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Constructed Awareness and Memory Reconsolidation: An Integration of Trauma Counseling and Neuroscience

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Abstract

Memory reconsolidation (MR) research reveals that memories can be reactivated and revised, leading to changes in neural encoding and subjective experiences, such as emotional responses and self-perception. This discovery has advanced the understanding of memory processing and opened new avenues for developing therapeutic strategies, particularly in trauma counseling. This conceptual article introduces Constructed Awareness (CA), an emerging trauma therapy model that integrates principles from mindfulness and neuroscience with MR mechanisms through its intervention called Memory Reconstruction. The article examines the principles and treatment phases of CA and provides a detailed review of MR literature, with an emphasis on the mechanisms that initiate memory updates. The practical integration of CA and MR is illustrated through an in-depth analysis of the Memory Reconstruction script, supported by a hypothetical case example. The discussion concludes with clinical implications and future research directions to further validate the CA model.

***Keywords*:** memory reconsolidation, Constructed Awareness, trauma, trauma therapy, neuroscience-based therapy

Constructed Awareness and Memory Reconsolidation: An Integration of Trauma Counseling and Neuroscience

Traumatic experiences can profoundly and persistently affect individuals, often leading to symptoms that are difficult to resolve through traditional counseling methods (Ecker & Bridges, 2020; Levine, 2015). Although widely used, trauma-focused treatments such as cognitive behavioral therapy (CBT) and eye movement desensitization and reprocessing (EMDR; Shapiro, 2017) have shown limitations, particularly in addressing the emotional roots of trauma. CBT often targets cognitive distortions without engaging the emotional memory itself (Kazantzis, 2024). Additionally, Corrigan and Hull (2014) reported that strict adherence to the standard EMDR protocol in cases of complex trauma may increase the risk of dysregulation, limiting the client's ability to access and modify the emotional schemas underlying their symptoms. These limitations underscore the need for approaches that can safely update emotional learning at its roots.

Memory reconsolidation (MR), first documented by Nader et al. (2000), offers a mechanism for modifying these underlying emotional learnings. However, mental health professionals have been slow to adopt MR into clinical practice (Levine, 2015). *Constructed Awareness* (CA; Orr et al., 2024) is a trauma

therapy model that addresses this gap by integrating mindfulness and MR principles through a structured, yet flexible intervention called *Memory Reconstruction* (Orr et al., 2024). Designed for both single-event and developmental trauma, CA provides a practical therapeutic application by guiding clients to mindfully shift attention among three building blocks of experience: (a) thoughts (mental building block), (b) bodily sensations (sensation building block), and (c) external perceptions (external building block). These building blocks shape how clients respond to trauma and regulate their emotions.

This conceptual article contributes to the counseling literature by introducing CA as a unified framework that operationalizes MR in clinical practice. The following sections outline CA's core tenets and treatment phases, followed by a review of MR literature emphasizing the mechanisms that initiate memory updates. The discussion then integrates CA and MR through an in-depth analysis of the MR script used by CA therapists, illustrated by a hypothetical case example. The article concludes with clinical implications and future research directions to refine and validate the CA model.

Constructed Awareness

Unlike conventional methods of therapy that often emphasize behavioral or cognitive modifications in the treatment of trauma, such as trauma-focused cognitive behavioral therapy (TF-CBT; Cohen et al., 2006), prolonged exposure (Foa et al., 2019), and cognitive processing therapy (Resick et al., 2017), CA centers on the transformative potential of mindful awareness (Orr & McMahan, 2024). Rather than focusing on changing thoughts or behaviors directly, CA supports change through awareness itself, particularly by tuning between thoughts, sensations, and external perception. This section explores the core principles that define CA and outlines the distinct treatment phases that guide its therapeutic process.

First Principle

CA's first principle asserts that bringing mindful awareness to a client's experience changes their experience (Orr et al., 2024). This principle is the cornerstone of CA, emphasizing the transformative potential inherent in client awareness. Unlike cognitive-behavioral approaches, which prioritize self-control as the primary mechanism for modifying behavior, cognition, and emotion (Kazantzis, 2024), CA posits that self-control and determination alone are insufficient for effective counseling (Orr & McMahan, 2024). Instead of trying to change the client's experience directly, CA therapists work to enhance the client's awareness of their experience, allowing awareness itself to catalyze change. This concept aligns with third-wave psychotherapies that emphasize mindfulness and acceptance as vehicles for change (Schefft et al., 2023) as well as psychodynamic psychotherapies, which view insight and the emergence of previously unconscious material as mechanisms of change (Lemma et al., 2021). By cultivating mindful awareness of their thoughts, bodily sensations, and external environment, clients gain a deeper understanding of the underlying dynamics driving maladaptive patterns, which can lead to spontaneous change (Orr et al., 2024).

