

RESEARCH ARTICLE

Does assimilation of problematic experiences predict a decrease in symptom intensity?

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The assimilation model describes therapeutic change as an integration of experiences that had previously been problematic, distressing, avoided, or warded off. This study assessed whether assimilation was associated with treatment outcome in a sample of psychotherapeutic treatments for depression. Further, it assessed the direction of the association—whether increasing assimilation predicted decreases in symptom intensity or decreasing symptom intensity predicted increases in assimilation.

Method: Participants were 22 clients with mild to moderate depression drawn from a clinical trial comparing cognitive behavioral therapy with emotion-focused therapy. The direction of prediction between assimilation progress and changes in self-reported symptom intensity was assessed.

Results: The assimilation progress was shown to be a better predictor of decreases in symptom intensity than the reverse.

Conclusion: The results supported the assimilation model's suggestion that assimilation progress promotes decreases in symptom intensity in the treatment of clients with major depressive disorder.

KEYWORDS

assimilation model, change process, depression, symptom intensity

1 | INTRODUCTION

The assimilation model proposes that therapeutic improvement occurs through the gradual assimilation of experiences that had previously been problematic, distressing, avoided, or warded off (Stiles, 2002, 2011; Stiles et al., 1990). Intensive case studies have linked increases in assimilation with decreases in symptom intensity (e.g., Basto, Pinheiro, Stiles, Rijo, & Salgado, 2016; Caro Gabalda, 2011) as has one small-sample study ($N = 8$; Detert, Llewelyn, Hardy, Barkham, & Stiles, 2006). However, more empirical evidence is necessary to consolidate the suggestion that therapeutic change occurs through a process of assimilation of problematic experiences. Our study aimed to assess the relation and analyse the direction of prediction between assimilation progress and changes in self-reported symptom intensity. To do this, we assessed assimilation and symptomatic improvement longitudinally in a sample of 22 cases drawn from a clinical trial (Salgado, 2014) of emotion-focused therapy (EFT) and cognitive behavioural therapy (CBT).

1.1 | The assimilation model

The assimilation model is a theory of psychological change. It is not a treatment approach but seeks to explain the process of change in

any treatment. It suggests that people's experiences leave traces that are active and agentic, so when the traces are reactivated, people's actions as well as their thoughts draw on the original experiences (Stiles, 2011). When a current experience resembles something that happened in the past, the traces of the past experience can emerge and serve as resources to help the person adapt to the current context. Assimilation authors often describe constellations of these traces by using the voice metaphor (Honos-Webb & Stiles, 1998; Osatuke et al., 2005; Stiles et al., 2006). When an internal voice is addressed by circumstances, it emerges and can act and speak.

Theoretically, the self can be described as composed of multiple internal voices that are organized into a structure called a community of voices (Stiles, 2011). Normally, the community accepts new experiences and integrates them smoothly. However, voices representing problematic experiences (e.g., traumatic incidents, destructive relationships, threatening, or painful situations) are incompatible with the community. When such a problematic voice is addressed by circumstances, it tries to respond because it represents experiences that are relevant to current circumstances and hence potentially important to the self (Osatuke & Stiles, 2006). The clash between the community and the problematic voice generates dysphoric affect—painful feelings and

psychological suffering—which tends to suppress or distort the problematic voice (Stiles, Osatuke, Glick, & Mackay, 2004). In effect, to maintain its stability, the community tries to avoid or reject the problematic experience (Honos-Webb & Stiles, 2002), whereas circumstances address the experience, forcing it into awareness.

From a psychological point of view, this conflict of the self with problematic voices produces clinical problems such as depression (Stiles, 1999; Stiles et al., 2004). The return to a state of well-being may be achieved by the assimilation of the problematic voices into the community, which can be facilitated by psychotherapy (Gonçalves et al., 2013; Honos-Webb & Stiles, 2002). By talking with the therapist, the community can make contact with the problematic voice. Gradually, the problematic voice gains strength and is able to state its side more clearly, which allows a dialogue between voices and the construction of meaning bridges (Stiles, 2011). Meaning bridges are signs (words, gestures, images, etc.) that represent common understandings between voices. Theoretically, by building meaning bridges, the problematic voice comes to be accepted and integrated into the community; that is, the formerly problematic experience becomes smoothly accessible and available as a resource within the community. Although the model's name emphasizes the assimilation (integrative) aspect of successful psychotherapy, this always also involves accommodation (change) within both voices (Stiles, 2011).

