

Special Issue Journal of Psychotherapy Integration

Advancing the Assessment of Emotional Change:

A Matrix of Processes by Methods

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Emotional Change as a Common Factor?

Emotional change is an emerging common factor for explaining outcome in psychotherapy. Its measurement is becoming increasingly important for advancing and integrating psychotherapy research. One recent meta-analysis grouped an assortment of different constructs related with the functional domains of emotional change and then showed, in both clients and therapists, that “emotional change” had a consistent relationship with therapy outcomes (Peluso & Freund, 2018). Another meta-analysis defined “emotion regulation” to broadly include engagement strategies, avoidance strategies, and/or a general lack of regulation skills, and then went on to show these general processes were related to symptom change (Daros et al., 2021). While such conclusions are important, studies like these also highlight the problem of a wide and variegated set of measures that may or may not measure similar constructs. Furthermore, the potential overlap between measures often goes without being empirically explored or delineated, such that discussions from an integrative perspective are unable to make direct comparisons. The present Special Issue of the *Journal of Psychotherapy Integration* aims to provide an integrative roadmap for psychotherapy researchers to advance the field of emotional change: we believe that the type of measurement is crucial for this effort and ultimately for developing evidence-based theories about the mechanisms of change across psychotherapies (Kazdin, 2009; Kramer & Timulak, 2023).

Puzzles for Theory and Method

The *assessment of emotional change* refers to psychotherapy process measurement rather than the measure of treatment outcome. On the one hand, doing this successfully involves addressing a method problem: multiple methods must be used to assess various dimensions of emotional change. On the other hand, it requires researchers to contend with several problems of theory. The first of these is that emotional change is often conflated with

the reduced symptom distress that comes with good treatment outcomes. But second, the complexity of emotional change requires a dimensional model, one which is not yet widely agreed upon.

Method Problem: What Kind of Measurement?

Process measures themselves are often unique contributions, used narrowly within specific theories of change and a corresponding research program. This has resulted in silos of process research, which may share some constructs but do not typically explore or make use of each other's measures. Furthermore, the majority of these measures have been developed to address specific interests and if they have been published, are only used a handful of times. To further psychotherapy integration the best measures from various approaches need to be compared across clinical frameworks and contexts (Hopwood & Bornstein, 2014).

Across literature, the measurement of emotion processing has been conducted using a diverse range of methodological approaches. But an individual study typically uses just a single measurement approach or, when a battery of several indices are used together, their selection is unsystematic and typically does not draw on any overarching framework of methods. These major methods of measurement include:

- self-report (e.g., *Positive and Negative Affect Scale...*),
- process observation by a trained observer (e.g., *Client Experiencing Scale...*),
- trait-like dispositions (e.g., *Difficulties in Emotion Regulation Scale...*),
- clinical interview (e.g., *Narrative Assessment, Adult Attachment...*)
- physiological correlates (e.g., *galvanic skin response, heart rate...*),
- Standardized test (e.g., *stress tests; chair task protocol...*)

These different methods of measurement need to be considered against the backdrop of the theoretical underpinnings with which they are customarily associated. For example, at the risk of oversimplifying: cognitive approaches tend to make more use of self-reports,

behavioral approaches tend toward physiological correlates and laboratory tests, humanistic-experiential approaches have relied markedly on process observation measures, and traditional psychodynamic approaches may be more likely to draw on interview methods. Each method of measuring emotional change is informed by, but also colors the particular construct (i.e., kind of processing) that is assessed. For these reasons, we argue the field needs to embrace multi-method approach for assessment to best index emotional change and create consistent points of comparison across treatment perspectives.

Theory Problem: ...yes but, What *Kind* of Emotional Change?

Emotion researchers have defined emotion both from a descriptive phenomenological perspective and from a functional-adaptive perspective (Pool & Sander, 2020; Scherer, 2005). From a descriptive perspective, the various components of emotion are distinguished from one another, for example, delineating action tendencies from subjective feelings. Meanwhile, from a functional perspective, researchers consider how the appraisal process embodied by an emotion, interacts with an individual's concerns and goals.

Theories of productive emotional change (i.e., emotional change) tend to be splintered as a function of clinical theories and their corresponding therapeutic approaches. These theories are not sufficiently integrated across treatment perspectives (nor across methodological approaches, as discussed earlier). In short, emotional change is not a unitary construct, and so the collection of local theories about emotional change recalls the old parable of an elephant and the six blind people. Each person gropes to examine just one part of the large animal (e.g., its side, trunk, tusk, leg, ear, or tail), and they all come to radically different conclusions about "what is an elephant." Such apparent contradictions are similar among the various theories of emotional change.

Another part of the theory problem is that sometimes "emotional change" (or emotion regulation) is being conflated with the "reduced symptom distress" that comes with almost all

good treatment outcomes. A client who has less intense feelings after intervention may well constitute the outcome of the psychotherapy, but this perspective is limited because there is often much more that has occurred (-- even if it was not being measured). Simply put, emotional work is not the same as reduced symptom distress, but that conflation is a common occurrence when researchers equate various ways of working with emotion as all ultimately being no more than strategies for the down regulation of emotion.