Second Principle

CA's second principle states that emotions are constructed by three domains, known in CA as the three building blocks (i.e., mental, sensation, and external building blocks; Orr, 2025b). This principle draws on Barrett's (2017) theory of constructed emotion (TCE), which suggests that emotions are actively constructed by the brain in response to internal and external stimuli, shaped by past experiences. CA applies Barrett's theory in a clinical setting by defining emotion as an interplay of mental, sensation, and external

building blocks (Orr, 2025b). By improving awareness of how these building blocks create reality, clients can better focus their attention, regulate themselves, and connect with the world (Orr, 2024).

Third Principle

CA's third principle suggests that most clients naturally orient their awareness more strongly toward one of the three building blocks, relying on one more than the others for self-regulation and connection with others (Orr, 2025b). Each building block corresponds to a particular orientation. Mentally-oriented clients rely primarily on logic and reason, externally-oriented clients observe their environment to adapt themselves or meet its needs, and sensation-oriented clients rely on their emotions and physical sensations to navigate life (Orr, 2024).

CA defines *orientation* as the fluid organization and interplay of the mental, sensation, and external building blocks (Orr, 2025b). Simply put, orientation refers to the building block a client relies on most at any moment. This understanding helps the counselor tailor resources to meet clients' specific needs. For instance, for a client who relies primarily on their external building block, the counselor would likely focus on resources that enhance awareness of bodily sensations and thoughts to bring balance to their system.

After clients achieve awareness of all three building blocks, they begin practicing a technique unique to CA called *tuning* (Orr et al., 2024), which is rooted in the mindfulness concept of self-regulation of attention (Turcotte et al., 2023). Tuning is defined as the practice of focusing on thoughts, sensations, and external senses, and intentionally shifting attention among them (Orr & McMahan, 2024). This skill allows clients to engage more flexibly with their internal and external experience. Tuning aligns with Siegel's (2009) concept of *internal attunement*, which comes from interpersonal neurobiology, a theoretical framework that integrates neuroscience, psychology, and attachment theory. Siegel defines internal attunement as "the linkage of differentiated elements of a system that leads to the flexible, adaptive, and coherent flow of energy and information in the brain, the mind, and relationships" (p. 137).

Tuning enhances clients' awareness by systematically moving their attention from the mental building block to the sensation and external building blocks (Orr et al., 2024). For example, a client might first focus on the details of a mental image, then shift their attention to an object in the environment, and finally to a sensation within their body. This practice is consistent with Siegel's (2009) statement: "the integration of consciousness involves the linkage of differentiated aspects of attention into a state of mindful awareness in the moment" (p. 167).

Treatment Phases

CA has two phases of treatment: the resourcing phase and the reconstructing phase (Orr et al., 2024, Orr & McMahan, 2024). During the resourcing phase, therapists introduce clients to new ways of observing how the three building blocks construct their experiences. They also identify the client's orientation and implement resources tailored to their specific needs, typically focusing on developing less dominant building blocks (Orr, 2024). In this phase, clients not only become aware of the three building blocks but also learn how to tune among them. This phase is especially important for clients with trauma histories, as research on other structured trauma models such as EMDR and PE has shown higher dropout rates when clients are not adequately prepared for memory processing or are unable to stay regulated during trauma recall (Belleau et al., 2017; Corrigan & Hull, 2014).

The reconstructing phase centers on processing traumatic memories (Orr et al., 2024, Orr & McMahan, 2024). During this phase, CA practitioners guide clients through *Memory Reconstruction*, a scripted method designed to process and update disturbing memories by tuning awareness between a mental image, bodily sensations, and external perceptions. This technique is influenced by MR studies (Ecker & Vaz, 2022; Nader et al., 2000) and will be explained later in the paper. Understanding how the foundational principles of CA are reinforced and operationalized through MR is crucial, as this process plays a pivotal role in reshaping clients' emotional responses to trauma.

Memory Reconsolidation

To fully understand how Memory Reconstruction functions within CA, it is important to examine MR's underlying neuroscience. MR is a neural process through which the brain updates and modifies existing memories when confronted with new, conflicting information (Ecker & Vaz, 2022). MR research challenges the long-held belief that memories are immutable once consolidated (Ecker & Bridges, 2020). Instead, MR demonstrates that memories can be revised, leading to changes in both subjective experiences (e.g., emotional reactions to recalling the memory) and neural encoding (i.e., how the memory is stored and reactivated in the brain).