The assimilation of problematic experiences is a developmental process and can be assessed by ratings of session dialogue on the assimilation of problematic experiences scale (APES; Table 1; Caro Gabalda & Stiles, 2009; Stiles, 2002; Stiles et al., 1991). The APES is a continuum anchored by eight levels, from APES 0, where the experience is warded off, to APES 7 where the experience is fully integrated (see Table 1).

1.2 | Relation of assimilation to therapy outcome

A series of intensive case studies of assimilation progress in different therapeutic models has shown that good outcome clients, as assessed

Key Practitioner Message

- The assimilation of problematic experiences scale (APES) may be useful as a theoretically grounded, passage-by-passage index of therapeutic progress.
- Knowing the current APES level of a problem can enable therapists to set subgoals for therapeutic work and to guide expectations regarding the next emerging therapeutic task.
- There were no significant differences in the assimilation progress between the emotion-focused therapy and cognitive-behavioral therapy groups, giving further support to assimilation as a common factor in successful psychological treatment for major depressive disorder.

by standard symptom intensity measures, progress toward high APES levels across their sessions (e.g., Brinegar, Salvi, & Stiles, 2008; Caro Gabalda, 2011; Caro Gabalda, Stiles, & Pérez Ruiz, 2016; Gray & Stiles, 2011; Honos-Webb, Stiles, & Greenberg, 2003; Knobloch, Endres, Stiles, & Silberschatz, 2001; Mendes et al., 2016; Osatuke et al., 2007; Ribeiro, Braga et al., 2016a; Ribeiro, Cunha et al., 2016b). For example, in a study of one good outcome client, Basto et al. (2016) found a strong negative correlation across 16 sessions of CBT between APES level and symptom intensity. In poor outcome clients, on the other hand, APES levels remain lower, either stagnating across sessions or progressing only to middle APES levels (Caro Gabalda, 2006, 2011; Honos-Webb, Stiles, Greenberg, & Goldman, 1998).

Theoretically (Stiles et al., 2004; Basto et al., 2016), across the range of APES 2 (vague awareness/emergence) to APES 6 (resourcefulness/problem solution), assimilation progress should yield monotonically decreasing scores on symptom intensity inventories, reflecting declining emotional distress (APES 2–4, as the problem is formulated and clarified) followed by increasing pride or elation (APES 4–6, as

TABLE 1 Assimilation of problematic experiences scale (adapted from Caro Gabalda & Stiles, 2009)

APES level	Cognitive content	Emotional content
0. Warded off/dissociated	Content is unformed; client is unaware of the problem.	Distress may be minimal, reflecting successful avoidance.
1. Unwanted thoughts/active avoidance	Content includes distressing thoughts. Client prefers not to think about it.	Strong negative feelings.
2. Vague awareness/emergence	Client acknowledges his problematic experience and describes the distressing thoughts, but cannot formulate the problem clearly.	Feelings include acute psychological pain or panic.
3. Problem statement/clarification	Includes a clear statement of a problem, that is, something that could be worked on.	Feelings are mainly negative but manageable, not panicky.
4. Understanding/insight	The problematic experience is placed into a schema, formulated, understood, with clear connective links (meaning bridge).	There may be mixed feelings with some unpleasant recognitions, but also with curiosity or even pleasant surprise.
5. Application/working through	The understanding is used to work on a problem, so there are specific problem-solving efforts.	Affective tone is positive and optimistic.
6. Resourcefulness/problem solution	Client achieves a solution for a specific problem. As the problem recedes, feelings become more neutral.	Feelings are positive, satisfied, and proud of accomplishment.
7. Integration/mastery	Client successfully uses solutions in new situations, automatically.	Feelings are neutral because problem is no longer a problem.

Note. APES = assimilation of problematic experiences scale.

the problem is understood, worked through, and solved). Most short-term therapies work primarily within this range of APES levels, leading to our expectation of a negative statistical relation between APES levels and symptom intensity in this study.

At the extremes, theoretical expectations are different. At very low APES levels (APES 0–2), assimilation progress is expected to be associated with increasing distress, as the client moves from warding off the problematic experience (APES 0) to facing it directly (APES 2). At very high levels, APES 6–7, there may be declining elation as successfully dealing with formerly problematic issue becomes routine (Stiles et al., 2004; Basto et al., 2017).

