The background of the slide features a gradient sky transitioning from a deep blue at the top to a warm orange and yellow at the bottom, suggesting a sunset or sunrise. Silhouettes of several saguaro cacti are visible against this sky. One cactus on the left has a small, bright four-pointed starburst near its arm. The overall mood is serene and contemplative.

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**Memory Reconsolidation,
Emotional Arousal and the
Neuroscience of Enduring Change:
Implications for Psychoanalysis**

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Lecture #8

Working With Emotion and Promoting Emotional Awareness

- Today's lecture in context
 - integrating memory reconsolidation, a developmental perspective and computational neuroscience (PP/AI)
- Recurrent maladaptive patterns (RMPs) from the perspective of predictive processing (PP) and active inference (AI)
- What keeps RMPs in place (intolerable emotion)
- Need for emotional growth and additional emotion processing
- A case example (Becky/Hanna Levenson)
- Comparison of classic and integrative psychodynamic theory
- How to enliven traditional psychodynamic psychotherapy with enhanced emotion processing (Hanna Levenson)

Papers on Levels of Emotional Awareness and Psychotherapy

Lane RD, Schwartz G: Levels of emotional awareness: implications for psychotherapeutic integration. *Journal of Psychotherapy Integration* 2: 1-18, 1992.

Lane RD, Garfield D. Becoming aware of feelings: Integration of cognitive-developmental, neuroscientific and psychoanalytic perspectives. *Neuropsychoanalysis* 7: 5-30, 2005

Subic-Wrana C, Beutel ME, Garfield DAS, Lane RD. Levels of emotional awareness: a model for conceptualizing and measuring emotion-centered structural change. *International Journal of Psychoanalysis* 92:289–310, 2011.

Chhatwal J, Lane RD. Levels of Emotional Awareness: A cognitive-developmental model and its application to the practice of psychotherapy. *Psychodynamic Psychiatry* 44(2) 305–326, 2016

Lane RD. The construction of emotional experience: State-related emotional awareness and its application to psychotherapy research and practice. *Counselling and Psychotherapy Research* 2020; 20(3), 479-487.

Lane RD, Greenberg L Subic-Wrana C, Yovel I. The role of enhanced emotional awareness in promoting change across psychotherapy modalities. *Journal of Psychotherapy Integration* 2022; 32(2), 131.

The Corrective Emotional Experience (F. Alexander and T. French, 1946)

The “corrective emotional experience” was the fundamental therapeutic principle of all “etiological psychotherapy.” In their definition it meant "to reexpose the patient, under more favorable circumstances, to emotional situations which he could not handle in the past. The patient, in order to be helped, must undergo a corrective emotional experience **suitable to repair the traumatic influence of previous experiences... Intellectual insight alone is not sufficient.**"

Psychoanalytic Therapy: Principles and Application, 1946.

Historical Objections to the Concept of Corrective Emotional Experiences By Psychoanalysts

- Contrived -- not part of the natural process
- Artificial – creates manufactured, unrealistic experiences
- De-emphasis on interpretation and insight
- Compromises patient autonomy
- Unneeded emphasis on emotional experiences
- Does not adequately take into account the transference relationship with the therapist

“Psychoanalysis is more than the creation of a narrative, it is the active construction of a new way of experiencing self with other.”

Fonagy 1999; Ulm Textbook of Psychoanalytic Therapy (2022)



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The foundational level of psychodynamic meaning:

**Implicit process in relation to conflict,
defense and the dynamic unconscious**

BOSTON CHANGE PROCESS STUDY GROUP (BCPSG)¹

- How can we take advantage of newer insights from “relational” psychodynamics in which the “intersubjective emotional field” is the focus of the therapy?
- Traditional theory – observable behavior is a function of deeper, unseen forces -- may have it backwards
- Interpersonal interaction experiences – **the implicit process of relational knowing (IPRK)** - is the foundation; conflict, defense and fantasy are secondary abstractions