According to Haubrich and Nader (2018), the discovery of MR in 1999 occurred during Nader's investigation into how the brain recalls established memories. He knew that specific proteins were necessary for consolidating memories and questioned whether the brain produced similar proteins when accessing and recalling previously consolidated memories. To test this hypothesis, Nader conditioned several rats to associate a neutral tone with a painful electric shock, reinforcing this fear conditioning over several weeks. He then exposed the rats to the sound without the shock and observed that they continued to exhibit physiological fear responses. Once the rats consistently responded with fear to the sound, Nader injected a protein inhibitor directly into their amygdalae before playing the tone again. Remarkably, the rats displayed no fear response when exposed to the tone, and this absence of fear remained stable long after the injection had worn off.

Functionally, Nader's experiment erased the fear response (Haubrich & Nader, 2018), as though the original emotional learning no longer existed. MR researchers use the term *erasure* to describe the phenomenon where cues or contexts that once triggered an emotional, psychological, or behavioral response no longer do so after the individual experiences new learning that contradicts the original memory (Agren et al., 2012; Ecker & Bridges, 2020). Though Nader first discovered MR while working with lab rats, researchers have since applied this process to humans' more complex emotional learnings, observing distinctive markers of erasure in both animals and humans (Ecker, 2015, 2018). These markers include the disappearance of symptoms, the disappearance of emotional activation associated with the symptoms, and the persistence of these changes over time.

Ecker and Bridges (2020) propose that MR has occurred when the markers of erasure are present. They explain that in MR, the therapeutic focus is on the underlying emotional learning that gives rise to symptoms. These instances of emotional learning create schemas and beliefs about the self, typically formed during emotionally intense experiences. Over time, these schemas and beliefs unconsciously influence behaviors, emotions, and cognitions. By unlearning and modifying these negative schemas, emotional distress can be resolved,

leading to the markers of erasure. MR researchers have identified three key experiences that can lead to these markers, which Ecker (2018) termed the *Empirically Confirmed Process of Erasure* (ECPE). The ECPEs are (a) reactivated, symptom-generating target learning experienced in awareness, (b) experience of mismatch/prediction error destabilizes the target learning's neural encoding, and (c) experience of counter-learning drives unlearning, nullification, re-encoding, and replacement of target learning. The following three subheadings will explain the ECPEs and explore their application in counseling.

Target Learning Experienced in Awareness

This ECPE involves using specific cues or contexts to deliberately reactivate the maladaptive memory tied to a client's presenting symptom (Ecker, 2018). For example, a woman in therapy for anxiety and fear of trying new things reactivated a lifelong schema and memory that had just come into awareness: "My father has never listened to me. I want to be heard and seen. It's like the time in fourth grade when he completely ignored my excitement when I told him about scoring a goal in gym class. I was so proud, and he just dismissed it as unimportant, saying he was too busy." At this point, the client has reactivated the memory, triggering deep feelings of invisibility, rejection, and powerlessness that had lingered for years. For MR to occur, the client must fully experience the emotions accompanying the reactivated memory while also verbalizing and conceptualizing them to ensure they are directly accessing the schema at its emotional roots and not merely as a cognitive insight (Ecker & Bridges, 2020).

Experience of Prediction Error

While the target memory and associated emotional learning are reactivated in awareness as described above, a prediction error must occur (Ecker & Bridges, 2020). A *prediction error,* also called *memory mismatch*, was discovered and defined by Pedreira et al. (2004) as a cognitive process whereby the brain detects a discrepancy between expected outcomes based on prior experiences and actual experiences occurring in the moment. For example, the client who believed "my father never listens to me" experienced a prediction error when she remembered a recent situation where a loved one genuinely listened and acknowledged her feelings. This discrepancy prompted her brain to reassess and alter the existing memory to incorporate the new information, destabilizing the old memory's neural encoding. In response to this new experience, her brain rapidly reorganized the memory from its stable, consolidated form to a destabilized, de-consolidated form, making it susceptible to being updated and re-encoded by new, contrary learning (Ecker & Vaz, 2022). This destabilized state, often called the *reconsolidation window*, lasts approximately five hours (Ecker & Bridges, 2020). During this period, the memory's neural encoding remains flexible and pliable before it reconsolidates into a stable long-term memory.

Experience of Counter-Learning

This ECPE involves replicating the same mismatch created in the previous step. Each prediction error is a juxtaposition experience, whereby the client simultaneously perceives the maladaptive learning and new contradictory understanding within the same field of awareness. Consider the client with anxiety who reactivated a memory where she felt dismissed by her father. This ECPE could arise by the counselor inviting her to hold the belief that "my father never listens to me" with a new understanding that her current environment is different and more supportive.

