

# The construction of emotional experience: State-related emotional awareness and its application to psychotherapy research and practice

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## Abstract

The cognitive–developmental theory of ‘levels of emotional awareness’ (LEA) addresses an individual's capacity to experience and express emotion, a capacity highly relevant to psychotherapy. Previous papers on LEA and psychotherapy addressed the aspect of LEA theory pertaining to the ‘trait’ (i.e. enduring) aspects of an individual's emotional functioning over time. LEA theory also applies to the construction of emotional experience at any given moment, in which levels emerge or disappear in a process of microgenetic construction as a function of arousal and other variables. This state-related perspective is supported by recent research showing that people vary in their LEA from moment to moment. Momentary changes in LEA correspond to the variations in lived experience that occur in relationships, including the therapy relationship, and provide the context for corrective emotional experiences that promote change. In this paper, the construction of emotional experience at different levels of organisation is discussed separately in relation to clients and therapists. Key phenomena relevant to psychotherapy include the transition from bodily sensations to specific differentiated emotional feelings, the ability to be aware of multiple feelings that may be contradictory or counter-intuitive, and the appreciation of how complex combinations of feelings may differ in self and other. This perspective adds to the literature on how the integration of emotion and cognition contributes to change in psychotherapy. The clinical and research implications of this perspective are discussed.

## KEYWORDS

emotional awareness, individual differences, psychotherapy, state, trait

## 1 | INTRODUCTION

Emotions serve a vital function in human life by providing an ongoing assessment in real time of the extent to which needs, goals and values are being met or not met in interaction with the environment, and making adjustments in physiology, behaviour, thought and

experience to adapt to changing circumstances (Levenson, 1994). Emotions make life meaningful because they introduce value into our experience by telling us what we like (and don't like), what we want (and don't want), and what we wish for (and wish to avoid). As such, they provide essential guidance in navigating life, particularly in social contexts. To the extent that one can be consciously aware

of these emotional responses, they provide uniquely personal information in real time that can be used to guide decision-making in the moment, facilitate social interactions and make life more fulfilling (Greenberg, 2010).

Yet, emotional states such as depression, anxiety and recurrent anger are often the reason that people seek help from mental health professionals. It is precisely the fact that these are conscious emotional experiences that do not feel good that leads people to seek clinical assistance. All too often, as an alternative to seeking professional help, these emotional states lead people to engage in maladaptive behaviours such as ingestion of exogenous substances or impulsive actions that relieve distress and are need-gratifying in the short run but are maladaptive in the long run. Emotions can therefore be a double-edged sword in that they can be valuable and helpful or painful and unwanted.

Given the clinical importance of emotional distress, the processes needed to transform emotion and effect change in psychotherapy are receiving increasing attention. The American Psychological Association Task Force on Psychotherapy (Norcross & Lambert, 2018) recently concluded that emotional expression is 'probably effective' in bringing about change in psychotherapy and urged that more research be conducted in this area. Emotional processing and depth of experiencing have been shown to robustly predict outcome in psychotherapy (Whelton, 2004). Accumulating evidence indicates that in-session activation of specific relevant emotions and the cognitive exploration of the significance and meaning of these emotions are important for therapeutic change (Watson, 1996). Although these observations provide very useful general guidance to therapists to facilitate their effectiveness, an unresolved but important question is the extent to which psychotherapy outcome is determined by individual differences in the ability to experience and express emotion, both in the client and the therapist, which influence the extent to which such expression, experiencing and processing can occur.

In this paper, I will introduce a cognitive–developmental model of such individual differences called levels of emotional awareness. A body of empirical work on emotional awareness in healthy participants and clients using the Levels of Emotional Awareness Scale (LEAS; Lane, Quinlan, Schwartz, Walker, & Zeitlin, 1990) will be reviewed that has largely focused on the trait ability to be emotionally aware. A new innovation, however, has been the adaptation of this framework to the reliable measurement of state-related variability in emotional awareness (Versluis et al., 2018). The application of state-related emotional awareness assessments to important questions in psychotherapy research and practice will be highlighted below.