Implicit Process of Relational Knowing (IPRK) Is the Operational Expression of the Internal Working Model In Action

- Lived experience is represented at the implicit level
- Implicit process of relational knowing: what is expected regarding what other people will say and do, how you will feel, how you are expected to behave, how events typically unfold, etc.
- This is the Internal Working Model in action in real time
- The lived experience of interaction with other people is where development occurs and where change happens
- Concepts of conflict, defense and fantasy are abstractions that are higher level constructs that are superimposed upon the more basic implicit (automatic) level of lived experience
- This view is consistent with implicit emotion as continuously active in the background guiding behavior

Boston Change Process Study Group. International Journal of Psychoanalysis, 2007.

The Internal Working Model (IWM) of the Social World Is A Schematic Memory Updatable By Emotional Experiences

- **Definition of schema:** superordinate knowledge structures that reflect *abstracted commonalities* across multiple experiences, exerting powerful influences over how events are perceived, interpreted, and remembered” (Gilboa & Marlatte, 2017)
- **The IWM is a schematic memory**
- Memory is selectively updated by emotional experiences
- The IWM (schematic memory) was created by abstracting commonalities across interpersonal emotional experiences
- **It can be made labile** (through recall, reminders or reactivation) **and can be updated** (reconsolidated) by unexpected information
- This is how the IWM continues to evolve in adaptation to current circumstances

The Need for Emotional Growth in the Context of Recurrent Maladaptive Patterns

- A recurrent maladaptive pattern arises and persists because of the need to **avoid intolerable emotional distress**
- Defenses are deployed automatically because it is sensed that to consciously experience the emotion or conflict would be **overwhelming**
- When inflexible avoidance strategies don't work well distress is experienced, which brings people in for treatment
- The pattern is persistent and thus recurrent because there is a **limitation in processing capacity making avoidance necessary**
- As such, although defenses (avoidance strategies) are present and need to be overcome, to make behavior and adaptation more flexible, **a certain kind of emotional growth is needed**
- Defenses will remain active as long as skill limitations/deficits persist

What Keeps the RMP in Place?

Why is Painful Emotion Avoided?

Possible contributing factors

- It is unpleasant; prefer to avoid unless attending to it necessary
- Don't think emotions have value
- Don't know that bodily sensations at the time are due to emotion
- Don't know the source of an emotional experience
- Certain emotions are forbidden to express or even experience
- Need another person to make sense of one's own experience
- Need the support of another person to help tolerate the painful emotion
- Need to have faith that another person can be helpful
- Need to feel confident that one can survive if the worst happens,
e.g., if getting in touch with emotion and taking action based on
an understanding of what one needs results in the feared response,
i.e., **need to transform intolerable into tolerable emotion**

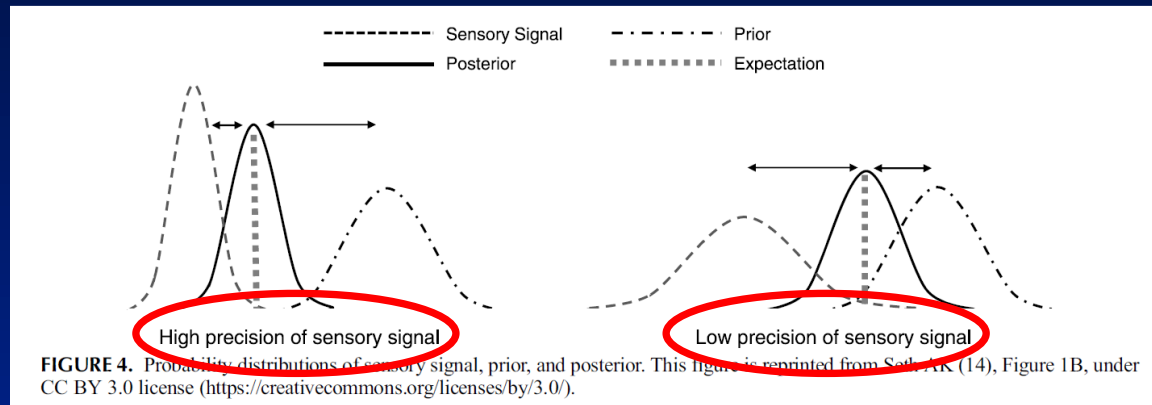
Introducing A Computational Perspective: Emotional Distress Is An Expression of Prediction Error