According to Ecker and Bridges (2020), two or three repetitions of these juxtaposing

experiences serve as counter-learning. Since this counter-learning occurs while the encoding of the target memory is still pliable, the prediction error effectively rewrites the original encoding of the target schema associated with the memory. As a result, the maladaptive learning is erased from memory and is no longer accessible.

However, the client may encounter internal tension if the counselor introduces a memory mismatch before properly destabilizing the target memory (Ecker & Bridges, 2020). For instance, if the counselor prematurely challenges the client's belief that "my father never listens to me" by pointing out that others in her life listen to her now, the client may feel conflicted. Without first reactivating and destabilizing the memory, this contradiction could make the client feel confused or resistant, as the new suggestion clashes with the deeply ingrained belief. This tension arises when the maladaptive learning has not yet become pliable enough to integrate the contradictory information. As a result, the client might dismiss the prediction error or further entrench the original belief (Armstrong, 2015). In such cases, the counter-learning merely creates a separate encoding that competes with the maladaptive learning (Armstrong, 2015; Ecker & Bridges, 2020). This competition produces only incremental change at best, which is prone to relapse when current circumstances retrigger the emotionally intense maladaptive learning. The Memory Reconstruction process within CA provides a structured approach to reactivating, destabilizing, and updating the target learning, thereby integrating counter-learning and effectively preventing such relapse.

Integrating Constructed Awareness and Memory Reconsolidation

Building on the foundational principles of CA and the mechanisms of MR, this discussion section delves into the practical integration of these concepts through the scripted CA intervention, Memory Reconstruction. The script comprises eight steps, each designed to facilitate the reconsolidation of traumatic memories (Orr, 2022).

1. *Briefly Describe the Memory*: Reactivate the memory with minimal wording.
2. *Prepare and Practice External Resources*: Ensure the client is present.
3. *Identify the Picture*: Focus on a key image from the memory.
4. *Tune into the Body*: Notice bodily sensations related to the memory.
5. *Express Actual Affirmations*: Verbalize auditory thoughts.
6. *Tune between the Building Blocks*: Shift attention between the picture, sensations, and external stimuli.
7. *Construct Agreement between Mind and Body*: Ensure the body's response to the picture is neutral or positive.
8. *Close by Checking in and out*: Confirm that the client is present.

For reference, the full script used by CA practitioners is provided in Appendix A.

The following hypothetical case demonstrates alignment with Ecker's (2018) ECPEs throughout these steps. The Client self-described as a nonbinary individual in their mid-thirties with a history of childhood abuse and ongoing struggles with anxiety and depression. The female Counselor, a certified CA clinician in her mid-forties, selected CA because the Client reported becoming overwhelmed during previous therapy attempts using EMDR and prolonged exposure (PE; Foa et al., 2007), where they struggled to remain present when engaging with thoughts and bodily sensations related to their trauma. While EMDR and PE are evidence-based treatments for trauma, research suggests they can be overwhelming or, in some cases, retraumatizing for clients with complex or

developmental trauma (Armstrong, 2019; Corrigan & Hull, 2014; Ledoux, 2015).

To address the client overwhelm, the Counselor extended the resourcing phase to help the Client develop strategies for regulating their internal experience. The Client learned to bring awareness to all three building blocks and to tune between them without becoming overwhelmed. The Client shared that in prior EMDR sessions, the open-ended prompt "What are you noticing now?" often led to emotional flooding and confusion. They believed the question was too broad and vague. The Counselor believed CA's tuning process—with its specific, targeted focus on particular domains of awareness—would offer the clarity and direction needed to help the Client stay regulated while accessing emotionally significant material. The following provides detailed descriptions of the steps, illustrated by the case of The Client.

Step 1: Briefly Describe the Memory

The CA Memory Reconstruction script begins with the instruction, "I'd like to invite you to tell me about the memory as briefly as possible." This step aligns with Ecker's (2018) first ECPE, which involves deliberately reactivating and de-consolidating the target memory. Agren et al. (2012) and Armstrong (2015) emphasize the importance of recalling the memory briefly at the start of the MR process to avoid overwhelming or dissociating the client. By keeping the initial description concise, CA therapists help clients maintain a manageable level of emotional engagement. The following example illustrates how this step was applied with the Client.

The Client recalled a particularly distressing memory that seemed directly connected to their current symptoms. The Counselor and Client agreed to process this memory using Memory Reconstruction in the next session. When that session arrived, the Counselor invited the Client to briefly state the memory, without going into detail, as if describing a headline. The Client responded briefly about the memory, "my mother did something inappropriate in the bathroom." The Counselor then immediately moved to Step 2. Providing more details about the memory at this stage could potentially destabilize the Client, causing them to relive the trauma and making it difficult for them to stay present enough to engage in the process.

