particular interest was the moment at which the participant experienced a peak in their physiological emotional arousal. These specific segments were identified by the therapist at the end of each therapy session using the video tapes. The therapist was a trained and reliable rater using the ATOS and therefore was experienced in identifying peak affect experiencing. Using the on-screen clock, the therapist identified the minute in which this peak occurred and also noted the type of affect observed. The 10-minute segment coded in this study began exactly 4 minutes before this time point. The process data for the study therefore comprised one 10-minute piece of video footage per session for each of 20 sessions per participant. The therapist played no further role in coding the 10-minute segments.

Judges & Training: Two clinical psychology doctoral candidates acted as judges. The two judges received 16 hours of training on the use of the two ATOS subscales. The trainer was a clinical psychologist who had extensive training on the

ATOS under the supervision of Leigh McCullough. After training, intraclass correlations were calculated to assess inter-rater reliability against expert generated ratings using two-way random effects model [ICC 2,1]. An ICC for ATOS ratings was obtained by calculating the mean across the AES ratings. The raters attained ICC values of between .89-.90 for the AES which can be taken to represent substantial agreement beyond chance (>.81) (Shrout, 1998).

Rating Procedure: Judges were given written instructions identifying the participant code, anonymized tape number, and the start and stop time of the segment to be coded, using the on-screen clock. They were also told the target affect (e.g. anger, positive feelings or sadness) to code. The video extracts were coded in random order. The judges subsequently viewed each 10-minute segment utilizing the predetermined timings. The AES from the ATOS were used to code the peak degree of affect experienced by the participant during the 10-minute segment. After watching the 10-minute segment, the two judges independently rated the peak affect demonstrated in the video segment. Consensus was then reached on the final scores to be awarded. To monitor coding drift, the judges met with the ATOS trainer at regular intervals to review exemplar material and discuss scores against established coding criteria.

Reliable and Clinically Significant Change

The Reliable Change Index (RCI) (Jacobson & Truax, 1991) was used to determine whether the observed changes in the CORE-OM, BDI-II and IIP-SC after 20 psychotherapy sessions were clinically significant and if the magnitude of change was

statistically reliable. RCI scores were calculated for the difference between the average of the three baseline assessments and the final assessment at the 20 psychotherapy session. for each outcome variable. An RCI score exceeding 1.96 suggests that the test score change was statistically reliable ($p < .05$, two tailed). Based on this criteria a participant was considered to have "recovered' when they moved from the range of the dysfunctional population to a functional population and change was statistically reliable according to RCI values; "improved" when there was statistically reliable improvement but not recovery; or "no change" if reliable change was not observed on all outcome measures. Calculation of reliable and clinically significant change was facilitated with the use of published normative data reported in the method.

Statistical analysis

The data for the present study consists of multiple single-cases with repeated measurements over time. This type of data is commonly analyzed by time-series analysis (e.g. Vector Autoregression); however, most time-series analysis methods require that the number of measurements is large (a common recommendation is a minimum of 30 observations). When the number of measurements is below 30, the analytic options are fewer. Recently, however, a method called Simulation Modeling Analysis (SMA) (Borckardt et al., 2008), which has been developed precisely for the purpose of analyzing short time-series, has shown promise. SMA is a resampling method that generates simulated datasets on the basis of parameter estimates from the observed data. A large number of random samples (the default being 1000) are generated from a normal distribution with the same autocorrelation and number of observations as the observed

data. From these simulated samples it is possible to evaluate how likely it is that the observed correlation between independent and dependent variable has arisen by chance alone, given a certain level of autocorrelation.

We first compared the means and slopes between the baseline and treatment periods, which in SMA is done by correlating the repeated outcome measurements with a phase vector consisting of zeroes for the baseline phase and ones for the treatment phase when comparing means (i.e. 0, 0, 0, 1, 1, 1, 1, etc), a linearly increasing slope for the baseline phase, and a linearly decreasing slope for the treatment phase when comparing slopes (i.e. 0, 1, 2, 2, 1, 0, -1, -2, -3, etc). Preliminary Monte Carlo studies show reasonable Type-I and Type-II error rates for this approach, even with phases as short as three observations (J. Borckardt, personal communication, November 14, 2016).

