

PERSPECTIVE ARTICLE

Emotional restructuring in relationships: Utilizing creative, intuitive, and implicit interventions

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Abstract

A growing body of research in neuroscience and cognitive science indicates that core aspects of decision-making, evaluation, and insight are substantially driven by processes occurring outside of conscious awareness, challenging models that position conscious processes as the primary drivers of these functions. This article distinguishes between neural, psychological, and clinical levels of explanation and does not assume direct equivalence across them. Instead, neuroscientific findings are interpreted in terms of their implications for psychological processes that are more proximally related to behavior and therapeutic change. Consequently, this article examines the psychological implications of these findings, focusing on the role of nonconscious emotional and predictive processes in organizing conscious experience. The concept of “cognitive restructuring” is critically reconsidered, and the term “emotional restructuring” is introduced to emphasize the central role of unconscious affective processes in therapeutic change. This perspective is intended as a theoretical reorientation that repositions, rather than eliminates, the role of cognitive interventions. The article further argues that intuitive, creative, and nonconscious techniques—while long present in models of psychotherapy and marriage and family therapy—have not been adequately integrated into a coherent theoretical model grounded in contemporary neuroscience. Finally, it contends that insight is often better understood as emerging from nonconscious integrative processes, with conscious awareness reflecting their outcome. The clinical implications of this perspective are developed as a theoretically grounded, although not yet fully empirically validated, framework for understanding mechanisms of change in psychotherapy.

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1. Understanding the conscious and the unconscious

While Freud¹ infused psychotherapy with a focus on the unconscious as the primary factor in change, most schools of psychotherapy have favored working with couples through their conscious attention. Historically, consciousness has been defined as utilizing working memory and consisting of intentionality and awareness. Unconsciousness, on

the other hand, has been viewed as lacking intentionality or awareness and consisting of automatic responses. However, these historical definitions have been altered somewhat by recent neuroscience research. Accessing the unconscious through conscious techniques has been a large part of the history of psychotherapy and continues to be emphasized in contemporary models.² It is clear from a quick scan of models of psychotherapy and marriage and family therapy (MFT) that a conscious emphasis exists in therapy practice, even when psychotherapists are attempting to modify the unconscious.³

Coupled with this conscious emphasis, there exists a lingering view that the unconscious is unknown but tends to regulate how a person acts, feels, and thinks with little or no oversight from the rational conscious mind. The unconscious is viewed as a facet of our cognitive functioning that must be brought into consciousness to change behavior. This bias suggests that a major premise in MFT and psychotherapy in general is that a person needs conscious awareness to gain control of unwanted behavior.² Consequently, from this perspective, the culprit underlying mental and emotional problems resides in unconscious memories containing emotionally damaging experiences.

The purpose of this article is to offer a different approach to understanding the unconscious. In this article, the term “unconscious” refers broadly to neural processes occurring outside of conscious awareness, while “implicit” and “nonconscious” refer to cognitive processes outside of awareness. New neuroscience research sheds light on how the conscious and the unconscious work together and suggests that the conscious mind is somewhat limited in accounting for rational decision-making.⁴ The article examines recent neuroscience research on various aspects of brain functioning, proposing how these findings are relevant to a reimagining of psychotherapy and MFT. Neuroscience research in the following areas will be discussed: intentional and unintentional behavior, decision-making, awareness and attention, learning and goal pursuit, and the nature of consciousness and unconsciousness and how they relate to rethinking psychotherapy.

This article adopts an explicitly integrative, constraint-based approach. Neural findings are not invoked as direct prescriptions for clinical technique; rather, they are used to delimit the range of psychologically plausible models. Psychological processes, in turn, are evaluated in consideration of their consistency with both neuroscientific evidence and observed clinical phenomena. This form of cross-level inference is not a category error but a standard and necessary feature of interdisciplinary theory building.

Neuroscientific findings are not taken to dictate specific therapeutic techniques. Instead, they are used to constrain the range of plausible models of mental functioning. Psychological and clinical claims are evaluated in consideration of their coherence with these constraints, as well as their consistency with empirical observations at the behavioral and therapeutic levels.