Step 2: Prepare and Practice External Resources

This step involves helping the client achieve *dual awareness*, a state wherein they remain grounded in the present while recalling distressing past experiences (Shapiro, 2017). Woodcock (2020) highlighted that dual awareness, combined with mindfulness, is essential for effectively processing trauma. This dual focus allows clients to engage with traumatic memories without becoming overwhelmed. Additionally, Armstrong (2015) recommended that clients should feel as regulated as possible before working with the memory. CA therapists support this process by guiding clients to notice the safety and stability of their current environment, encouraging them to describe objects they can see, hear, or touch in the room (Orr & McMahan, 2024).

As previously stated, Nader et al. (2000) indicated that the reconsolidation window remains open for approximately five hours after a memory is destabilized. Armstrong (2015) adds that this window typically begins about two minutes after destabilization occurs. Therefore, allowing clients time to mindfully connect with their environment ensures that at least two minutes have passed, creating optimal conditions for the reconsolidation window to remain accessible. The following paragraph shows how clients can engage with their environment during this step, illustrated by the case example.

After the Client briefly described the memory, the Counselor invited them to focus on something in the office that captured their attention. The Client noticed a lava lamp on the Counselor's desk. The Counselor then asked the Client to describe out loud the details they observed, such as the lamp's colors, shapes, and distance from them. The Client also noticed a rock on a bookshelf, and the Counselor invited them to hold it and describe how it felt. While the Client engaged their external senses, the Counselor explained the concept of dual awareness, highlighting the importance of taking time to regulate and connect with the present moment before engaging further with the memory. After practicing mindful awareness for approximately five minutes, the Counselor checked in with the Client about their current state. The Client reported feeling present and relatively calm. The Counselor then asked if the Client felt ready to return to the memory. The Client indicated they were, signaling readiness to move to Step 3.

Step 3: Identify the Picture

In this step, the counselor says, "To begin, I'd like to invite you to bring the memory to mind and see if one image stands out as the most important to work with. Let's call this 'the picture.'" By asking the client to identify this picture, the CA therapist achieves three objectives. First, they establish that the memory pertains to a specific moment in time, rather than a broad period or a series of similar events. For instance, the CA therapist is not looking for responses such as, "third grade" or "every time I visited my dad." An ideal response would be more specific, such as, "the time in third grade when I made a 'C' on my report card and my dad lectured me in the kitchen for 45 minutes."

Second, this step is designed to help clients connect with the visual aspects of the memory. Engaging with the visual components is crucial for CA Memory Reconstruction, which is why CA therapists train clients during the resourcing phase to connect with and describe their thoughts using vivid language. It is essential for CA therapists to ensure clients are visualizing the image. In this step, the counselor asks the client to choose a picture and describe two or three details about it, ensuring they are actively visualizing the memory.

Third, identifying a single picture provides the CA therapist with a reference point to return to during the Memory Reconstruction process. This picture is an anchor during Step 6, where CA therapists guide clients to shift their attention between the three building blocks. After tuning between sensations and external stimuli, counselors and clients periodically return to the picture to notice any memory mismatches. Establishing this image early in the process creates opportunities to introduce repeated prediction errors, which is crucial for MR and updating the emotional responses associated with the memory. The next paragraph demonstrates how to identify the picture with the case example.

The Counselor invited the Client to bring the memory to mind and focus on a specific image that stood out as the most important to work with in that moment. The Client identified a particular moment from the traumatic experience, which the Client and Counselor designated as "the picture" to return to throughout the Memory Reconstruction process. To ensure the Client was fully visualizing the image, the Counselor asked them to describe it in two or three details. The Client reported seeing a blue towel hanging on a rack, a window to the left side of their mental vision, and a green bottle of shampoo on a ledge in the shower.

Step 4: Tune into the Body

Step 4 introduces the first instance of tuning in the Memory Reconstruction process. Here, CA therapists guide clients to shift their awareness

from thoughts to bodily sensations by asking what sensations they notice when they bring up the picture. Clients are then encouraged to describe at least one sensation in two or three different ways, using specific descriptors as they learned to do during the resourcing phase, such as "tight," "cold," or "flowing." By describing sensations in this detailed manner, CA therapists can ensure that clients are fully present in their bodies and can accurately identify and articulate their physical sensations. The next paragraph demonstrates how this step is applied in practice.

The Counselor asked, "When you bring up the picture, how does your body respond? What sensations do you notice?" The Client reported feeling a sensation in their chest. The Counselor invited the Client to describe the sensation in two or three ways. The Client said the sensation was "pulsing" and "hot."