Emotional change can be thought of as occurring in several distinct ways, which are not always fully compatible (Greenberg & Pascual-Leone, 2006; Pascual-Leone, Paivio, & Harrington, 2016). Namely, these functional domains of emotional responding are:

- down-regulating the intensity of emotional arousal (e.g., “the feeling is going away, subsiding”)
- increasing emotional awareness and engagement (e.g., “I can feel it in my body and I’m searching for just the right words”)
- facilitating arousal, expression, and enactments (e.g., “The feeling is in my gut, it makes me want to act, it’s becoming more intense and loud!”)
- the sequential ordering of discrete emotions to produce novel experiences (e.g., “self-compassion is the antidote to my shame”)
- reflecting on emotion from a psychologically distant perspective or through a narrative frame (e.g., “when I think of my life’s purpose, my suffering today is less upsetting”).

Assessing Emotional Change

One aspect on which emotion researchers tend to agree is the multi-level activation in any number of the functional domains related to emotion. When aiming to assess the change process, certain aspects of that synergistic process may only be visible within a specific resolution in the actual method of assessment: to the naked eye, there may be no emotion and no change, but with the right lens, these phenomena come to light.

Pitfalls of Measurement and the Need for a Pluralistic Approach

Generally, two groups of phenomena may be distinguished, (a) objective change in emotional response (e.g., behavioral, physiological, neurobiological activations), and (b) meaning-making processes, which are anchored in the subjectivity of the individual and might also be independently construed through the interpretive lens of a trained observer. The actual emotional response a client presents is the constant interaction and synthesis between these two threads in a dialectical manner (Greenberg, 2015). However, these groups of emotional phenomena often require different sets of assessments, and they may or may not both be centrally relevant to the task at hand. Newer methods have also proposed how to articulate between the two threads of phenomena (Pascual-Leone, Herpertz & Kramer, 2016).

A common problem we encounter when discussing these issues with researchers is that some aim to use or develop a measure for capturing, “a bit of everything under the emotional sky.” Often, such measures will be overreaching, over-inclusive and conceptually weak. We think these shortcomings cannot be compensated by collecting a lot of validation data. The reason is that such omnibus measures usually allow one to reason that, “working with emotion (in some way or other) is useful,” much like the conclusions already being offered by current meta-analyses. The reason is that omnibus measures often struggle to sharply delineate between awareness, arousal, sequential ordering, and the down regulation of emotion; -- processes that sometime are convergent but at other times are divergent mechanisms of change. When it comes to discussing the mechanisms of change or offering the kind of concrete clinical implications that therapists can apply to their interventions, we need greater specificity (Kazdin, 2009; Kramer & Timulak, 2023).

We also observe that originators of instruments for measuring emotional change are often thinking about the “range of applicability” of their individual measure, exploring and stretching to see if it captures different domains of emotional change. This is valuable for

understanding what a measure can do. At the same time, given the multi-layered nature of emotional response, it is important for a given measure to be clear about the “central focus and most unique contribution to assessment about X” -- particularly in the context of other existing measures of all kinds. The content or kind of change being measured needs to be narrowly specified.

Related to these pitfalls, the imprecise measurement of emotional change in current research is most often directly related to a fuzzy conceptualization of the change process being targeted. Research on, say, the specific impact of “emotional expression” is obfuscated when the chosen approach to measurement takes broad strokes, collaterally enlisting other dimensions of emotional change. In another example, “reflecting on emotion,” say, through cognitive reframing entails both decentering and straddling several perspectives, so measuring that unique kind of shift in meaning is distinctly important. Even so, studies of that process more typically measure the straight down regulation of emotional intensity as one might use to index the impact of diaphragmic breathing, which generates relatively little in terms of personal meaning. In a final example, arousal and finding the right words may be indirectly captured by “measures of narrative,” but interpreting narrative measures to that end pales in comparison to more direct measures of arousal such as using galvanic skin response or indexing alexithymia.

A Matrix of Processes by Methods

We argue there cannot be a single best measure of emotional change. Moreover, measuring emotional change using either a single tool or a haphazard assortment of tools will not generate the kind of findings needed to advance theories of change. What the field needs is to locate measures within a matrix, grouping each measure among similar kinds of measures to index a given type of emotional change. Figure 1 shows a matrix of this kind, populated by examples of commonly used measures. Research designs can typically be

located within one or more cells in the matrix of figure 1. Among the papers in this issue, for example, four different kinds of emotional change are assessed using three different methods of measurement – each reflecting unique combinations in an assessment of emotional change:

- Lane’s paper discusses the process of “emotional awareness” by using a “standardized test” method.
- Kalkbrenner et al.’s study measures the “down-regulation of emotion” using “physiological measures.”
- Kaplan et al. also examine the “down-regulation of emotion” but using a different method, “process-observations” in a naturalistic environment by way of innovative technologies.
- DiCorcia et al. examine “sequences of discrete emotion” using “process-observation” conducted by a trained expert coder.
- Finally, Angus and Macaulay explore how “narrative reflections” can similarly be subjected to “process-observation.”