- The IWM is a set of predictions in social situations
- In computational terms, predictions = priors
- The brain is always seeking to minimize prediction errors (PEs)
(minimizing expected free energy)
- **Distress in social contexts can be understood as PE**
- Recall that emotional responses are activated by an automatic
(usually unconscious) evaluation of the extent to which
needs, goals or values are being met or not met in interaction
with the environment at that moment
- **The set point for that evaluation is a prediction** of experience
- A deviation from that set point activates an emotional response
- Distress indicates that needs are not being met at that moment,
i.e. **distress is an expression of prediction error**

How is Computational Neuroscience Helpful In Explaining RMPs and the Need for More Emotion Processing to Update the IWM?

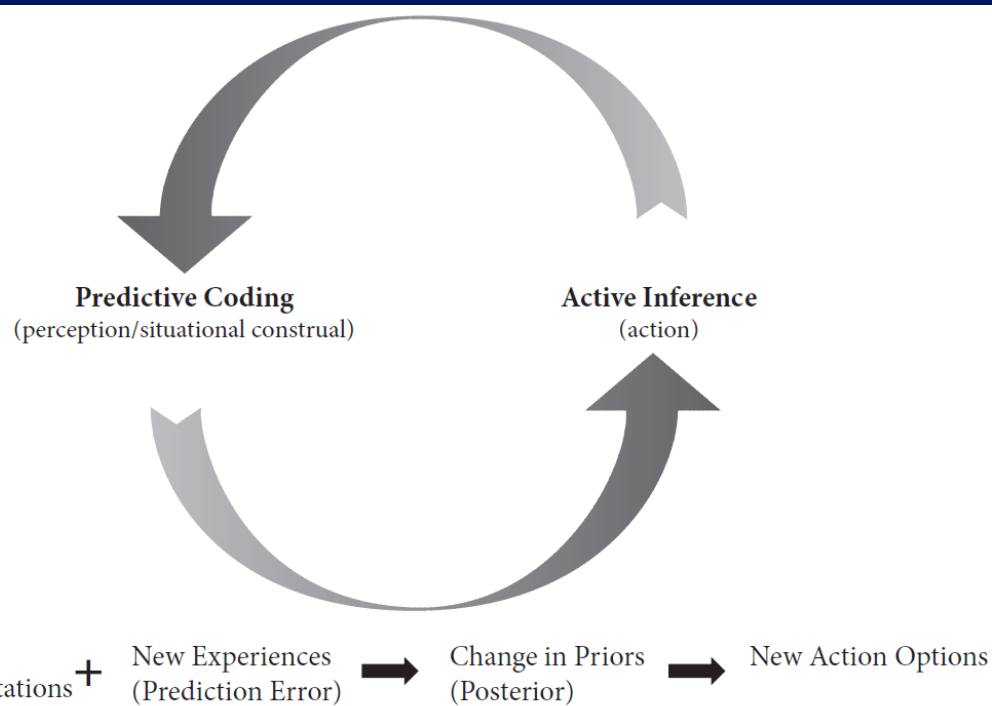
- PE can be minimized in one of two ways: update the priors, or change the sensory input so that expectations are accurate
- Updating priors in this context is not easy; it means changing the IWM (a schematic memory built up over time)
- Updating the prior requires updating it based on PE, which means attending to and working with PE (distress)
- RMPs can be understood to arise as an expression of the second option: taking actions to ensure that predictions are met (AI)
- By repeating the usual behavioral patterns (the RMP) and ignoring the distress that it generates, which is familiar, PE is minimized
- Successful psychotherapy involves updating the prior (IWM) by incorporating the information provided by PE (distress)