At APES 4 (insight/understanding; see Table 1), the client's feeling tone crosses the theoretical line from predominantly negative to predominantly positive affect with respect to that particular problematic experience. In the case study, research, achievement of APES 4, has distinguished good- from poor-outcome clients as assessed by standard symptom intensity measures. Good-outcome clients have consistently reached and sustained levels of APES 4 or higher with respect to their main problematic experiences, whereas poor-outcome clients have remained below APES 4 except for a few brief passages. Likewise, in the contrasting groups study of Detert et al. (2006) of a very brief therapy for mild depression (two weekly sessions plus a follow-up session 3 months later), all four good outcome clients (as assessed with the Beck depression inventory [BDI]) achieved at least APES Level 4, whereas all four poor outcome clients' main problems remained below that level.

Applying the APES is a time-consuming and labour-intensive task, requiring detailed familiarity with the content of the client's problems and progress, and few investigators have had the resources to apply it to more than a few cases at a time. To our knowledge, the study of Detert et al. (2006), at $N = 8$, is the largest previous comparison of APES-rated assimilation progress with standard self-report measures of symptom intensity, so our study, though still modest at $N = 22$, addresses a need for larger samples.

1.3 | Aims of this study

We sought to assess the theoretical suggestion that assimilation progress is associated with positive treatment outcome. We also addressed the expected direction of prediction: that increasing assimilation should predict decreases in symptom intensity better than declining symptom intensity predicts increases in assimilation.

We assessed the relation of assimilation progress to changes in symptom intensity in a sample of 22 clients with mild to moderate depression selected from a clinical trial comparing CBT and EFT. However, treatment approach was not a focus of this study, and we did not expect the APES-outcome relation to differ across approaches.

2 | METHOD

2.1 | Clients

The 22 clients in this study were randomly selected from the 50 clients who completed therapy in the ISMAI depression study (Salgado, 2014), a randomized clinical trial comparing the efficacy of EFT and CBT. The

inclusion criteria for the ISMAI trial were being diagnosed with major depression disorder and having at least a moderate level of symptoms on the global assessment of functioning scale (APA, 2000). The exclusion criteria were currently being on medication or another form of treatment or having been diagnosed with one of the following DSM-IV Axis I disorders: panic, substance abuse, psychotic, bipolar, or eating disorder; or one of the following DSM-IV Axis II disorders: borderline, antisocial, narcissistic, or schizotypal; or at high risk of suicide. The assessment was conducted using the structural clinical interview for the DSM-IV-TR (First, Gibbon, Spitzer, Williams & Benjamin, 1997; First, Spitzer, Gibbon, & Williams, 2002). After being admitted into the clinical trial, the clients were randomly assigned to CBT or EFT. Then, each client was randomly assigned to a therapist. In the ISMAI project, both EFT and CBT conditions included 16 to 18 sessions (Salgado, 2014).

The 22 randomly selected clients in our study included 12 EFT clients and 10 CBT clients. Eighteen (82%) of the clients were women and four (18%) were men. All clients were Portuguese. The clients were aged between 20 and 50 years old ($M = 34.55$; $SD = 8.68$). Twelve clients were single, eight were married, and three were divorced. All clients had completed at least the sixth grade; 12 clients were professionally active, eight were unemployed, and three were students.

2.2 | Therapists

In this sample, drawn from the ISMAI project, there were five EFT therapists and five CBT therapists, each of whom saw from one to three of the 22 clients in our sample. The EFT therapists included three females and two males with ages between 30 and 45. All were psychologists with 1 to 20 years of clinical experience and 1 to 4 years of experience in the EFT therapeutic model. The CBT therapists were all female, with ages between 27 and 37. Two were PhD students in psychology with clinical practice, and three were psychologists. They had 2 to 12 years of clinical experience and 1 to 12 years of experience in the CBT therapeutic model. Therapists in both groups received 6 months of training in the specific therapeutic protocol used in the ISMAI study and subsequently had weekly supervision sessions.

2.3 | Therapy

The EFT intervention was based on a protocol for depression described by Greenberg and Watson (2006) and Elliott, Watson, Goldman, and Greenberg (2004). EFT is an empirically validated humanistic therapy (Elliott et al., 2004; Greenberg, 2002; Greenberg & Watson, 2006). The aim of EFT interventions is to access and change maladaptive emotional processing, transforming the core emotional schemas into more congruent and adaptive ones. The therapist facilitates the emergence of new emotional responses, more congruent with the individual needs (Greenberg & Watson, 2006).

The CBT intervention was based on a protocol for depression proposed by Beck, Rush, Shaw, and Emery (1997) and adapted within the ISMAI depression study (Salgado et al., 2010). CBT is a semistructured directive therapeutic model that views clinical problems as a consequence of errors in the processing of information about reality.