In his special issue, we call for the development of a new paradigm in the research of emotional change. What is needed is a rigorous operationalization of the different kinds of emotional change and a discussion of how to measure them. Based on the different functional domains of emotional responses and the different methodological approaches, we recommend psychotherapy researchers interested in using or creating new measures for the assessment of emotional change begin by considering five issues of research design. A researcher could begin by (a) theoretically delineating the relevant construct of emotional change with more specificity (i.e., what unique kind of emotional change is most of interest?; see columns in figure 1). Then, (b) Select one or more methodological approach(es) after considering the full range of options (i.e., which tool or index best serves the research question?; see rows in figure 1). Investigators should (c) consider the advantages and disadvantages of measures

which have already been developed for the kind of emotional response of interest (i.e., do we need a new measure? Does it need modifications? Does the method of measurement still align with the type of emotional change that was identified as most of interest?). A critical point for optimizing research on emotional change is to, (d) consider using a multi-method approach for data collection, one that triangulates the specific issue of interest and/or judiciously creates conceptual contrasts for better understanding the observed nature of emotion change (Hopwood & Bornstein, 2014). Finally, (e) when writing up the design, locate the approach(es) being used within a matrix of processes by methods, specifying for readers which kind of emotional change was being examined and why a given measurement method was selected.

Aims and Scope of the Special Issue

This *Special Issue of Journal of Psychotherapy Integration* sought contributions from any *methodological approach* to assess one or more distinct *kinds of emotional change* as a psychotherapy change process. The Special Issue emphasizes high quality contributions from a variety of theoretical backgrounds and has encouraged authors to consider multiple strands of explanation for their findings. We asked authors to make use of the following structure:

1. a description of the theoretical underpinnings of the change construct, locating it in the context of different *kinds of emotional change*,
2. a description of the *methodology*, locating it in the context of different approaches to measurement,
3. an example of a study application in the context of psychotherapy research,
4. illustrations of specific client material (e.g., a brief case study, client verbatims), and
5. a critical discussion of the potential of the chosen approach to measuring emotional change.

Contributions to the special issue also stand as examples of how research designs and the questions they address may represent very different cells in a matrix of process and methods for assessing emotional change.

The better we understand general change processes such as emotional change, the more boundaries between different treatment approaches will dissolve. However, theories of emotional change are not well integrated across treatment perspectives. This Special Issue has the objective to provide integrative psychotherapy researchers with an essential collection of up-to-date methodology, and a conceptual framework to discern various approaches in the assessment of emotional change. The aim is that such a framework shapes the next generation of process research on emotional change in psychotherapy. As such, this issue should contribute to finding consensus within what is currently a splintered field, raising the bar for how to adequately assess a key common factor in psychotherapy.

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Figure 1

Assessing Emotional Change: A Matrix of Processes by Methods

	Awareness	Arousal	Regulation	Sequences	Narrative Reflection
Self-report	Positive and Negative Affect Scale (PANAS)	Self Assessment Manikin (SAM)	Subjective Units of Distress (SUDS)	Interpersonal Process Recall (IPR)	Bern Post Session Report-Patient, clarification (BPSR-P)
Process-observation	Client Experiencing Scale (EXP)	Client Expressed Arousal Scale (CEAS-III-R)	Complexity of Emotion Regulation Scale (CERS)	Classification of Affective Meaning States (CAMS)	Narrative-Emotion Process Coding System (NEPCS);
Trait disposition	Toronto Alexithymia Scale (TAS)	General expressiveness	Difficulties in Emotion Regulation Scale (DERS)	General capacity and flexibility between a engage a range of emotional states	Overgeneral autobiographical memories; Purpose in Life (PLS)
Clinical interview	Emotion Identification Interview (EII)	?	Emotion Regulation Interview (ERI)	?	Metacognitive Assessment Interview (MAI)
Physiology	EEG	Galvanic skin response; finger temperature	Vagal tone; Respiratory sinus arrhythmia	Acoustic perturbations	?
Standardized test	Levels of Emotional Awareness Scale (LEAS)	Stock images	Stress tests	Chairwork protocols	Expressive writing task

Note: References corresponding to scales: CERS (Pascual-Leone et al., 2016), CEAS-III-R (Warwar & Greenberg, 1999), PANAS (Watson et al., 1988), EXP (Kilien et al., 1986), TAS (Parker et al., 2003), LEAS (Lane, this issue), EII (Sim, 2002), SUDS (Wolpe, 1958), SAM (Bradley & Lang, 1994), DERS (Gratz & Roemer, 2004), ERI (Werner et al., 2011), IPR (Elliott, 1984), CAMS (Pascual-Leone & Greenberg, 2005), BPSR-P (Flückiger et al., 2010), NEPSC (Angus et al., 2017), CCRT (Luborsky et al., 1994), PLS (subscale in Ryff, & Keyes, 1995), MAI (Semerari et al., 2012).