Priors Get Updated Based on the Precision of the Sensory Signal / Prediction Error



- The brain is a predictive organ; this is much more efficient than creating perceptions from scratch
- The brain is always seeking to predict the environment accurately and minimize prediction error (PE) (i.e. minimize expected free energy)
- Predictions (priors) are activated and then updated by the sensory data, which creates a PE if it is inconsistent with prediction
- The ability to update the prior depends on the reliability (precision) of the PE
- In psychotherapy focusing attention and enhancing its informational value increases the precision of the prediction error (emotional distress)

Computational Neuroscience Framework in Psychotherapy: Perception and Action Are Inter-Related



Perception and action are highly inter-related: The sensory consequences of a range of options are anticipated before an action is selected.

The **action** can be **internal** (choosing to think of something or attend to something) or **external** (observable behavior) and the **consequences** can be **internal** (interoceptive or emotional) or **external** (sensory)

The action selected in a given circumstance is determined by consideration of two factors: **instrumental** and **epistemic**

Which Coping Strategy is Selected?

How RMPs Persist By Avoiding Attention to Emotional Distress

- Two mathematical terms determine which actions have the highest value (lowest expected free energy)
- Instrumental: maximize current positive emotion by minimizing the deviation between expected and preferred outcomes (in a problematic interpersonal situation when negative emotion is activated, preferred outcome does not seem possible; anticipate little positive emotion by attending to distress; therefore focus on or do something else)
- Epistemic: maximize information gain, which increases confidence in which future actions will lead to preferred outcomes later (no confidence that attending to emotional distress will increase likelihood of preferred outcome in the future; therefore it is avoided)

Which Coping Strategy is Selected?

How Attention to Emotional Distress Might Change in Psychotherapy

- In psychotherapy the calculation changes:
- Instrumental: maximize current positive emotion by minimizing the deviation between expected and preferred outcomes (by attending to distress with the help and support of a therapist, there is a relative increase in positive emotion in that the experience is not as bad as feared)
- Epistemic: maximize information gain, which increases confidence in which future actions will lead to preferred outcomes later (treating distress as helpful and informative about needs will be inform strategies for better meeting needs in the future)

Necessary Ingredients for Change (Common Factors in Psychotherapy)

- **Therapeutic alliance**
agreement on goals, method of treatment, expectations of each party, experiencing the therapist as helpful, confidence that the therapist is competent and will continue to be of help
- **Able to rely on the therapist for support** and assistance in facing previously intolerable emotion (“auxiliary ego” function)
- Establish **a sense of safety** (enabling exploration of emotional distress that was assumed to be overwhelming, requiring defenses or other avoidance strategies)
- Activating / **expressing emotion** / promoting emotional awareness

Productive Emotion Processing: Mindfully Aware

- Attending
 - Symbolization
 - Congruence
 - Acceptance
 - Agency
 - Regulation
 - Differentiation
- EFT -- all
- CBT
- PDT

Greenberg LS, Goldman RN, Eds. Clinical Handbook of Emotion-Focused Therapy. Washington, DC: American Psychological Association, 2019.

Emotional Homeostasis: Consciously Identifying Needs and Taking Action Accordingly

- Emotion is initiated by perceiving a change in interaction with the environment – a deviation from a set point or expectation -- pertaining to the extent to which needs, goals or values have been met or not met
- The emotional response starts in the body
- By conceptualizing and attending to this response, the emotion can be labeled and the associated need (which triggered the emotion) can be identified
- This informs what action can be taken to either address the source of the emotion or make internal adjustments (e.g. acceptance) if action in the outside world to address the change is not feasible
- Emotional homeostasis = taking action to return to baseline

Example of a Recurrent Maladaptive Pattern: The Case of Becky

(Hanna Levenson – APA Video)