## 2 | LEVELS OF EMOTIONAL AWARENESS

In 1987, Lane and Schwartz proposed that an individual's ability to recognise and describe emotion in oneself and others, called emotional awareness, is a cognitive skill that undergoes a developmental

**TABLE 1** Levels of emotional awareness

**Level 1—Somatic sensations/visceromotor activity:** Emotional experience at this level consists of bodily sensations. Individuals describe somatic sensations or are unable to provide a description of their experience

**Level 2—Action tendencies/somatomotor activity:** Emotional experience at this level consists of actions or action tendencies (approach or avoidance, self-injurious behaviour, etc.) and is described similarly. These action tendencies have an associated valence (feeling globally good or bad) that is undifferentiated

**Level 3—Individual feelings:** At this level, individuals experience emotion as a discrete and specific emotional feeling state. The description of emotion is one-dimensional and often stereotyped ('I feel angry')

**Level 4—Blends of feeling:** This level is characterised by the capacity to have feelings that are opposed to or clearly different from each other, for example feeling sad yet hopeful

**Level 5—Blends of blends of feeling:** At this level, the individual has the capacity to appreciate complexity in the experiences of self and other simultaneously. The individual at this level is also able to appreciate the multi-dimensionality and nuance of the other's feelings by imagining oneself in the other's situation, unbiased by one's own emotional state

process similar to that which Piaget described for cognition in general (Lane & Schwartz, 1987; Piaget, 1937). A fundamental tenet of this model is that individual differences in emotional awareness reflect variations in the degree of differentiation and integration of the schemata (implicit programs or sets of rules) used to process emotional information, whether that information comes from the external world or the internal world through introspection. Emotional awareness is considered a separate line of cognitive development that may proceed somewhat independently from other domains of cognition (Lane & Pollerman, 2002; Lane & Schwartz, 1987).

The model posits five 'levels of emotional awareness' that share the structural characteristics of Piaget's stages of cognitive development and constitute a continuum ranging from global undifferentiated to more differentiated and integrated states (Piaget, 1937). The five levels of emotional awareness in ascending order are awareness of physical sensations, action tendencies, single emotions, blends of emotions, and blends of blends of emotional experience. The first two levels are considered implicit because they are bodily experiences (e.g. physiological arousal, facial expression) with emotional content evident to external observers whereas levels 3 through 5 are considered explicit and recognised as emotional experiences by the client. Each level is associated with specific characteristics including the subjective quality of emotional experience, the degree of differentiation of emotion, the ability to describe emotion, the degree of self-other differentiation, and the capacity for empathy. See Table 1 for a description of the five levels. The five levels thus describe the cognitive organisation or complexity of emotional experience as manifested in the description of one's experiences, not simply one's thoughts about or appraisal of one's emotions. The LEAS traditionally measures the typical or trait level of function of a given individual.

Unlike stages of cognitive development, which were thought to emerge sequentially in development, the levels constitute modes of functional organisation that can shift in either direction at any time. The feelings associated with a given emotional response can be thought of as a microgenetic construction (Werner, 1956) consisting of each of the levels up to and including the highest level attained. From this perspective, the different levels can be used to describe momentary states as each level has a coherence and stability of its own. In this paper, the novel application of state-related assessments of emotional awareness in the psychotherapy context is emphasised.

### 3 | RESEARCH USING THE LEVELS OF EMOTIONAL AWARENESS SCALE

The LEAS is a written performance measure that asks a person to describe his or her anticipated feelings and those of another person in each of twenty vignettes described in two to four sentences (Lane et al., 1990). A reliable 10-item version is also available to be used on its own or for test-retest purposes. Scoring is based on specific structural criteria aimed at determining the degree of differentiation in the use of emotion words (the degree of specificity in the terms used and the range of emotions described) and the differentiation of self from other (see Table 2). The scoring involves little or no inference by raters (see Table 3). Because the scoring system evaluates the structure of experience and not its content, individuals cannot easily enhance their scores by creating a socially desirable impression in their responses, as is the case with some self-report instruments. For example, the level 3 score in Table 3 is simply a function of the number and differentiation of the emotion words used and is not influenced by the social desirability content of the response. A glossary of words at each level has been prepared to guide scoring by hand.