The parameter of interest for the process-outcome analyses is the cross-correlation coefficient, that is the correlation between the predictor at time t and the outcome at time t+1. It should be emphasized that compared to other common methods, SMA tests bivariate correlations separately. This means that the results cannot be compared to multivariate methods like Vector Autoregression, in which cross-lagged effects are statistically controlled for each other (i.e. the effect of X_t on Y_{t+1} is adjusted for the effect of Y_t on Y_{t+1} and for the effect of Y_t on X_{t+1}, while also taking account of the correlation between residuals of Y_t and X_t). For this reason, SMA should probably be used for exploratory purposes (e.g. in new fields of study where the nature and direction of causal flow is uncertain), or in studies where there is no reason to assume a causal effect of Y on itself over time.

Results

The results are divided into three sections: (1) Descriptive statistics and reliable change analysis (Jacobson & Truax, 1991) of self-reported outcome measures between baseline and at the end of 20 sessions; (2) Descriptive statistics of ATOS affect experiencing ratings; (3) Simulation Modelling Analysis (SMA) of the association between in-session observer ratings of affect experiencing with symptom distress measured seven days later and post-session ratings of therapeutic alliance. For this study, to reduce the number of analyses conducted, the CORE-OM and BDI-II data were combined into an overall distress score for SMA.

Descriptive Statistics of Treatment Outcomes

Pre-treatment scores on the BDI-II, CORE-OM and IIP-SC measures indicate that all the participants scored within the clinical range during the baseline phase. The RCI (Jacobson & Truax, 1991) was used to analyze participants' scores on the BDI, CORE-OM, and IIP-SC (Table 1). Two participants (P1 and P2) showed clinical and statistically significant change from the baseline phase to the final week of therapy on all of the assessment tools (BDI-II, CORE-OM, IIP-SC), they are referred to as 'recovered'. No significant change was demonstrated in the results for P3 and P4, they are referred to as 'no change'. To formally test this, we compared the means and slopes for the combined outcome variable (average of CORE-OM and BDI) between the baseline and treatment phases using SMA. Results showed significant difference in means and slopes for Patient 1 (means $r = -.68$, $p = .01$, slopes $r = .71$, $p = .03$). Patient 2 had significant difference in slopes ($r = .64$, $p = .01$) but not in means ($r = -.47$, $p = .06$), while for Patient 3 there was

no difference in either means or slopes (r = -.02, p = .94 and r = -.08, p = .81, respectively). Finally, for Patient 4 the means increased significantly (r = .54, p = .04) while the slopes decreased (r = -.63, p = .04). The results for Patient 4 can be explained according to an increase in symptoms between the time of the two initial baseline assessments and the delay in beginning treatment four months later, and this increase in symptoms was significantly less steep during the treatment phase.

Peak Affect Experiencing Ratings

The highest mean level of peak affect experiencing ratings and the greatest variation in ratings across sessions was seen in the two 'recovered' participants (participant 1, M = 53.65, SD = 26.53; participant 2, M = 54.90, SD = 19.54; participant 3, M = 27.30, SD = 10.97; participant 4, M = 51.05, SD = 8.81). Figure 1 presents the peak affect experiencing ratings across each psychotherapy sessions. Examination of the slope of the fit line for Participants 1 and 2 data, demonstrates that affect experiencing increased across treatment, while little change was seen in Participants 3 and 4.

Figure 2 presents the peak affect experiencing session ratings plotted by the combined distress scores measured 7-days later. In 'recovered' cases (Participants 1 and 2), the slope of the fit line illustrates an observable negative association demonstrating that as affect experiencing increased, distress scores reduced. The slopes from Participant 3 and 4 data indicate no clear process-outcome association.