- Mother was alcohol dependent and Becky learned that she needed to attend to mother's needs and not her own
- Father was demanding and expected top performance
- Becky became perfectionistic and learned not to impose her needs on others **for fear of rejection if she did**
- She loved her boyfriend but he was often inconsiderate
- She kept her feelings to herself and often cried herself to sleep
- Therapy involved paying attention to her **emotional pain**, **recognizing her needs**, coming to feel that **she was worthy** of being treated well, and **taking action** in her relationships to increase the likelihood that her needs would be met

A Traditional Approach to Psychodynamic Psychotherapy with Becky

- Traditional approach: therapist would organize interventions to emphasize **feelings that arise in interaction with the therapist** in the hope of recreating the conflict in the here and now
- The prediction is that people (therapist) won't meet her needs if she simply is who she is and that she has to ingratiate herself in the hope that she'll then get the love she needs
- The therapist will point out **how this experience in therapy repeats** the pattern with her parents and the boyfriend (insight)
- The patient will **experience the frustration and consider alternatives**
- By recognizing behavior that was unconsciously motivated, she will now have the **freedom to consciously make new choices**
- The working through process involves repeated experiences of **doing things differently** with the therapist and in other relationships

Comparison of Classic vs. Integrative (Emotion-Focused) Approaches to PDT

<u>Variable</u>	<u>Solms/Classic</u>	<u>Lane/Integrative</u>
Prediction Error	Procedure/Defense	Emotional experience to be constructed
Context of work	Must be in transference	Either transference or other relationships
Focus	Resolving conflict	Transforming intolerable emotion
Method	Interpretation	Corrective emotional experiences
Reconsolidation	Not possible (procedural memory)	Possible (schematic memory)