This well-studied measure of emotional awareness is now available online in an electronic version (eLEAStest.net) that can be scored automatically by a computerised scoring system (Barchard, Bajgar, Leaf, & Lane, 2010). eLEAS scoring has been shown to have internal validity and consistency in adult community members, university students and children, and it correlates highly with hand scoring.

eLEAS results are available to the practitioner online. In addition to traditional hand scoring of each item by level, which yields an overall 'total' emotional awareness score (with a maximum score of 100 on the 20-item version), as well as separate 'self' and 'other' emotional awareness scores for each scene and across the protocol, computerised scoring enables more complex scoring metrics both within and across items. For example, emotional range is the cumulative sum of the scores assigned to the emotion words used across the entire protocol not counting duplicate uses of any given word. A separate metric called 'multi-level responses' count the number of items in which subjects used both bodily (levels 1 and 2) and emotional feeling (level 3) words in the same response, based on the concept that the use of both types of words may be indicative of the ability to transform emotional bodily states into more differentiated emotional feeling states. A new feature makes it possible to generate an 'emotional range' score for free text of any length, for example from a psychotherapy session transcript, which makes state-related LEA measurement possible from existing records. Word count is also provided as an index of the time and effort expended by the subject.

The LEAS has consistently been shown to have high inter-rater reliability and internal consistency (Lane, Sechrest, & Riedel, 1998). The test-retest reliability at two and four weeks has been shown to be quite good (Torrado, Ouakinin, & Lane, 2013). Norms for age, sex and socioeconomic status (available upon request) have been established.

A variety of studies (but not all [Lumley, Gustavson, Partridge, & Labouvie-Vief, 2005; Waller & Scheidt, 2004]) support the construct validity of the LEAS. The LEAS correlates moderately positively with two cognitive-developmental measures, the Sentence Completion Test of Ego Development (Loevinger & Wessler, 1970; Loevinger, Wessler, & Redmore, 1970) and the cognitive complexity of the description of parents (Blatt, Wein, Chevron, & Quinlan, 1979). These results support the claim that the LEAS is measuring a cognitive-developmental continuum and that the LEAS is not identical to these other measures (Smith, Quinlan, et al., 2019). Women consistently score higher on the LEAS than men, even when controlling for verbal ability (Barrett, Lane, Sechrest, & Schwartz, 2000), a finding consistent with evolutionary theory (Smith et al., revision submitted). Greater emotional awareness is associated with greater self-reported impulse control (Brejard, Bonnet, & Pedinielli, 2012), consistent with the theory

**TABLE 2** LEAS scoring

| Terms used                                                                                                                      | Level score |
|---------------------------------------------------------------------------------------------------------------------------------|-------------|
| Cognitions: justified, disbelief, attentive                                                                                     | Level 0     |
| Bodily sensations: sick, sleepy, dizzy                                                                                          | Level 1     |
| Action tendency: feel like punching a wall, feel like crying<br>Negative or positive valence (undifferentiated): good, bad, low | Level 2     |
| Specific, discrete emotion: happy, sad, afraid                                                                                  | Level 3     |
| Uses two or more level 3 words for self or other                                                                                | Level 4     |
| Both self and other are at level 4 and terms used are not identical                                                             | Level 5     |

**TABLE 3** Sample responses from each level to scene 20 of the LEAS

'You and your best friend are in the same line of work. There is a prize given annually to the best performance of the year. One night the winner is announced: your friend. How would you feel? How would your friend feel?'

Level 0: I don't work hard to win 'prizes.' My friend would probably feel that the judges knew what they were doing

Level 1: I'd feel sick (1) about it. It's hard for me to say what my friend would feel – it all depend on what our relationship was like and what the prize meant to her

Level 2: I'd probably feel bad (2) about it for a few days and try to figure out what went wrong. I'm sure my friend would be feeling really good (2)

Level 3: We would both feel happy (3). Hey, you can't win 'em all

Level 4: I would feel depressed (3) – the friend in this light is just like any other competitor. I would also begrudgingly (2) feel happy (3) for my friend, and rationalize that the judges had erred. My friend would feel very gratified (3), but would take the prize in stride to save the friendship