Step 5: Express Actual Affirmations

In Step 5, CA therapists guide clients with the following instructions: "I'd like to invite you to bring up the picture and notice the sensation, and just stay with that experience for a moment. See if you can let both the picture and the sensation be present in your awareness. As you do, see if any words come to mind. They can be statements or beliefs that describe how you feel about yourself in this moment. Or they can be words that describe how you feel about other people or the world. It can also be about something you want that you aren't able to get." The client's responses to these questions are referred to in CA as *actual affirmations* (Orr et al., 2024). Actual affirmations are expressions that reflect the client's current state of mind. Often, these affirmations are negative statements reflecting maladaptive learning, such as "I'm not safe," "it's my fault," or "people always leave."

Unlike cognitive behavioral approaches focusing on reframing thoughts (Kazantzis, 2024), CA encourages clients to align with and state negative beliefs. This process aligns with Ecker and Bridges' (2018) suggestion that for MR to occur, clients must fully experience the emotions accompanying the reactivated memory while verbalizing and conceptualizing them. Expressing actual affirmations ensures the client is accessing the schema at its emotional roots rather than merely at a cognitive level. This step also shares similarities with EMDR (Shapiro, 2017), during which clients state a negative belief about themselves. However, in CA, the actual affirmation does not necessarily need to be about the self. Using the case example, the Counselor asked the Client to hold the picture with the sensation in their chest and notice if any words came to mind. The Client responded, "I'm not safe. It's not safe to feel safe."

Step 6: Tune between the Three Building Blocks

Step 6 is the most time-consuming part of the Memory Reconstruction process. To begin, CA therapists instruct the client by saying, "Now I'd like to invite you to notice the picture, the sensations you feel in your body, the words (actual affirmations), and see where your awareness is drawn the most. Is it the picture, your body, or those words?" The client's chosen focal point determines where the tuning begins. Allowing the client to choose the starting point offers a sense of control in the process, which is particularly beneficial given that most traumatic memories involve experiences of powerlessness.

If the client selects the picture, the counselor asks for detailed descriptions of the image. If the client chooses sensation, the counselor inquires about the sensations arising at that moment. If the client focuses on the actual affirmation, the counselor prompts them to repeat the words or notice any new ones that arise.

Once the client is sufficiently connected to the initial point of focus, the counselor guides them in tuning between the three building blocks until the client no longer experiences somatic disturbance when recalling the picture (Orr & McMahan, 2024). In the CA level two training program, counselors are taught 36 tuning techniques designed to enhance dual awareness and evoke memory mismatches (Orr et al., 2024). For example, one such technique is called *Therapist Guesses*, where the therapist makes guesses about what the client is seeing in the picture. This practice fosters increased curiosity, encouraging the client to explore the picture more deeply to verify the accuracy of the guesses.

Ecker (2015) recommends a gentle and gradual approach to processing maladaptive learning, allowing mismatched experiences to arise organically in the session. Gershman (2013) supports this by stating that gradual increments of prediction errors increase the likelihood that clients will perceive the original learning as altered, helping the change to persist. For this reason, CA therapists limit processing to one building block at a time, as opposed to modalities like EMDR (Shapiro, 2017), which often ask the broader question, "What are you noticing now?" Instead, CA therapists ask questions that focus on specific aspects of each building block, such as, "what do you notice in the background of the picture?" "which direction is the energy flowing in your arms?" "what is your favorite item in the office right now?" This focused and constant tuning from one point of awareness to another provides the graded approach recommended by Ecker (2015) and Gershman (2013).

The repeated act of tuning between the building blocks creates the conditions for all of Ecker's (2018) ECPEs to arise. The first ECPE involves using specific cues to deliberately reactivate the target emotional learning of a memory, which CA therapists achieve by guiding the client to bring different aspects of the target emotional learning into awareness. The second ECPE, prediction errors, arises when clients notice new details or shifts in the picture, facilitated by repeatedly returning to the image. Finally, Ecker's third ECPE involves replicating the same mismatch experience created in the previous step. Each prediction error becomes a juxtaposition experience, in which the client simultaneously perceives the maladaptive learning and new, contradictory understanding within the same field of awareness. According to Ecker and Bridges (2020), two or three repetitions of this juxtaposition experience serve as counter-learning. When this counter-learning occurs while the target learning's encoding is still pliable, it effectively rewrites the original encoding of the target schema associated with the memory. The following paragraphs provide an example of Step 6.

The Counselor asked the Client whether they were most drawn to the picture, the sensation, or the affirmation. The Client selected the sensation in their chest. The Counselor then invited the Client to fully focus on that sensation, encouraging them to describe its details while remaining curious. Once the sensation had moderately subsided, the Counselor invited the Client to return to the picture, asking for details—not just about the most distressing parts but also about typically overlooked elements. This approach aimed to foster a new experience for the Client by encouraging them to notice something in the picture they had not seen before. The Client reported that they could see out of a window in the mental image. Initially, they remembered it being nighttime but now noticed it was sunny outside.