Together, the CBT therapist and the client seek to challenge and progressively change dysfunctional beliefs and maladaptive schemas and promote more adaptive beliefs and thoughts and consequently more positive emotions and adaptive behaviours.

2.4 | Measures

2.4.1 | BDI-II

The BDI-II (translated into Portuguese from Beck, Steer, & Brown, 1996, by Coelho, Martins, & Barros, 2002) is a questionnaire designed to measure depressive symptoms. It is composed by 21 items scored from 0 to 3 (ranging from 0 to 23). Higher scores indicate the presence of severe depressive symptoms. For the Portuguese population, scores below 13 are considered to be in the normal range. The Cronbach's alpha was .89 (Coelho et al., 2002). In the present sample ($N = 22$), the internal consistency of the BDI-II total score was .884 (Cronbach's alpha), and the test-retest reliability was .749 over a 1-week interval.

2.4.2 | Outcome questionnaire-10 (OQ-10)

The OQ-10 (Lambert et al., 1998) is a questionnaire designed to assess psychotherapeutic outcome. It is composed by 10 items, each score on a 0 to 4 scale. The total score can range from 0 to 40, where lower values represent good health functionality and higher scores psychological distress. The OQ-10 has a reported internal consistency (Cronbach's alpha) of .88 (Seelert, 1997) and a test-retest reliability of .62 over a 3-week interval (Lambert, Finch, Okiishi, & Burlingame, 2005). Based on the ISMAI depression study sample ($n = 64$; Salgado, 2014), we found that the internal consistency of the total score of the Portuguese OQ-10 was of .88 (Cronbach's alpha) and the test-retest reliability was of .74 over a 1-week interval. Based on the present sample ($n = 22$), we found that the internal consistency of the total score OQ-10 was .866 (Cronbach's alpha) and the test-retest reliability was .76 over a 1-week interval.

2.4.3 | APES

As summarized in Table 1, the APES (Caro Gabalda & Stiles, 2009; Stiles et al., 1991) describes the evolution of the relation of a problematic experience (or voice) to the self (dominant community of voices) using a sequence of eight stages, numbered 0 to 7, ranging from warded off (i.e., muted or dissociated) to mastery (i.e., fully integrated and no longer a problem, serving as a resource in new situations). The APES is considered as a continuum, and intermediate ratings (e.g., 2.3, 4.6) are allowed.

2.5 | Procedure

2.5.1 | Assessment of symptom intensity

Clients completed the BDI-II at the beginning and end of treatment. To assess changes in symptom intensity across sessions, the OQ-10 was administered immediately before each session.

2.5.2 | Assimilation analysis

Sessions 1, 4, 8, 12, and the last session (usually session 16) of every case were transcribed following specifications by Mergenthaler and Stinson (1992). The transcribed sessions were analysed according to

the APES following procedures described previously (Honos-Webb et al., 2003; Stiles & Angus, 2001; Stiles, Meshot, Anderson, & Sloan, 1992; Stiles et al., 1991).

The assimilation analysis was conducted by a team of 15 raters: One was a PhD clinical psychologist, two were PhD students, and 12 were master's degree students in clinical psychology. Three of the raters had had clinical experience (two in CBT and one in EFT) and previous experience using the assimilation model. Each case was rated by a team of two raters. The first author of this paper served as a rater and also supervised the rating procedure.

Training for rating assimilation lasted approximately 2 months, which included independent reading and practice along with weekly 2-hr meetings. First, articles about the assimilation model and manuals describing the rating procedures were read and discussed. Then, sessions that had been previously rated were given to each rater to rate, first in a group and then independently to assess the interrater reliability. Doubts were discussed in the weekly meetings. The coders began coding for the study when they reached an interrater reliability (for a single rater), based on the intraclass correlation coefficient (ICC) of $ICC(2, 1) \geq .60$ (Cicchetti, 1994).

After raters had reached the reliability criterion, they were each given transcripts of five sessions (normally Sessions 1, 4, 8, 12, 16) of one case to identify the main themes and rate them with the APES. First, sessions were read by each rater independently. A list of the main recurrent issues was compiled by each rater and then discussed in pairs. Then, by consensus, the main themes and the problematic and the dominant voices were identified. The themes were selected as the most clinically relevant for that specific client (based mainly on time spent across sessions).