The article is a theoretically oriented synthesis rather than a systematic review, and the conclusions are intended to highlight converging themes rather than establish definitive causal pathways. The article distinguishes between three levels of analysis: (i) neuroscientific findings, (ii) psychological inferences, and (iii) clinical implications, which are identified as theoretical and provisional and as requiring further exploration. These levels of analysis are interspersed throughout the text rather than presented in explicit sections. In this reframing, cognitive techniques may remain clinically useful, but their effects are interpreted as operating in interaction with, or in support of, underlying unconscious processes rather than as the primary mechanisms of change.

1.1. Intentional and unintentional behavior

Research findings generally view the unconscious as involving motivation that results in behaviors that are intentional but outside of awareness.⁵ Recognizing that unconscious processes can be intentional represents a new understanding of unconscious processing. Originally, the unconscious was viewed as the bedrock of behaviors and feelings occurring outside consciousness and, therefore, as lacking intentionality. From this view, only conscious behavior could have intention, suggesting that people lacked understanding of much of their behavior. Only neural processes that a person was aware of were thought to be intentional. The belief was that only behavior that a person intended or purposefully engaged in and was consciously aware of was considered “smart” or dynamic. Furthermore, the shift from viewing the unconscious as unintentional to intentional changed the view that the unconscious was “dumb” to one that viewed it as vibrant and dominant.

1.2. Awareness and attention

In recent research, terms such as “awareness” and “attention” are prominent. While these terms were generally used interchangeably in the past, recent research has shed light on how they differ.⁶ Generally, the view was that if a person paid attention to something, they would also be aware of it. This assumption has been challenged by a study in which subjects were exposed to changing colorful images presented to one eye and stationary red dots presented to the other eye. The results revealed that

the subjects' attention was directed toward the stationary red dots even though they had no awareness of them. The psychological inference from this research is that, if one can pay attention to something without being aware of it, the concept of what it means to be conscious must be reconsidered.

The current trend in neuroscience research on awareness and attention began with groundbreaking work based on a study of an eight-year-old boy whose visual cortex was injured, resulting in blindness across much of his right visual area.⁷ The study showed that the boy could respond to stimuli in the right visual field even though he was not aware of doing so. The term "blindsight" was coined to describe this phenomenon, which illustrates the difference between the ability to process visual information and the ability to have conscious awareness of it. Follow-up studies further validated that attention and awareness are not only different, but that a person is able to attend to events or stimuli that are completely outside of awareness.⁸

1.3. Decision-making

Research over the past several decades has addressed conscious and unconscious processes involved in decision-making. Conscious processes in decision-making refer to the awareness of intentions involved in deciding between choices.⁹ Bandura¹⁰ was one of the early advocates of conscious processes in actions that are linked to causal mechanisms of change and self-efficacy. Conscious processes are, therefore, founded on rules and aspirations included in decision-making; however, research has displayed only limited success in linking conscious processes to behavior change.⁹

Recent research increasingly suggests that a substantial portion of decision-making and evaluative processing occurs outside of conscious awareness, although the extent and interpretation of this influence remain actively debated. These findings suggest that unconscious processes can operate without awareness and affect decision-making processes.¹¹ Until recently, nonconscious processes were largely overlooked in interventions that centered on present circumstances. Behavior change interventions were geared toward identifying automatic responses, which were assumed to originate from the unconscious. As one learned to identify these nonconscious automatic responses, they could replace them consciously by challenging the old responses and practicing new response patterns. Unfortunately, interventions such as this do not consistently result in behavior change.¹¹

Nonconscious processes are believed to affect decision-making and behavioral responses because they trigger cognitive processes that are linked to earlier suppressed

experiences in a person's life.¹² What is triggered by environmental input includes implicit processes that occur outside of consciousness or lack conscious awareness. Recent research indicates that the unconscious is not merely suppressed but is active and present in conscious activity.¹² In fact, the unconscious and conscious systems seem to cooperate to produce behavior change. The psychological inference suggests that a new paradigm is needed to understand the intricate interlocking between conscious and unconscious processes, which would alter common assumptions about psychotherapy.