After discussing what they saw in the picture, the Counselor invited the Client to open their eyes and look out of the office window and describe what they observed in their external environment.

After a few moments, the Counselor invited the Client to check back in with sensation. The Counselor and Client continued this tuning process until several memory mismatches occurred, culminating with the Client's realization that they were now taller than their mother, as if they were seeing the picture from an adult perspective. When asked what they felt in their body, they reported feeling bigger and stronger than before.

Step 7: Construct Agreement between Mind and Body

In Step 7, the CA therapist says, "I'd like to invite you to bring up the memory in your mind now. When you do, check in to see how your body responds. Does your body seem okay with the picture now? What do you notice?" In this step, the counselor checks to see if the client's body is at ease with the memory. If the client notices a disturbance, the counselor and client will continue tuning. If the client's body responds neutrally or positively, Ecker's (2018) first two markers of eraser (i.e., disappearance of symptoms and disappearance of emotional activation associated with symptoms) are present. Therefore, Step 7 is complete. The next paragraph demonstrates how this step is applied in practice.

After receiving multiple responses that indicated the memory was no longer disturbing, the Counselor asked the Client if they noticed any discomfort in their body when they brought up the picture. The Client recalled the image and explored it with curiosity. They then reported that their body felt relaxed and had a neutral reaction to seeing it. At this point, the Counselor knew the processing was finished.

Step 8: Close by Checking in and out

Step 8 concludes the Memory Reconstruction process with the counselor guiding the client through a series of questions: "I'd like to invite you to look around the room. Does your sense of sight look normal? Are colors, shapes, shadows, and reflections vivid and clear? How about your sense of hearing? Does my voice and other sounds in the room sound clear? What about your sense of touch? When you touch an object, can you feel its details? Do you feel present in your body?" These questions help the counselor assess whether the client is present and connected to all three building blocks. If the client answers "no" to any of these questions, it may be necessary to practice additional resources that the client finds helpful to ensure they leave the therapy session in a safe and regulated state. In the case example, the Counselor asked the Client the above questions to ensure they were present and connected to their experience. The Client answered "yes" to all the questions. The Counselor invited the Client to reflect on what they learned or planned to take away from the session.

Implications for Counseling

As an integrative model, CA offers a structured and flexible approach to trauma processing by uniting neuroscience-informed mechanisms of MR with mindfulness practices. This approach targets the emotional roots of trauma while supporting client self-awareness and regulation (Orr et al., 2024). Armstrong (2019) noted that many trauma therapies appear to induce MR, though their procedures were not developed with MR as a guiding framework. EMDR (Shapiro, 2017) includes memory reactivation and dual awareness, which may incidentally support MR (Armstrong, 2019; Ecker & Bridges, 2020). However, EMDR does not intentionally structure its procedures around MR mechanisms like mismatch and counter-learning. Somatic Experiencing (Levine, 2015) engages body-based processing that can shift emotional responses but does not directly operationalize the MR sequence. In contrast, the

CA Memory Reconstruction intervention was developed directly from MR literature, aligning each step with the empirically supported mechanisms of reactivation, mismatch, and counter-learning (Orr, 2022). By centering its intervention on MR, CA fills a critical gap in trauma treatment and offers a comprehensive model for durable emotional change.

The integration of MR mechanisms enhances CA's potential as a treatment for a wide range of trauma-related disorders, showing promise not only for single-event trauma but also for complex posttraumatic stress disorder (CPTSD) and developmental trauma (Orr et al., 2024; Orr & McMahan, 2024). CPTSD often arises from extended exposure to traumatic experiences (Padun, 2021), while developmental trauma stems from adverse childhood events, leading to pervasive negative beliefs and emotional dysregulation (Cruz et al., 2022). CA's focus on reactivating and modifying these deep-rooted memories offers a promising approach for individuals who have endured chronic trauma or whose developmental processes were disrupted (Orr & McMahan, 2024).

Counselors trained in CA can apply tuning techniques to help clients shift awareness between mental, bodily, and external experiences during trauma recall. This approach may be particularly helpful when clients struggle to describe their emotions or when standard exposure-based methods like PE and EMDR feel overwhelming. By engaging specific building blocks of awareness, CA offers a gentler, more adaptive path through trauma processing, allowing clients to remain regulated while still accessing emotionally relevant material.