After the themes and voices were identified, raters selected excerpts from the transcripts where the main themes appeared. The APES was then applied independently by each rater to all selected excerpts to identify the APES passages and the corresponding APES level. The unit of analysis for the APES ratings was the passage (Honos-Webb et al., 2003), defined as a stretch of discourse on one topic. The raters coded a new passage every time there was a change of topic or a change in the APES level (Honos-Webb et al., 2003) or if a new assimilation marker appeared (see Honos-Webb, Lani, & Stiles, 1999a) and assigned an APES rating to each passage. Disagreements on passages (units) and APES ratings were subsequently resolved by consensus between the two raters for that case. The mean number of passages per session in the 22 cases was 45.44 ($SD = 23.46$; range 6–118). The interrater reliability on APES ratings, calculated before consensus, ranged from $ICC(2,2) = 0.81$ to $ICC(2,2) = 0.96$; these are considered high (Cicchetti, 1994). We used $ICC(2,2)$, which assesses the reliability of the average of two raters, because our aim was to estimate the reliability of the two-person teams that produced the final ratings.

As an example of theme and voice identification, the theme of perfectionism emerged in the case of Laura, a CBT client (drawn from the case study by Basto et al., 2016). This theme involved the highly demanding standards Laura imposed on herself in a variety of intra and interpersonal contexts. The problematic voice identified in this case was characterized as "I am failing," and the dominant voice was characterized as "I must be perfect." That is,

the dominant voice required perfection in all situations. The problematic voice emerged to point out failures in a variety of intra and interpersonal contexts. The following passage illustrates Laura's dominant voice:

Laura: I cannot explain why I have such a need to be perfect. Why am I so afraid of the possibility of other people judging or evaluating me? (APES level 2, session 3).

The following passage illustrates Laura's problematic voice:

Therapist: interesting... we fear the worst and but it's even difficult to conceive what is worst

Laura: yes

Therapist: (laugh) interesting

Laura: it is the fear of failure and not being capable...not only...if I fail what is the problem? I do not know...but I am afraid to fail." (APES level 3; session 9)

As example of a higher APES rating, the following passage was rated as APES = 4:

"Laura: But, it wasn't so bad. I realized that, even when I fail, I can do it.

Therapist: You will not explode.

Laura: Right. It does not mean that everything will go back. Therefore, I am getting used to it and I realized that I go slowly [referring to her efforts in losing weight]. (APES level 4; Session 8).

Many of the assimilation references cited in our introduction are intensive case studies that offer further extended examples at each APES level.

2.6 | Statistical analysis

Hierarchical linear modelling was used to assess whether APES level predicted symptom intensity in the subsequent session and, conversely, whether symptom intensity predicted assimilation in the subsequent session. This form of analysis accommodated the hierarchical structure of our data, that is, session-level observations (APES and OQ-10) nested within clients. It allowed us to assess relations between variables within clients (Level 1) and between clients (Level 2). In our models, session number was Level 1 covariate, which permitted assessment of change across sessions. Variability in the Level 1 coefficient was treated as a time invariant covariate at Level 2. Variability in the Level 1 coefficient was treated as a function of client-level time-invariant covariates. Because we aimed to assess whether degree of

assimilation (APES level) predicted symptom intensity (OQ-10 score) in the subsequent session and whether symptom intensity predicted assimilation level in the subsequent session, two different sets of models were estimated.

3 | RESULTS

There were no significant differences in mean APES level between the CBT and EFT groups in any session; on average, clients reached an APES of about 4 by Session 16 in both treatments (see Table 2). There were differences in mean OQ-10 scores between the CBT and EFT groups in only two of the 17 sessions (Sessions 7 and 13); in these sessions, the EFT group had the higher scores (see Table 3). Because mean progress in the two treatment groups was so similar on both measures and because there was no theoretical expectation that APES-outcome relations would differ across treatments, we decided to combine the approaches in our analyses.

To see if using a multilevel model was appropriate, we used the null model to analyse the variance in OQ-10 scores within and between clients. The intercept component in the null model was significant ($b = 25.70, p < .001$), indicating that the ICC was also significant, which means that using a multilevel model was appropriate and needed.

Next, a random intercepts model was used to analyse the relation between Session (Level 1 predictor) and OQ-10 scores, that is, to analyse the evolution of symptom intensity across sessions. This model showed a negative and statically significant regression coefficient for the effect of Session on OQ-10 scores, $b = -2.09, p < .001$ (Table 4). That is, symptom intensity tended to decrease across sessions. Residual variance dropped from 26.13 in the null model to 10.45 in this random intercepts model. This difference was significant as indicated by the likelihood ratio test, $\chi^2 = 70.47, p < .001$.