While most people believe that their decisions are made by their conscious and rational mind, recent brain research calls this assumption into question.¹² The traditional view was that the conscious brain is involved in mental processes, while the unconscious mind is part of the automatic brain system, such as those involved in the regulation of breathing. To determine if the unconscious could be intentional in decision-making, subjects were asked to make a decision. They were seated at a desk and presented with a circumstance in which they were required to decide which button to press and then execute the response. The results revealed that at least 7 s before the decision was made, it was possible to predict what the decision would be. The researchers concluded that this finding supports the view that the unconscious can provide predictive information about the conscious decision that comes later. Essentially, the psychological inference of this research is that decision-making appears to be strongly influenced, and in some cases initiated, by processes that occur outside conscious awareness. What is not indicated by this research is where the final decision is generated or whether that decision can be overturned. Further research is certainly needed, but what is known is that the unconscious must be seen as an active participant in decision-making.

Social psychologists have explored the effects of unconscious processes on behavior over the past several decades and suggested that the unconscious is a powerful contributor to behavior.⁴ Although Freud's¹ model for the unconscious does not fully account for contemporary findings from brain imaging research, it correctly noted how nonconscious processes can clearly affect behavior. As previously noted, the unconscious is now known to be involved in intentional actions and behaviors, which has allowed for a whole new approach to the study of the unconscious.⁵ The psychological inference of the unconscious being intentional indicates that nonconscious processes are active in behavior and decision-making. As a result, our mental states and behavior may be influenced or predisposed by nonconscious processes and motivational factors.

1.4. Learning, acquisition of language, and priming

One of the most important areas of research regarding the unconscious is the acquisition of language by young children. An infant who is born in one culture and immediately transported to a new culture will acquire the new language at the same rate as an infant born in that culture.¹³ This indicates that there is no inherent advantage associated with the original linguistic environment, and language is learned largely unconsciously through imitation of others. Furthermore, other learning processes that occur in childhood indicate that much of learning generally takes place without conscious awareness.¹⁴ For example, worldviews and values tend to form outside of conscious awareness. Perhaps even more revealing is that self-esteem and identity can also develop outside of conscious control. Consequently, young children acquire much of their learning through imitation of significant others and those they encounter without conscious awareness or deliberate influence.¹⁴

Another area of research inquiry into the unconscious has been the study of priming, which refers to unconscious exposure to a stimulus that influences actions or behaviors without conscious awareness. Priming can also refer to automatic responses that emanate from internal filters through which one views the world.¹⁵ These priming influences are related to imitation, which is characterized in early development. This research implies that this imitation process continues throughout life and may contribute to how people interact with others to form friendships and partnerships without conscious awareness. It also suggests that the clinical application of unconscious learning needs further development within the clinical literature.

1.5. The meaning of consciousness and unconsciousness

An area of research that has been important in understanding conscious and unconscious effects on behavior is termed “goal pursuit.” Research findings indicate that unconscious goal pursuit follows a parallel path to conscious goal pursuit and is qualitatively similar.⁵ Nonconscious goal pursuit occurs outside of awareness and can affect future actions without awareness of its origins. Researchers suggest that nonconscious goal pursuits are developed and employed before conscious goal pursuit develops, which is related to evolutionary processes, and are then used by consciousness as if they originated in consciousness.¹⁶ Essentially, the psychological inference of this research is that behavior first occurs unconsciously, then is brought into consciousness as if it first occurred in the conscious mind.⁵ Consequently, a wide range of cognitive and perceptual processes appear to be guided,

at least in part, by automatic and implicit mechanisms.¹⁷ Furthermore, this process may reinforce the conscious emphasis in psychotherapy because the person has no awareness of the involvement of the unconscious.

Recent research on consciousness and unconsciousness has revised Freud’s¹ conception of the conscious and unconscious, resulting in an alternate view of their relationship. Freud¹ viewed the unconscious as being dark and unpredictable and the conscious mind as the center of thought and rationality, whereas recent developments in this area of research view the conscious and unconscious as interwoven and cooperative rather than as different spheres. A growing body of research suggests that many higher-order cognitive processes occur outside of conscious awareness and are not confined to deliberative, conscious thought. In addition, some findings indicate that brain regions involved in emotion and motivation, often associated with limbic and paralimbic networks, play a significant role in shaping what enters conscious awareness, challenging models that locate higher-order control exclusively within the prefrontal cortex.^{18,19}