Simulation Modelling Analysis

Patient 1: The cross-correlation between degree of affect experiencing and next-session distress was not significant, r = -0.45 (p = .076), although the p-value shows the trend is in the expected direction (i.e. higher affect experiencing related to less symptom distress the next session). The reverse effect, i.e. between distress and next-session affect experiencing, was statistically significant (r = -.61, p = .024). Closer examination of this first result revealed that this effect was significant for the relationship between affect experiencing and CORE-OM (r = -.60, p = .026) but not the BDI-II. Higher affect experiencing predicted better quality of next-session working alliance as rated by the therapist (r = .50, p = .041). The reverse effect, i.e. between working alliance quality and next-session affect experiencing was also statistically significant for therapist ratings (r = .52, p = .041), with better alliance quality linked to more affect experiencing in the next session. The patient ratings of the working alliance had almost zero variability across sessions for this patient due to consistently high alliance ratings (mean WAI across sessions = 6.996, SD = 0.019, with all sessions rated the maximum alliance score permissible (7) and only one session rated lower (6)). For that reason, it was impossible to test process-outcome correlations for the patient-rated WAI for this patient.

Patient 2: For patient 2, more affect experiencing in a given session was related to less symptom distress in the following session (r = -0.38, p = .04), however, less symptom distress was not related to more affect experiencing in the next session (r = -0.02, p = .45). More affect experiencing was related to higher therapist- (r = .52, p = .01) and patient-rated alliance (r = .49, p = .01) in the next session, but working alliance was unrelated to next-session affect experiencing for patient ratings (r = .22, p = .19). Higher

therapist rated alliance was significantly associated to affect experiencing in the following session (r = .42, p = .04).

Patient 3: There was no cross-correlation between affect experiencing and distress in either causal direction for patient 3 (affect experiencing → distress: r = .09, p = .37; distress → affect experiencing: r = -.27, p = .16). More affect experiencing predicted better patient-rated (r = .50, p = .014), but worse therapist-rated (r = -.62, p = .001) working alliance in the following session. Thus, as affect experiencing went up in the session, the patient experienced a better working alliance in the next session while the therapist felt that the alliance became worse. There was no relationship between therapist alliance ratings predicting affect experiencing (r = -.27, p = .107), while for patient ratings this relationship was non-significant but in the "trend" range in the expected direction (r = .39, p = .052).

Patient 4: For patient 4 the cross-correlations between affect experiencing and symptom distress were not significant (all ps <1). Higher affect experiencing predicted both better patient-rated alliance in the next session (r = .44, p = .018) and better therapist rated alliance (r = .40, p = .05), but patient-rated alliance did not predict more affect experiencing (r = -.02, p = .436) and therapist-rated alliance was unrelated to affect experiencing in the following session (r = .19, p = .22).

Results Summary

The results showed that in the 'recovered' participants higher affect experiencing predicted less distress and in one participant less distress predicted higher affect experiencing, but this was not observed in the 'no change' cases. Higher affect experiencing mostly (n = 3) predicted higher client rated alliance across participants but typically not vice-versa (n = 1); higher affect experiencing predicted higher therapist rated alliance (n = 4) and in both 'recovered' cases (n = 2) higher therapist rated alliance predicted higher affect experiencing. The results are summarized in Table 2.

Discussion

This study aimed to provide an exploratory analysis of the contribution of affect experiencing to the processes underlying therapeutic change in ISTDP for depression. We studied session-by-session process-outcome associations across 20 sessions of ISTDP for four clients meeting diagnostic criteria for Major Depressive Disorder, two of whom with significant symptom reduction starting in the treatment phase that were considered 'recovered' at the end of a 20 session treatment course and two who showed 'no change'.