To test whether symptom intensity was predicted by assimilation in the preceding session, we added APES level to the model as a Level 1 predictor. As shown in Table 5, the regression coefficient for the effect of APES level on symptom intensity in the subsequent session was negative and statistically significant, $b = -1.85, p < .001$ (Table 5). That is, when assimilation levels rose in one session, symptom intensity tended to fall in the subsequent session. This model explained 66% of the variance in OQ-10 scores in the subsequent session ($R^2 = .66$). Residual variance dropped from 26.41 in the null model and from 10.45 in the previous random intercepts model (only session as Level 1 predictor) to 8.79 in the final random intercepts model (with APES level and Session as predictors); likelihood ratio test indicated

TABLE 2 APES levels across sessions in CBT and EFT: Mean, standard deviation, and effect size

Session number	EFT (n = 12)		CBT (n = 10)		EFT-CBT difference ES(r)	Mann-Whitney	
	M	SD	M	SD		U	p value
Session 1	2.13	0.32	1.99	0.33	0.21 [-0.19, 0.55]	45.5	.339
Session 4	2.26	0.43	2.33	0.51	-0.08 [-0.45, 0.31]	51	.552
Session 8	2.56	0.62	2.49	0.53	0.06 [-0.34, 0.44]	54	.692
Session 12	2.95	1.16	3.35	1.21	-0.16 [-0.52, 0.23]	46	.356
Session 16	4.12	1.45	4.15	1.44	-0.01 [-0.39, 0.37]	55.5	.767

Note. APES = assimilation of problematic experiences scale; CBT = cognitive behavioural therapy; EFT = emotion-focused therapy; ES = effect size.

TABLE 3 Symptom intensity in CBT and EFT: Mean, standard deviation, and effect size

Session number	EFT (n = 12)		CBT (n = 10)		EFT-CBT difference ES(r)	Mann-Whitney	
	M	SD	M	SD		U	p value
Session 0	27.58	4.89	24.7	3.65	0.66 [-0.20, 1.54]	39.5	.17
Session 2	24.5	5.14	23	4.73	0.30 [-0.54, 1.14]	52	.6
Session 3	22.67	5.38	21.1	5.13	0.30 [-0.55, 1.14]	53.5	.68
Session 5	22.25	5.34	20.1	3.81	0.39 [-0.15, 1.31]	43.5	.27
Session 7	23.5	4.46	19	4.11	1.05 [0.15, 1.94]	25	.02
Session 9	19.67	8.3	17	4.78	0.39 [0.15, 1.94]	36.5	.12
Session 11	19.91	8.58	19.4	5.76	0.07 [-0.77, 0.91]	52	.6
Session 13	19.83	7.91	13.5	4.88	0.94 [0.058, 1.82]	22	.11
Session 15	19	7.91	13.4	6.60	0.81 [0.05, 1.69]	31	.59
Session 17	17.08	9.95	11.3	6.93	0.65 [-0.20, 1.51]	37.5	.14

Note. APES = assimilation of problematic experiences scale; CBT = cognitive behavioural therapy; EFT = emotion-focused therapy; ES = effect size.

TABLE 4 Session (Level 1 variable) predicting symptom intensity: Random intercepts model

Fixed effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p value
Intercept (β_{00})	19.04	1.16	16.45	21	<.001
Session (β_{01})	-2.09	0.37	-5.68	21	<.001

TABLE 5 Assimilation (Level 1 variable) and Session (Level 1 variable) predicting symptom intensity in the subsequent session: Random intercepts model

Fixed effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p value
Intercept (β_{00})	19.05	1.16	16.45	21	<.001
Assimilation (β_{01})	-1.85	0.49	-3.73	21	.001
Session (β_{02})	-1.12	0.32	-3.56	21	.002

Note: Symptom intensity was measured using the OQ-10; assimilation was measured using the APES. APES = assimilation of problematic experiences scale.

both differences was significant ($\chi^2 = 83.07$, $p < .001$ and $\chi^2 = 12.60$, $p < .006$, respectively). This indicates that this random intercepts model with both Session and APES level as predictors explained OQ-10 variance in symptom intensity better than did either the null model or the model with only Session as a predictor.

Next, we assessed the reverse relation between symptom intensity (measured by the OQ-10 scores) and assimilation (measured by the APES), that is, we tested whether OQ-10 scores predicted APES levels in the subsequent session. Again, we first used a null model to test if multilevel modelling was appropriate. The intercept component was significant ($b = 0.26$, $p = .002$) indicating that the ICC was also significant; thus, using a multilevel model was appropriate.