This perspective is reflected in theoretical frameworks such as predictive processing accounts²⁰, which propose that the brain continuously generates and updates predictions about future states of the organism and its environment. The psychological implications of these findings indicate that much of mental activity proceeds automatically, with conscious awareness becoming more prominent when predictions are uncertain or violated. Accordingly, many aspects of thought, perception, and decision-making may be guided by implicit processes.²⁰ Consistent with this, some research has shown that neural activity in frontal regions associated with decision-making can precede the subjective experience of making a decision, suggesting that nonconscious processes may play a substantial role in initiating and shaping conscious choice.¹⁸

While it is noted that the conscious and unconscious work together, it appears that the unconscious is more engaged in actions, thoughts, and behaviors.²¹ This may result from consciousness being limited to the partial data contained in working memory, while most of the information that influences the brain’s functioning arises from automatic processes associated with unconscious systems. Thus, the psychological inference from this point of view is that, while the commonly accepted belief is that the advanced rational brain performs the executive functions and mental processes (including decision-making and judgments), automatic processes of the unconscious are not only involved but may play a more substantial role than previously recognized.

The brain appears to constrain, rather than simply expand, the contents of conscious awareness.¹⁹ Within predictive processing frameworks, conscious experience is thought to become more prominent when ongoing predictions are uncertain, in error, or require updating, rather than serving as the primary driver of routine cognition. As a result, affective and motivational systems, often associated with limbic and paralimbic networks, play a central role in shaping what reaches awareness, challenging models that posit the neocortex as the sole origin of conscious, rational control.

The psychological implication here challenges the longstanding Freudian characterization of a rational system governing a more primitive emotional one. Instead, contemporary evidence suggests a more integrated architecture in which emotional and implicit processes are foundational to, rather than subordinate to, conscious thought. Accordingly, consciousness may play a more limited role in determining what one thinks, perceives, or pursues than traditionally assumed, with much of this activity grounded in nonconscious processes. Given the immense volume of information the brain must continuously process, such automatic functioning is not only efficient but essential for adaptive survival.²²

When applied to therapy models, these findings challenge many cherished beliefs and fundamentally alter psychotherapy in general and MFT in particular. It must be emphasized, however, that these findings do not imply the replacement of cognitive restructuring, but rather suggest that therapeutic change may depend more centrally on interventions that engage nonconscious emotional processes, with cognitive techniques serving a complementary role.

2. Components of emotional restructuring

Based on the psychological implications of the research discussed in the preceding section, this article does not propose the replacement of cognitive restructuring, but rather reconceptualizes its role within a broader framework in which nonconscious emotional and relational processes are understood as central drivers of change. Recent neuroscience research shows that the brain acts automatically and intentionally via unconscious impulses and appears to have a more significant role in psychological and behavioral processes than has traditionally been believed.²³ Based on this research showing that the conscious mind is deeply influenced by the emotional or limbic system of the brain, the term “emotional restructuring” is proposed as a more descriptive term for changing the automatic responses of the brain than the term “cognitive restructuring”.²⁴ Accordingly, psychotherapy

and MFT could be reimagined to emphasize the central role of implicit affective processes in therapeutic change. This proposal is intended as a theoretical reorientation that repositions, rather than eliminates, the role of cognitive interventions.

Based on the above discussion, emotional restructuring suggests that automatic responses can change through nonconscious means. The psychological implication is that the brain functions in ways that limit conscious awareness, which implies that much of the learning and emotional processes, such as attachment, self-concept, and self-esteem, can occur outside of consciousness. If, as some researchers have suggested, consciousness is activated only when there is a failure in automatic processing, it can be expected that the unconscious may play a necessary role in changing these processes. Implicit memory forms before explicit memory, which is memory of which one is consciously aware, and is the foundation for emotional and behavioral responses.²⁵ This article proposes that emotional restructuring interventions, including intuition, creativity, and implicit communication techniques, may provide a means of accessing nonconscious processes.