The results of this study revealed that in contrast to 'no change' cases, analysis of psychotherapy sessions from participants who demonstrated clinical and significant levels of improvements between the end of the baseline phase and post-treatment revealed that peak affect experiencing was associated with subsequent improvements in self-reported patient distress on a session-by-session basis. These findings provide support for hypothesis one and offer further empirical evidence highlighting the importance of emotion processing in psychotherapy. This evidence is also consistent with specific recommendations in ISTDP that the direct experiencing of the somatic

component of feelings contributes to significant therapeutic changes. Similarly, Psychodynamic models of change (Davanloo, 2005; Luborsky, 1984; Malan, 1979) assert that therapist interventions should promote the experiencing and expression of painful avoided affect. Three studies have demonstrated direct treatment intervention-outcome relationships between psychodynamic psychotherapies and subsequent improvements in depressive symptoms (Barber, Crits-Christoph, & Luborsky, 1996; Gaston, Thompson, Gallagher, Cournoyer, & Gagnon, 1998; Hilsenroth, Ackerman, Blagys, Baity, & Mooney, 2003) and one study found that these changes were related most to specific therapist techniques encouraging affect experiencing (Hilsenroth et al., 2003). This study contributes to an understanding about how changes comes about in psychodynamic therapy for depression by underscoring the importance of utilizing affect experiencing in-session as an active therapeutic ingredient.

The results of this case series revealed that in the case of patient 1, the association (trend) between in-session affect experiencing and improvements in participant distress was related to significant improvements in this person's general well-being, whereas an association to reduced depressive symptoms failed to reach significance. This unexpected result could be explained by a negative extra therapeutic event occurring during treatment (a parental death) which interrupted progress and coincided with a marked increase primarily in self-reported symptoms on the BDI-II, thus contributing to a diminished correlation between process and outcome. From a clinical perspective, the re-emergence of the participant's depressive symptoms alongside manifestations of regressive defences in therapy (weepiness, helplessness, and anger turned inwards) following an affectively charged psychosocial stressor, may point to a mechanism that this individual habitually

relies upon to defend against processing complex emotions. Integrating routine outcome monitoring alongside clinical process observations could therefore help to inform therapists' in-session activity and focus towards targeting potentially key clinical processes. Given the small but non-significant correlation (r = -.34) of affect experiencing on depressive symptoms for this participant across all psychotherapy sessions sampled, an alternate explanation is that affect experiencing may have been a more important change ingredient within particular sessions or phases of therapy as previously reported in Emotion Focused Therapy for depression (Missirlian et al., 2005; Warwar, 2003). The provision of effective bespoke treatment is likely to involve optimizing particular processes at specific points during therapy in order to achieve certain gains.

The result of a significant reciprocal relationship between affect experiencing and distress in only one of the 'recovered' cases, such that lower distress predicted higher patient affect experiencing in the next session, provides limited support for hypothesis two. Fisher et al. (2016) suggested that improved functioning may contribute to a reinvestment in treatment. Better client functioning also could reflect better intrapsychic conditions (i.e., less reliance on implicit defensive functioning) to enable adaptive processing of emotions. However, the current findings suggest that this may only be the case for some clients and it will be less applicable in other treatments.

In this study there was evidence that increased in-session patient affect experiencing predicted a stronger client rated therapeutic alliance in the subsequent treatment session in three treatments. This provides some evidence supporting hypothesis three, given that the lack of variability in alliance ratings for patient 1 explained the only

non-significant association. However, in only one treatment was there evidence (trend) of a reverse association to suggest that client rated alliance facilitated patient affect experiencing (hypothesis four). These finding run counter to that of Fisher et al. (2016) but could be accounted for by differences in the treatment frame, namely that ISTDP for the non-fragile population does not emphasize traditional supportive alliance building activities (e.g., assuming a non-challenging stance, with explicit use of praise and positive feedback), prior to engaging in emotional mobilization. Instead, handling defences and eliciting affect experiencing are purported to strengthen the alliance. We take this to imply that the mechanisms of action can work differently in specific psychotherapy contexts: in transference based therapies alliance can be a vehicle for change (Henry, Schacht, & Strupp, 1986) rather than a foundation for treatment (Hellerstein, Rosenthal, Pinsker, & Samstag, 1998). Affect experiencing can be a process that strengthens the alliance; and therapists should always utilize interventions that promote affect experiencing in the context of an interpersonal theory of alliance development.