While this paper provides a step-by-step guide for conducting Memory Reconstruction, it is crucial to emphasize that reading this article alone does not constitute sufficient training to perform the technique effectively and ethically. CA is more than just a technique or intervention. The CA training program includes 90 hours of continuing education, underscoring the complexity of the model (Orr, 2020, 2022, 2025a). Practitioners must be trained in the model to perform CA techniques like Memory Reconstruction. Practicing CA without formal training may pose ethical concerns and clinical risks. According to the American Counseling Association (ACA, 2014) Code of Ethics, Standard C.2.b, counselors must only use techniques they are trained to use. Therefore, to ensure client safety and therapeutic efficacy, only those who have received proper training and consultation should use CA to process traumatic memories.

Directions for Future Research

CA is a therapeutic model that integrates MR principles to address trauma-related symptoms. To date, two quantitative studies have been published. One randomized controlled study compared CA with EMDR in treating trauma-related symptoms (n = 30) and found that CA outperformed EMDR on all three measures—Trauma Symptom Checklist (TSC-40; Briere & Runtz, 1989), Central Sensitization Inventory (CSI; Mayer et al., 2012), and Subjective Unit of Disturbance (SUDS; Wolpe, 1969), with statistically significant improvements (Orr et al., 2024). Another study examined CA's impact on a single participant with complex trauma and prolonged grief (Orr & McMahan, 2024), finding significant symptom reduction on both PTSD and grief measures across baseline, treatment, and follow-up phases; by the end of treatment, the participant no longer met criteria for either diagnosis. Additional research is currently underway, including a mixed methods study that utilizes qualitative interviewing and EEG data, a follow-up randomized controlled trial (RCT) comparing CA to treatment-as-usual, and an

assessment development study aimed at validating a measure to determine client orientation within the CA framework (Orr et al., 2025).

Although CA shows promise as a trauma treatment, research remains limited, highlighting the need for continued empirical work to support its growth and validation. Further trials assessing CA's effectiveness across diverse populations and settings are especially important, as they can strengthen its credibility and clarify for whom it is most effective. In addition to trauma-related concerns, CA should be explored across other clinical issues and special populations to better understand its broader applicability.

Finally, longitudinal research on the sustainability of CA's effects and neuroimaging studies to investigate its underlying mechanisms may offer a more comprehensive understanding of how CA works and the changes it may support in the brain. As this article is conceptual in nature, future empirical studies are planned and underway to continue building the evidence base for CA. By pursuing these research directions, counseling and related fields can better understand CA's potential and limitations, ultimately enhancing its application in clinical practice.

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Appendix A
Memory Reconstruction Script

Step 1: Briefly Describing the Memory

"I'd like to invite you to tell me about the memory as briefly as possible."

Step 2: Preparation and Practicing External Resources

- Explain dual awareness and tuning.
- Explore how objects in the room feel.
- Explore how objects in the room look.
- Explore how noises in the room sound.

Step 3: Identifying the Picture

"To begin, I'd like to invite you to bring the memory to mind and see if one image sticks out as the most important one to work with. Let's call this 'the picture.'"

- Allow the client to connect with two or three details about the picture.

Step 4: Tuning into the Body

"When you bring up the picture, how does your body respond? What sensations do you notice?"

- Allow the client to connect with two or three details about what they are feeling.

Step 5: Expressing Actual Affirmations

"I'd like to invite you to bring up the picture and notice the sensation, and just stay with that experience for a moment. See if you can let both the picture and the sensation be present in your awareness. As you do, see if any words come to mind. They can be statements or beliefs that describe how you feel about yourself in this moment. Or they can be words that describe how you feel about other people or the world. It can also be about something you want that you aren't able to get."

- Allow the client to say their actual affirmation.

Step 6: Tuning between the Three Building Blocks

"Now I'd like to invite you to notice the picture, the sensations you feel in your body, the words (actual affirmations), and notice where your awareness is drawn to the most. Is it the picture, your body, or those words?"

- Begin tuning where the client is drawn to. Then continue tuning between the picture, sensation, and external senses.

Step 7: Constructing Agreement between Mind and Body

"I'd like to invite you to bring up the memory in your mind now. When you do, check in to see how your body responds. Does your body seem okay with the picture now? What do you notice?"

- If the client reports disturbance, continue tuning between the building blocks.
- Repeat until the client can recall the memory with no objection from the body.

Step 8: Closing by Checking in and out

"I'd like to invite you to look around the room. Does your sense of sight look normal? Do colors, shapes, shadows, and reflections look vivid and clear?"

"How about your sense of hearing? Does my voice and the other sounds in the room sound clear?"

"What about your sense of touch? When you touch one of the objects, can you feel it clearly?"

"Do you feel present in your body?"

- Allow the client time to discuss what they learned.