Next, we analysed the evolution of APES levels across sessions. We added Session as a Level 1 predictor in the random intercepts model. This random intercepts model showed a positive and statistically significant regression coefficient for the effect of Session on APES levels, $b = 0.50$, $p < .001$ (Table 6). That is, assimilation tended to increase

across sessions. Residual variance dropped from 1.08 in the null model to 0.28 in the random intercepts model indicating that the random intercepts model explained the variance in symptom intensity better than the null model did. The likelihood ratio test indicated that this difference was significant, $\chi^2 = 107.86$, $p < .001$. Then, we added OQ-10 scores as another Level 1 predictor to the model. We found that OQ-10 scores did not predict APES levels, $b = -0.01$, $p > .203$, as shown in Table 7.

As an additional way to show the relation of assimilation progress to changes in symptom intensity, we divided our sample into those who did ($n = 13$) or did not ($n = 9$) meet the Jacobson and Truax (1991) criteria for reliable and clinically significant improvement (RCSI) on the BDI-II. There were no significant differences on our demographic variables between these two groups. We plotted these two groups' progress across sessions. RCSI criteria require that (a) across treatment, a client's scores had to improve from above to below the cut-off dividing the normal from clinical populations (we required BDI-II < 13) and (b) the magnitude of the change amount of change

TABLE 6 Session (Level 1 variable) predicting assimilation: Random intercepts model

Fixed effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p value
Intercept (β_{00})	2.83	0.14	19.81	21	<.001
Session (β_{01})	0.49	0.06	7.95	21	<.001

TABLE 7 Symptom intensity (Level 1 variable) predicting assimilation in the subsequent session: Random intercepts model

Final estimation of fixed effects (with robust standard errors)					
Fixed effect	Coefficient	Standard error	t-ratio	Approx. d.f.	p value
Intercept, β_{00}	1.44	0.11	13.039	21	<.001
Session, β_{10}	0.46	0.06	7.260	21	<.001
Symptom intensity, β_{20}	-0.01	0.01	-1.314	21	.203

Note: Symptom intensity was measured using the OQ-10; assimilation was measured using the APES. APES = assimilation of problematic experiences scale.

had to be greater than likely to have occurred by chance (at $p < .05$; this was 7.75 points on the BDI-II in our sample). As shown in Figure 1, the RCSI group's APES levels were higher and rose faster than the non-RCSI group's APES levels.

Replicating an observation by Detert et al. (2006), we found that all 13 RCSI clients achieved APES levels of 4 or higher. However, whereas none of the poor-outcome clients of Detert et al. achieved this level, four out of our nine non-RCSI clients did achieve levels of APES 4 or higher, at least briefly. Five clients of the nine met criteria for reliable improvement (decrease of 7.75 or more points on the BDI-II), but not clinically significant improvement (post-treatment BDI-II < 13). Of these five responders, three achieved APES Level 4 or higher in at least one passage. Thus, only one client who reached APES 4 or higher was not a responder.

4 | DISCUSSION

Our results confirmed the theoretical expectation that achieving higher APES levels is associated with better outcome as measured by self-report symptom intensity inventories. They extend previous work (e.g., Basto et al., 2016; Caro Gabalda, 2006; Detert et al., 2006; Honos-Webb, Surko, Stiles, & Greenberg, 1999b; Honos-Webb et al., 1998) by tracking both APES levels and symptom intensity across multiple sessions in contrasting groups and indicating that assimilation progress (APES levels) predicted reduced symptom intensity (OQ-10 scores) in the subsequent session, whereas symptom intensity did not predict assimilation in the subsequent session. These findings seem to support the assimilation model suggestion that assimilation in the range of about APES 2 to APES 6, as was observed in this study (Table 2), has a direct role in promoting the decrease in symptom intensity (Basto et al., 2016; Stiles et al., 2004).

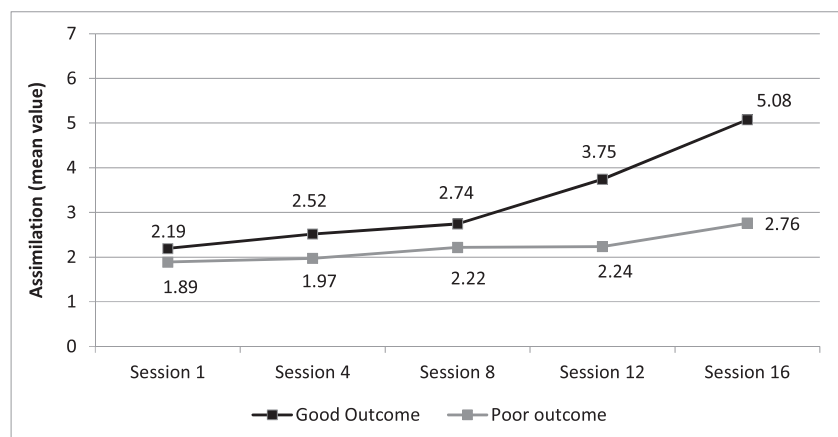
More broadly, this support for the link between assimilation and conventionally assessed outcome lends a small increment in confidence to the assimilation model's account of how therapeutic change occurs. The results are consistent with the suggestion that assimilation is a common process in successful psychological treatment and least for clients being treated for with major depressive disorder.