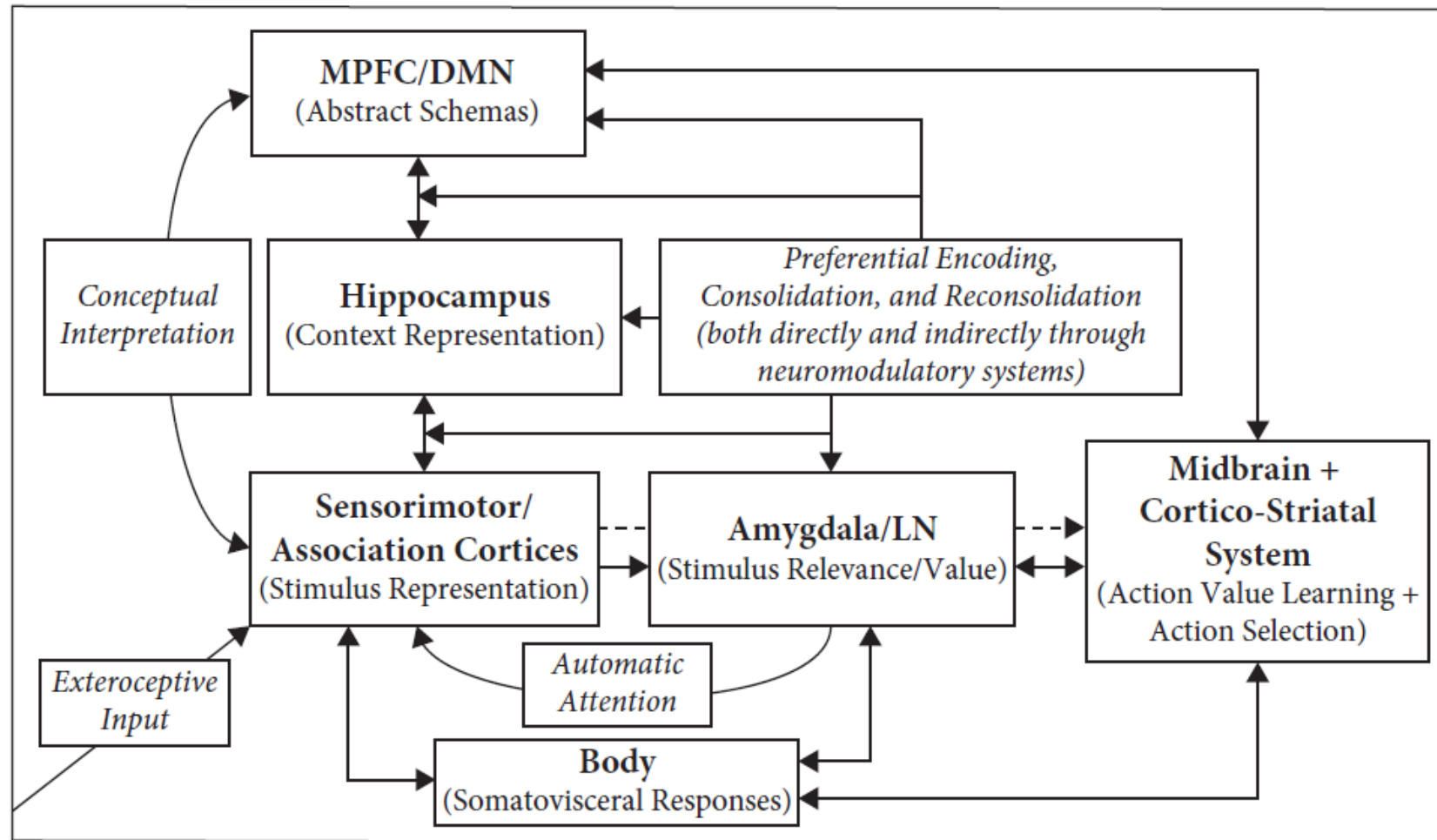


Figure 16.1 A model of the cognitive, emotional, and neural basis of the memory processes proposed to play a role in successful psychotherapeutic change.

Lane RD, Smith R, Nadel L. Neuroscience of enduring change and psychotherapy: Summary, conclusions and suggestions for future research. In *Neuroscience of Enduring Change: Implications for Psychotherapy* (Eds: Lane RD, Nadel L). Oxford University Press 2020, pp. 433-468.

Integrating Emotion-Focused Interventions Into Psychodynamic Psychotherapy

Maintaining the therapeutic relationship

1. Therapist responds to the client conveying a respectful, collaborative, empathic, nonjudgmental stance*
2. Shows evidence of listening receptively
3. **Recognizes the client's strengths**
4. **Prizes (admires, values, appreciates) the client**
5. Addresses obstacles (e.g., silences, coming late, avoidance of meaningful topics) and opportunities (e.g., inquisitiveness, assertiveness, willingness to be vulnerable) that might influence the therapeutic process

A deviation from therapeutic neutrality thought to be essential for working within the transference

Accessing and processing emotion

6. Encourages the client to experience and express affect in the session
7. **Facilitates clients' becoming aware of emotions on the edge of awareness, and uses various strategies to help clients deepen their emotional experience**
8. **Helps clients label their emotional experience and recognize its goal-directed significance**
9. **Helps the client access, experience, and deepen attachment-related feelings and/or primary emotions specifically related to the CMP**
10. **Uses therapeutic presence and emotional resonance with the client for emotion regulation, processing, and transformation**

Uses emotion to induce change (step 2) in addition to reactivating old problematic emotions (step 1)

Levenson, H. (2020). Enlivening Psychodynamic Brief Therapy with Emotion-Focused Interventions: An Integrative Therapist's Approach. *Clinical Social Work Journal*, 48, 267-278.