To our knowledge, this is the first study to examine both therapist and patient rated alliance in relation to a hypothesized bidirectional association to patient affect experiencing in psychotherapy. In some cases, the direction of the associations found for each participant were consistent suggesting convergence between therapist and client perspectives of the alliance. For participant 1, therapist alliance ratings provided useful data for detecting variation in the alliance between sessions when client alliance ratings were consistently high. In the case of participant 3, process data suggested that while the client's perception was that the alliance improved in sessions following higher level of

affect experiencing, the therapist judged the alliance to be poorer. The implications of the therapist not recognizing the helpfulness of affect experiencing could have been to dilute the potential effectiveness of interventions aimed at the experiencing and expression of affect. This could in part account for the limited response of participant 3 to treatment at 6-month follow-up despite receiving 20 additional sessions whereas other clients improved or in 'recovered' cases, maintained their gains.

In this process-outcome study, there is embedded evidence supporting the effectiveness of this psychotherapy treatment (ISTDP) for a range of severe and complex mental health presentations (Abbass, Town, & Driessen, 2012, 2013; Town & Driessen, 2013). In the setting of Major Depressive Disorder, two participants made a full recovery following a time-limited 20 session treatment course, while two other participants required additional treatment sessions before improvements were evident. Although participants were comparable in terms of formal diagnostic methods and could be described as treatment resistant depression, both participants who showed 'no change' after 20 sessions had higher burden in psychiatric symptoms at baseline and were discriminated by clinical evidence of fragile character structure based on exhibiting thresholds to cognitive perceptual disruption during sessions (transient periods of thought disruption, disorganization and visual blurring). Restructuring fragility requires a longer treatment course to provide carefully graded in-session exposure to emotions, facilitating a client's ability to isolate affect and channel anxiety away from cognitive and perceptual system towards striated bodily tension. Thus, the absence of an association between greater in-session affect experiencing and reduced distress over sessions 1 to 20 may be understood according to the moderating influence of patients' capacity to process feelings

and the use of the Graded Format of ISTDP (Whittemore, 1996) designed to regulate affect where necessary. The pattern of stable and lower average levels of affect experiencing seen in the participants with poor anxiety tolerance (See Figure 1: participants 3 and 4) could represent a graded exposure to affect while simultaneously contributing to the development of a stronger therapeutic alliance. In mild to moderate depression, it has been suggested that marginal levels of arousal of emotional expression may be less desirable having been shown to have a negative linear association to outcome (Carryer & Greenberg, 2010). Future research should therefore test if this format of affect experiencing is necessary in the early stages of longer-term treatments for fragile patients to provide the foundation for subsequent improvements in outcomes or if the improvement seen later in therapy are better explained by another unmeasured variable.

This study has a number of limitations. In terms of the single case design methodology, the baseline scores on the distress measures in each of the four participants were variously unstable. This reduces the confidence with which it was possible to say that the treatment resulted in therapeutic change. The instability in baseline measure may have been a reflection of the varying amounts of time between the three data collection points as a consequence of the study being embedded within routine clinical practice. Despite this, all distress scores remained above the clinical cutoff during the baseline period and in each case the chronicity of participants' presentations was confirmed by clinical interview. At the time of the study, the treating therapist had completed an ISTDP internship and was participating in an ISTDP training program. However, failure to assess treatment fidelity in this study limits the ability to confirm that the treatment delivered can be described as ISTDP. The process-outcome associations observed within

this study remain potentially valid findings for understanding the mechanisms of change in psychotherapy for depression, but the active role of therapist techniques prescribed within the ISTDP model to this association remain less clear.