Our results generally supported the suggestion of Detert et al. (2006) that APES 4 (understanding/insight) is a threshold for conventional treatment success. All of the clients who met RCSI criteria—and all but one who met the reliable improvement criterion—achieved APES 4 or higher. As shown in Figure 1, our non-RCSI clients tended to improve slightly on the average; none showed higher BDI-II scores at termination than at intake or reliable deterioration. Detert et al. (2006) studied very brief treatments (two weekly sessions plus one follow-up), whereas our treatments were 16–18 sessions long, offering more opportunity for sporadically higher APES ratings. Of course, these results should be interpreted carefully because clinical symptoms measures (such as the BDI-II) not always assess small but significant changes that occur throughout therapy.

The lack of APES differences between the EFT and CBT treatment groups was parallel to the lack of differences between these treatment groups on the ISMAI study's outcome measures (Salgado, 2014) and consistent with the frequently observed equivalence of diverse bona fide psychological therapies (e.g., Wampold & Imel, 2015). Assimilation theory suggests that assimilation should be similarly related to symptom intensity in any bona fide treatment. Of course, our study was not intended as a treatment comparison, and our sample would have provided insufficient statistical power to detect small comparative treatment effects.

The observed inverse relation of APES levels with score on the OQ-10, a standard outcome measure, supports the construct validity of the APES and lends a small increment of confidence to assimilation

FIGURE 1 Evolution of the assimilation of problematic experiences scale (APES) level across sessions in the good and poor outcome group



theory more broadly, insofar as the APES is logically linked to the rest of the theory. Finding a linear assimilation-outcome relation recalls the critique that “psychotherapy process-outcome correlations may be misleading” (Stiles, 1988, p. 27) because participants’ appropriate responsiveness systematically undermines the looked-for relation (Stiles, Honos-Webb, & Surko, 1998). However, this critique does not apply if more of the process variable is always better, as is the case for assimilation and for evaluative variables (Stiles, 1996; Stiles & Horvath, 2017).

The results support that the theoretical suggestion that the APES can be used as a theoretically grounded measure of therapeutic progress, as a passage-by-passage index of change occurring within sessions. Along this line, Penttinen and Wahlström (2013) used the APES to compare outcomes of subgroups of patients in group therapy. Because the APES can be assessed on small stretches of dialogue, it can be used to assess progress in a relatively fine-grained way.

More clinically, knowing the current APES level of a problem can enable therapists to set subgoals for therapeutic work, pointing toward therapeutic strategies to be used (Honos-Webb & Stiles, 2002; Meystre, Kramer, De Roten, Despland, & Stiles, 2014; Stiles, Shapiro, Harper, & Morrison, 1995). Therapists might use APES markers (Honos-Webb et al., 2003) to guide expectations regarding the next emerging therapeutic task.

Several authors have offered suggestions about what sorts of interventions might be effective or ineffective at various APES levels (Caro Gabalda, Pérez Ruiz, & Llorens Aguilar, 2014; Caro Gabalda et al., 2016; Meystre et al., 2014). However, more research is needed in this area to understand, within each therapeutic approach, which strategies can best help the client evolve in a sustained way from the current assimilation level to the following one.

4.1 | Limitations

Although our results add a small increment of confidence in assimilation theory by supporting the theoretically expected relation of the assimilation of problematic experiences to therapeutic improvement, the small size and relative homogeneity of our sample constrains confidence in its generality. It will be important to analyse more cases and to check that the relation holds across therapists, treatment approaches, and samples of clients with different characteristics (for instance, with different diagnosis). Another limitation was the minimal clinical experience of most of our raters (12 master students), insofar as APES rating procedures benefit from a clinical understanding of the cases. To minimize the consequences of this limitation, a more experienced coder was always involved in the coding team. Many more studies with larger and more diverse samples and with more clinically experienced raters are needed to consolidate the suggestion that assimilation underlies therapeutic change.

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