Level 5: I'd feel disappointed (3) that I didn't win, but glad (3) that if someone else did, that person was my friend. My friend probably deserved it! My friend would feel happy (3) and proud (3), but slightly worried (3) that my feelings might be hurt (3)

that functioning at higher levels of emotional awareness (levels 3–5) modulates function at lower levels (actions and action tendencies at level 2) (Lane, 2000). Greater emotional awareness is also associated with greater openness to experience and greater emotion recognition ability (Lane et al., 1990, 1996). The LEAS correlates positively with empathy ability, certain subtests of a standard measure of emotional intelligence, the tendency to seek help for emotional problems and the actual amount of social support that a person has (Barchard & Hakstian, 2004). Additionally, individuals with lower LEAS scores rated their general sense of well-being lower during experimental induction of sad mood compared to baseline ratings whereas those with higher LEAS scores had a stable sense of general well-being independent of their momentary mood (Ciarrochi, Caputi, & Mayer, 2003). The latter finding highlights that the LEAS captures the ability to establish and recall mental representations of one's own typical emotional state independent of the immediate circumstances.

Clinically, lower LEAS scores relative to comparison groups have been observed in mental health conditions including borderline personality disorder (Levine, Marzali & Hood, 1997), somatoform disorders (Subic-Wrana, Bruder, Thomas, Lane, & Köhle, 2005), eating disorders (anorexia and bulimia) (Bydlowski et al., 2005), PTSD (Frewen et al., 2008), depression (Berthoz et al., 2000; Donges et al., 2005) and schizophrenia (Baslet, Termini, & Herbener, 2009). In the physical health domain, lower LEAS scores have been associated with essential hypertension (Consoli et al., 2010), skin-restricted lupus erythematosus (Jalenques et al., 2018) and pain on a typical day in fibromyalgia (Smith, Gudleski, Lane, & Lackner, 2019), consistent with the greater somatic experience and expression of emotion at lower levels of LEA.

## 4 | MEASURING STATE-RELATED EMOTIONAL AWARENESS

If the level of EA is truly variable, that is showing both increases and decreases with variation in circumstances, this should be detectable using available methods. Ecological momentary assessments (EMAs), in which individuals are studied in their natural environment and contextual and environmental factors can be accounted for, are well suited to capture these variations in emotional processes within individuals (Ebner-Priemer & Trull, 2009). The EMA methodology minimises some forms of retrospective bias, and, because the assessments occur in real life, the findings are ecologically valid. Given the advantages of EMAs, an EMA version of the LEAS may be useful not only in ambulatory settings but also in psychotherapy as well.

Instead of describing one's feelings and those of another person in hypothetical scenarios, we asked participants to do so during everyday real-life situations by speaking into a smartphone when prompted to do so by an experimenter-initiated page (Versluis et al., 2018). Twenty-five students completed 12 EMAs of EA across 2 days (each person was paged 6 times per day). The correlation between the mean EA assessed by EMA and trait EA, and the change over time in EA was also examined. Findings revealed a significant positive correlation between state and trait EA ( $r = .70, p < .05$ ). The within-person reliability was substantial, suggesting that EMAs can reliably assess EA over time across individuals. Importantly, latent state–trait analysis showed that about 50% of EA variability was due to state variance whereas only 2% of EA variability was due to trait variance. Preliminary psychometric properties suggest that the developed method allows for the measurement of EA in daily life and supports the claim that EA can be measured using both hypothetical scenarios (as in the LEAS) and real-life situations (using EMAs) (Versluis et al., 2018). As such, a method now exists to assess momentary EA in real life including psychotherapy settings.