Integrating Emotion-Focused Interventions Into Psychodynamic Psychotherapy

Exploration

11. Uses open-ended questions

12. Inquires into the personal or unique meanings of the client's words

13. Responds to the client's statements or descriptions by seeking concrete detail

14. Trusts in the client's intrinsic motivation toward growth

Trusting that emotional processing with strong support will lead to adaptive primary emotion

Relationship focus

15. Facilitates the client's expression and exploration of feelings, thoughts and beliefs in relation to significant others (including the therapist or the therapeutic relationship)

16. Encourages the client to discuss how the therapist might feel or think about the client

17. Discloses one's own reactions to some aspect of the client's behavior in general and to the client's CMP in particular

18. Metacommunicates about the interpersonal process that is evolving between therapist and client

19. Uses the "real relationship" evolving between therapist and client

Includes therapist self-disclosure related to CMP

Levenson, H. (2020). Enlivening Psychodynamic Brief Therapy with Emotion-Focused Interventions: An Integrative Therapist's Approach. *Clinical Social Work Journal*, 48, 267-278.

Integrating Emotion-Focused Interventions Into Psychodynamic Psychotherapy

Cyclical patterns

- 20. Asks about various aspects of the client's cyclical maladaptive pattern (CMP)
- 21. Helps the client link his or her emotions and personal meanings to a recurrent pattern of interpersonal behavior
- 22. Deepens the client's emotional and conceptual understanding of how the CMP has affected their intrapersonal and interpersonal functioning
- 23. Links the need for disowning primary emotions to the client's early experiences with caregivers
- 24. Helps the client incorporate his or her more adaptive (healthier) feelings, thoughts, and behaviors into a new narrative

Adds visceral emotional experience to
the cognitive content of a new narrative

Promoting change directly

- 25. Provides opportunities for the client to have new experiences of him or herself in interaction with the therapist and to have new relational experiences in interaction with the therapist in accord with the goals for treatment
- 26. Gives process directives in session and outside of session (e.g., homework) to help the client take steps toward new emotional and/or interpersonal experiences and understandings

This is the CEE

Homework considered too directive / compromising pt autonomy

Levenson, H. (2020). Enlivening Psychodynamic Brief Therapy with Emotion-Focused Interventions: An Integrative Therapist's Approach. *Clinical Social Work Journal*, 48, 267-278.

Corrective Emotional Experiences Automatically Update Future Emotional Predictions

- A corrective emotional experience is unexpected and adds to the episodic experiences that comprise schematic memories
- What is experienced in interaction with the therapist becomes the basis for the client's predictions in future social contexts
- This means that CEEs directly change future construals and the Internal Working Model without the need for explicit interpretation or conscious understanding
- It's an illustration of how “a new way of experiencing self with other” can have transformative effects without interpretation

New Experiences, New Understanding or Both?

- If we are seeking enduring change, a goal of therapy is to change the internal working model of social relationships
- Insight consists of understanding what the internal working model is, but **understanding alone doesn't change the working model**
- Talking about emotions – **without experiencing and expressing them** – does not change the emotional elements of the schematic memory
- **New emotional experiences** *update* the internal working model and thus **change** how future situations are construed and responded to e.g. instead of the anticipated ridicule, shame and rejection, the therapist responds with compassion, empathy and acceptance
- The **implicit emotional messages inherent in an interpretation** may matter more than the words used to promote insight
- **Insight likely extends the gains achieved from new experiences**

Conclusions

- This reconceptualization of how change occurs explains the mechanisms of change in neuroscientific terms and places greater emphasis on emotional experiencing as a mechanism of change in interaction with memory
- Change in the internal working model can occur automatically through CEE, in the same way that the IWM arose from automatic experience
- Insight and understanding can assist in the change process
- Effective psychotherapy may be thought of as liberating the internal working model of the social world to enable interpersonal emotional growth to continue

Conclusions

- What keeps recurrent maladaptive patterns stagnant is avoidance of intolerable emotional pain; **corrective emotional experiences update schemas and make emotions tolerable**
- These changes alter construals and response options in previously problematic situations, thus **revising recurrent patterns**
- Psychodynamic psychotherapy can potentially be made more **more effective** and **more efficient** by using the real relationship, not just the transferential relationship, in an emotionally potent way
- These propositions can be tested empirically

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