A strength of this study was the use of an events paradigm, rather than random sampling, and the focus on clinically significant moments from every psychotherapy session. This overcomes the limitations of past studies where emotion-based process variables are measured in individual sessions and correlated to outcome at the end of treatment. Affect experiencing was coded using a validated and reliable process measure and two trained judges showed good rater reliability when coding videotaped segments of psychotherapy.

A further strength of these findings is that they are based on session-by-session time-lagged correlations among complex process and outcome variables. In contrast to simultaneous correlations, time-lagged correlations cannot be interpreted as reverse causality (i.e. Y causing X rather than X causing Y). However, although it is possible to test both causal directions separately (i.e. X causing Y and Y causing X), with SMA it is not possible to do both at the same time. To be able to do so one would need either longer time-series, which is not possible in short-term therapy, or panel data. Thus, future research on short-term psychotherapy should aim to collect session-to-session data on a large number of therapies, enabling panel data modeling.

Conclusions

Affect experiencing is theoretically distinct from other types of emotional processing, however, the nature of its relationship to outcome and other change

ingredients is unresolved. This study used a case series design to examine the role of

affect experiencing and its relationship to the therapeutic alliance and client distress in a

time-limited course of ISTDP for Major Depressive Disorder. By looking forward in time

for evidence of clinical processes that characterize stable patterns of improvement, we

aimed to provide a more nuanced exploration of psychotherapeutic change to enable

more clinically meaningful results. It was found that analysis of process-outcome

associations on a session-to-session basis discriminated more successful outcomes from

less successful outcomes. The results suggest that affect experiencing is an important

emotion process that contributes to psychotherapeutic improvements, although patient

characteristics may moderate the contribution of affect experiencing for achieving

particular type of gains.

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Table 1
Scores at pre-therapy, post-therapy and follow-up for symptom and distress measures

Pre-Post Outcome	Participant	Measure	Pre score [a]	Post score	Pre-Post RCI	6mth f/u
Recovered	P1	BDI-II	38	5	8.53**	1
		CORE-OM	20.47	1.20	5.62 **	0.80
		IIP-SC	2.13	0.19	5.71**	0.28
	P2	BDI-II	30.67	4	6.55**	4
		CORE-OM	21.17	1.80	5.65**	3.50
		IIP-SC	1.75	0.94	2.38*	0.56
No change	P3	BDI-II	33.33	34	0.17	25
		CORE-OM	21.33	25.30	-1.16	17.4
		IIP-SC	1.94	1.52	1.24	1.02
	P4	BDI-II	47.33	53	-1.47	20
		CORE-OM	23.83	27.90	-1.19	11.6
		IIP-SC	1.38	1.59	-0.62	0.98

* $p < 0.05$; ** $p < 0.01$

[a] Mean of 3 baseline scores; BDI: Beck Depression Inventory-II; CORE-OM: clinical outcomes in routine evaluation outcome measure; IIP-SC: inventory of interpersonal problems short circumplex; RCI: Reliable Change Index comparing pre and post 20 session

Table 2

Summary of SMA correlations presented by hypotheses

	Recovered		No Change	
	1	1	3	4
1. AES → distress	-0.45*[a]	-0.38**	0.09	0.07
2. Distress → AES	-.061**	-0.02	-0.27	-0.14
3. (a) Client rated alliance → AES	--[a]	0.22	0.39*	-0.02
(b) Therapist rated alliance → AES	0.52**	0.42**	-0.27	0.19
4. (a) AES → Client rated alliance	--[a]	0.49***	0.50**	0.44**
(b) AES → Therapist rated alliance	0.50**	0.52***	-0.62***	0.40*

* $p < .10$; ** $p < .05$; *** $p < .01$; [a] CORE-OM $r = -0.60$**; AES: Affect Experiencing Scale

[a] There was no variation in patient-rated alliance for Patient 1, making correlation

analysis impossible.