## 5 | RESEARCH ON TRAIT-RELATED LEAS FINDINGS RELEVANT TO PSYCHOTHERAPY

Given the importance of emotion and emotional awareness, and the evidence that EA is often lower in clients with mental health conditions, a general goal of psychotherapy is to improve emotional awareness (Borum & Goldfried, 2007). To date, six studies have found increases in EA due to interventions (Subic-Wrana et al., 2005; Radice-Neumann, Zupan, Tomita, & Willer, 2009; Montag et al., 2014; Burger et al., 2016; Neumann, Malec, & Hammond, 2017; Killgore et al., 2020). Three studies involved clinical groups in which the intervention was designed to place primary emphasis on improving emotional awareness: one in fibromyalgia (Burger et al., 2016) and two in head injury (Montag et al., 2014; Neumann et al., 2017) clients. Two other clinical studies showed improvements in EA with interventions with less specific targets: art therapy in psychotic clients (Radice-Neumann et al., 2009) and multimodal individual and group therapy supplemented by other body-based and non-verbal therapies for clients with somatic symptom

disorders (Subic-Wrana et al., 2005). Recently, a significant increase in EA was observed in healthy volunteers who completed a multi-hour video training programme designed to improve emotional intelligence (Killgore et al., 2020). These studies indicate that the LEAS may be a reliable outcome measure in interventions that directly or indirectly aim to improve trait EA.

The LEAS has also been demonstrated to be a significant predictor of outcome in a psychotherapy context. Fifty-four clients with panic disorder were randomised to either manualised psychodynamic psychotherapy or CBT. The investigators found that greater emotional awareness at baseline predicted greater symptom reduction in both modalities (Beutel et al., 2013). These findings indicate that trait emotional awareness of the client may be a powerful variable that influences psychotherapy outcome and is relevant to current psychotherapy practice, including CBT. Of course, the capacity for emotional awareness on the part of the therapist is also highly relevant to psychotherapy outcome to the extent that it is a core component of empathy (Lane & Schwartz, 1987) and thus the therapeutic alliance.

## 6 | STATE-RELATED ASPECTS OF THE LEA MODEL RELEVANT TO THE CLIENT AND THERAPIST

From the perspective of the client in psychotherapy, who is asked to describe how she feels at any moment, level 1 functioning involves visceromotor activity and the subjective bodily sensations that people tap into through interoception to localise bodily sensations and figure out how they are feeling in their bodies. Level 2 processes involve action tendencies and behavioural expressions of emotion that constitute what other people see and respond to reflexively as they interact with one another non-verbally. Level 3 involves the mentalising process by which automatically generated bodily sensations are conceptualised and put into words. At level 3, emotional experience is described as one emotion at a time. Level 4 is a key step in the process of resolving conflict. Based on the important (and possibly controversial) position that conflict fundamentally involves conflict between different kinds of emotions and their behavioural correlates or implications (e.g. I love AND hate this person) (Lane, 2020), Level 4 involves the ability to hold conflicting emotions in mind at the same time and to experience what that means for the past, present and future. An important issue is how to translate such insights in the consulting room to real-world behaviour and a change in maladaptive patterns. At level 5, the client has the opportunity to contemplate how various ways of translating these insights into changes in the conduct of interpersonal relationships will affect those with whom one interacts in an emotional sense. At level 5, the client simultaneously anticipates his or her own experience and that of the other, both in multi-faceted ways, in order to make decisions about how best to respond.

This same general sequence also describes what happens in the therapist as he or she considers various empathic interventions or corrective experiences (Lane, 2018). At level 1, as the client is talking the therapist notices a bodily sensation of something not feeling

right or being moved in ways that are felt in the body and are pre-verbal. This is the phenomenon of somatic empathy (Preston, 2008) that is currently receiving increased attention in the psychotherapy literature. At level 2, emotions are expressed as actions or action tendencies. The therapist may engage in enactments that express or regulate emotions of which the therapist is unaware. This is consistent with current thought in relational psychoanalysis that says that enactments are inevitable (Safran & Kraus, 2014). The skilled therapist will reflect upon such enactments and begin to notice similar action tendencies and inhibit them before they are enacted with the client. Following inhibition of action tendencies, the therapist will reflect upon those action tendencies and begin to formulate in words the emotions being expressed in the potential enactment. At first, the labelling of feeling will be one emotion at a time, or level 3. At this point, the therapist may reflect upon the client's recurrent pattern and consider how the feelings and enactments that took place with the client in therapy repeat the pattern that started in the client's family of origin, is expressed in other current relationships and is being enacted in the therapy relationship such that the client is unknowingly inviting the therapist to continue the recurrent pattern (Lane, 2018; Menninger, 1958). Awareness of this pattern will enable the therapist to appreciate more nuances to the feeling state, which corresponds to level 4 processing, and understand how the client's conflict (or deficit) might be getting expressed in interaction with the therapist. At this point, the therapist has new information about what the client might be feeling and can think about what the client needs. This might prompt the therapist to think in terms of the kind of corrective emotional experiences the client might need. The therapist might then contemplate how interventions of one sort or another might affect the client. In considering various possible interventions and various reactions by the client, the therapist is functioning at level 5.

Once interventions are made, a whole new round of interaction begins and may lead to retracing levels 1 through 5 again. Interactions occur, these induce bodily feelings that are difficult to describe (levels 1 and 2), these sensations are put into words and understood (levels 3 and 4) and ways of moving forward in therapeutic interaction and the complex emotional consequences for both therapist and client are considered (level 5). After this has happened a few times, the therapist is able to respond in the moment without the kind of extended process of conscious reflection just described. However, the therapy is constantly evolving and new material will lead to new bodily experiences in the therapist. With more experience in general and more experience with a given client, the sequence through the levels will speed up but may involve the same five levels of processing as described above.

## 7 | COMPARISON OF THE LEA CONSTRUCT TO OTHER VARIABLES

It is interesting to compare the LEA construct to other emotion-related variables that have garnered attention in psychotherapy

research. From a trait perspective, LEA overlaps conceptually with several variables including psychological mindedness (Nyklíček & Denollet, 2009), emotional intelligence (Dawda & Hart, 2000; Mayer, Salovey, Caruso, & Sitarenios, 2003), emotional flexibility (Bonano, et al., 2004), alexithymia (Taylor et al., 1997), granularity (Kashdan, Barrett & McNight, 2015) and openness to experience (McCrae & Costa, 1997). Importantly, the LEAS is a performance measure whereas the others (except emotional intelligence; Mayer et al., 2003) involve self-ratings.

From a state perspective, LEA overlaps with several process-related variables in psychotherapy research, especially experiencing (Klein, Mathieu-Coughlan, & Kiesler, 1986) and focusing (Gendlin, 1982). Interestingly, the LEA construct provides an integrated framework that touches on multiple process-related variables including emotional arousal (Kozak, Foa, & Steketee, 1988), emotional expression (Iwakabe, Rogan, & Stalikas, 2000), emotional processing (Foa & Kozak, 1986) and emotion regulation (Mennin & Fresco, 2014). It also provides a common framework that incorporates both trait and state functioning that can be used to address moderating and mediating mechanisms, respectively, influencing psychotherapy outcome. The LEA construct integrates cognitive structure with emotional experiencing and thus provides a unique way to address the combination of emotional arousal and cognitive processing that contribute to psychotherapeutic change (Whelton, 2004).

## 8 | IMPLICATIONS FOR PSYCHOTHERAPY RESEARCH

The LEAS has been used successfully in documenting impairments in emotional awareness in a variety of clinical conditions. The use of hypothetical scenarios makes it possible to use the same stimuli in different people. While useful, the advent of EMA in LEA assessment makes it possible to assess LEA in the areas of one's life that are the reason for seeking psychotherapy. To what extent is EA impaired in areas of clinical concern relative to other, more conflict-free areas of a person's life? To what extent does successful psychotherapy improve EA in those areas, perhaps bringing them to a comparable level to conflict-free areas? Given the ubiquity of conflicts in everyday life, research in this area could advance understanding of why certain conflicts are more difficult to resolve than others (Summers, 2013): perhaps in addition to defences or avoidance strategies, there are deficits in emotional awareness that contribute to the difficult-to-resolve conflicts. Alternatively, to the extent that EA is impaired relative to norms in many if not all areas (i.e. a trait that transcends situations or contexts), this may be an indication for more intensive or more long-lasting therapy and may require specific interventions geared to overcome specific deficits in emotional awareness (Smith, Lane, Parr, & Friston, 2019).