Figure 1: Peak Affect Experiencing Ratings over Sessions
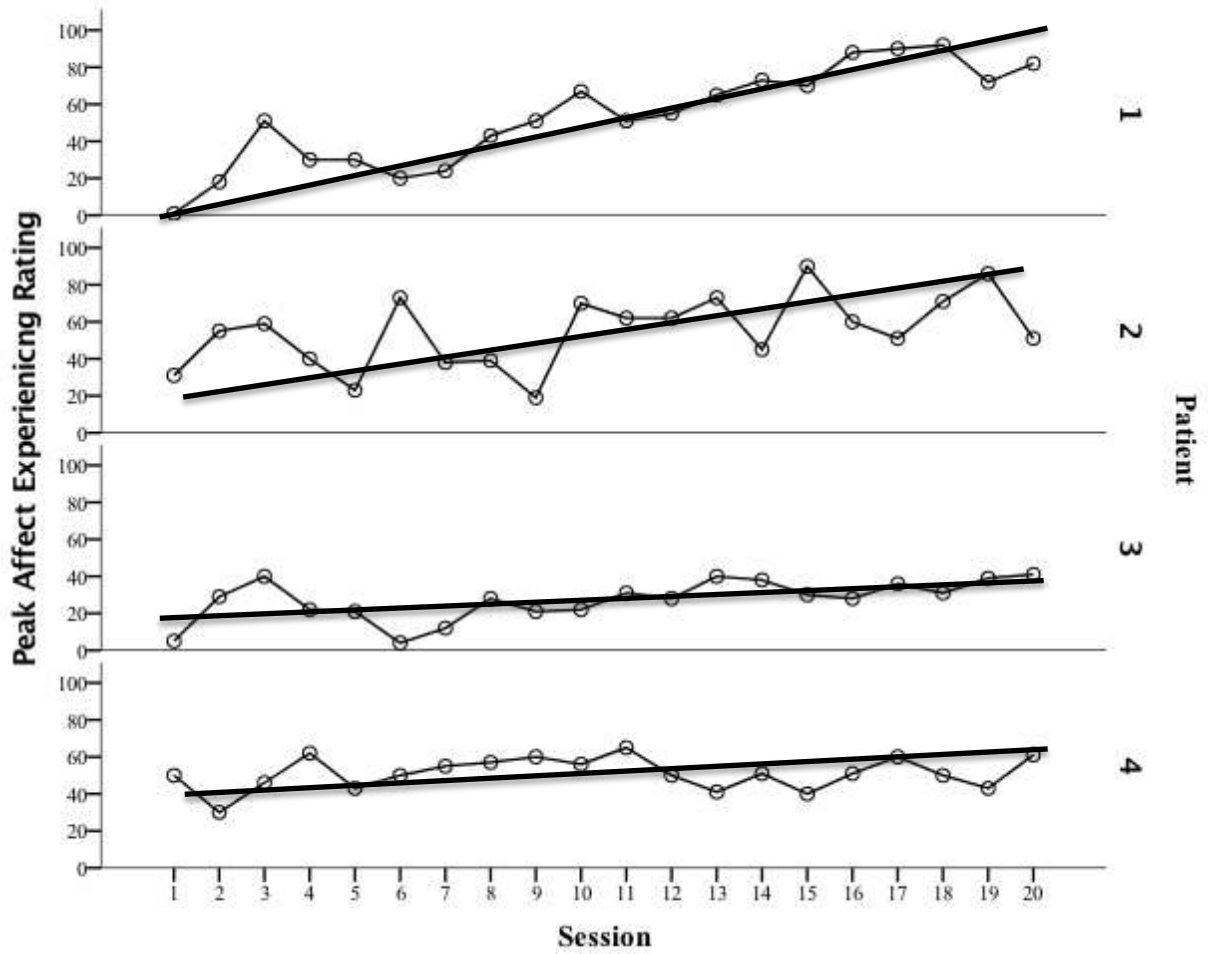
Figure 2: Peak Affect Experiencing Session Rating and Distress Score 7 Days Later