As noted above, higher pretreatment EA predicts better outcome in the psychotherapeutic treatment of panic disorder. It will be important to replicate this finding and to examine the extent to which this applies to other disorders. Nevertheless, the advent of

state-related EA assessments makes it possible to explore the mechanisms of this association. In a study of predictors of good therapy outcome based on observations during the first two sessions, Gendlin (1982) observed that the best outcomes were in clients who 'groped for words' during that first session compared to those who were more glib and facile in their descriptions of their emotional states. This raises the possibility that those who engaged in the process of focusing on their bodily experiences and then translating those sensations into concepts that could be verbalised may have an advantage relative to those who simply operated continuously at the conceptual level. This distinction may be captured by the 'multi-level responses' index available from computerised eLEAS scoring. To the extent that problem areas in a person's life are associated with more implicit, bodily based (e.g. action) responses, perhaps better outcomes are due to the ability to transform those action responses into differentiated feelings that can be felt and understood so that the needs inherent in those feelings can be identified and used to inform decision-making in social contexts. Thus, one would predict that clients who manifest more 'multi-level responses' are the ones who are most likely to do well in therapy. Perhaps the use of multi-level responses in subsequent sessions, not just the initial session, is also a predictor of good therapeutic outcomes. In addition, perhaps clients who have higher LEAS scores at baseline, and have better outcomes, manifest more 'multi-level responses' during therapy.

In the one LEA EMA study performed to date, which involved undergraduate student volunteers, LEA scores of feelings described in real-life circumstances correlated  $r = .70$  with scores on the 10-item trait LEAS involving hypothetical situations. An important question is whether similar findings would be observed in clients with diagnosable disorders seeking psychotherapy. It is possible that the relatively stress-free aspect of hypothetical scenarios may permit higher level functioning on the trait LEAS relative to the more tumultuous circumstances of daily life in some clients seeking clinical care. One might imagine that some clients might have more constricted variability while others might be much more variable than healthy comparison subjects. As an example of the latter, the emotional volatility and temporary loss of mentalising capacity due to high arousal that characterises borderline personality disorder (Bateman & Fonagy, 2013) may be quantified with this method. Perhaps successful psychotherapy involves expanding the variability of those who are overly constricted or constraining the variability in those at the other extreme. Improvement in each might be accomplished by use of techniques promoting 'mindful awareness' as described by Perls, Hefferline, and Goodman (1951) and Pascuale-Leone and Greenberg (2020) or mentalisation as described by Bateman and Fonagy (2013).

Yet another question is whether training therapists in the theory, measurement and practical use of the LEA framework, from both trait and state perspectives, will lead to better client outcomes. Lane and Schwartz (1992) proposed that each of the levels of emotional awareness corresponds to specific kinds of interventions, creating a framework for considering how to combine treatments, such as psychotherapy and pharmacotherapy, or different kinds of psychotherapy. They then proposed several principles of clinical

intervention using the LEA model (Lane & Schwartz, 1992) including the following: a) Intervention should be directed to the level of emotion information processing at which the client presently functions; b) Intervention should proceed from bottom-up; and c) Additional modalities targeted for higher levels should be incrementally added. These principles were illustrated in three clients treated in psychodynamic psychotherapy in a paper by Chhatwal and Lane (2016). If better outcomes were observed, the mechanisms of such an association could be studied. Are therapists better able to match their interventions to the current level of functioning of that client at any given moment? Alternatively, does the key intervention for certain clients involve helping them mentalise undifferentiated, action-oriented bodily states to transform them into differentiated emotional feeling states?

## 9 | CONCLUSION

The theory of levels of emotional awareness provides a way to systematically think about individual differences in the ability to experience and express emotion, both generally and at any given moment. Using the LEAS, impairments in emotional awareness have been documented in a variety of mental health conditions, and improvement in emotional awareness has been demonstrated with different psychotherapeutic interventions in several clinical and non-clinical contexts. With the advent of the ability to reliably measure state-related variation in EA, new opportunities arise for addressing important questions in psychotherapy research. These include the degree to which problem areas in a person's life are associated with state-related impairments in emotional awareness relative to other healthier areas of emotional functioning, whether successful therapy includes the ability to promote the transition from implicit to explicit emotional processing, and whether interventions that alter variability in EA, from low to high or high to low, are feasible and useful. Finally, perhaps training therapists in the theoretical and practical aspects of the emotional awareness framework from both trait and state perspectives can promote higher rates of success in psychotherapy.

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