Changing the automatic responses of the brain is a central theme in all types of psychotherapy, which typically emphasize conscious insight. An emotional restructuring model contends that insight is often better understood as emerging from nonconscious integrative processes, with conscious awareness reflecting their outcome. Though the use of intuitive, creative, and implicit techniques is not new, what distinguishes their current application from their use in the past is that they are increasingly supported by recent neuroscience research as important processes of therapeutic change. Several psychotherapeutic models and approaches^{26–31} have utilized creative, intuitive, and implicit interventions, which were generally based on the belief that the emotional brain was the center for creativity and intuition, and must be activated to change entrenched dysfunctional behavioral and emotional patterns. When these approaches were first introduced three to four decades ago, they were not considered mainstream, and some were regarded as risky and even unethical. For example, Simon³² notes that Carl Whitaker’s therapeutic approach was considered highly individualistic and difficult for other clinicians to replicate. Consequently, these approaches remained mainly esoteric and interesting, but outside of standard psychotherapy training and practice. The purpose of mentioning these early trailblazers in creative and innovative interventions is to highlight the long history of these nonconscious interventions in therapy. The following discussion reviews research findings in the areas of intuition, creativity, and implicit processes

that argue for advancing emotional restructuring into mainstream consideration for therapeutic change and, as such, for modifying or realigning the conscious cognitive emphasis that permeates MFT and psychotherapy. Reconceptualizing conscious approaches within a broader framework in which implicit emotional and relational processes are understood as central drivers of change can increase the understanding of the central drivers of therapeutic change.

2.1. Intuition

Intuition refers to interacting with others without conscious or intentional cognitive processes. Intuition emerges out of the experiences and learning that may resist verbal explanations. Intuition is not recognized as an attribute or internal trait or ability that is inherently possessed, but rather is obtained through a person's learning from implicit and explicit processes throughout their lifetime.³³ Consequently, people who have accumulated extensive experiences and who are exposed to complex and challenging learning environments would be more likely to develop intuition.

Researchers have provided some interesting findings regarding intuition. Damasio³⁴ described intuition as arising from unconscious processes coupled with bodily markers to create behaviors that cannot be cognitively explained. Some researchers have identified brain regions that are activated during intuition processing.³⁵ Klein³⁶ found that 80%–95% of decisions that lack rigid structure and are time-sensitive are made through processes involving specific areas of the brain related to non-rational processes. In research conducted by Wan et. al.³⁷, findings indicated that players in the game “Shogi”—which is similar to chess—showed activation of the precuneus region of the brain, a part of the superior parietal lobe located near the border between the two hemispheres and involved in consciousness, memory formation, and visuospatial organization. Other brain regions, such as the ventromedial prefrontal cortex associated with memory, and the caudate nucleus, associated with unconscious or automatic learning, were also involved. The psychological inference from these findings suggests that brain activity associated with intuition is more closely associated with unconscious processes while also interacting with conscious processes.

2.2. Intuition and insight

Research on intuition has also included research examining insight.³⁸ While these terms are related and similar, they are not synonyms. Generally, in psychotherapy, the distinction between intuition and insight has been maintained

in that insight develops from rational and conscious analytical appraisal of circumstances and behaviors, whereas intuition does not. A major divergence between intuition and insight is that intuition comes from implicit mental processes, while insight is associated with explicit and declarative processes.³⁸ Intuition may occur without conscious awareness of the underlying process, while insight is a conscious process that may occur suddenly as one becomes mindful of the solution of a problem.^{39,40} Both intuition and insight are related to solutions to problems that appear quickly.

Although intuition and insight are viewed as being different, some researchers have identified how they are related.⁴¹ Intuition is experience-based and tends to come from nonverbal experiences. Researchers suggest that nonverbal communication allows humans to fully interact and share meanings with others.⁴² This process takes place through observation, so that information is shared with others who are more cognizant of this emotional coding than the person who is being observed. The information is initially intuited and, after a period of incubation, is responsible for the experience known as the “aha insight,” a sudden or strong understanding of how the problem can be solved.⁴³

The “aha experience” is the result of a process of preceding nonconscious exposure to circumstances and happenings that differs from analytical insight, which takes place through conscious processes.⁴⁴ The aha experience occurs rapidly and integrates different parts of knowledge into a coherent understanding. This immediate insight tends to emerge, giving the subject a sense of profound understanding and confidence that this new insight is truthful. Like intuition, aha-experience insight is non-analytical and occurs implicitly. The main difference between analytical insight and non-analytical insight, according to recent research, is the view that the nonconscious elements of the aha experience modify aspects of the problem, allowing a solution to emerge.⁴⁵ These findings suggest that interventions using intuition and insight could play a more central role in psychotherapy.

Insight was described by Öllinger and Knoblich⁴⁶ as consisting of three characteristics. First, insight does not evolve from a systematic, logical, or stepwise method. Rather, it develops from a spontaneous and often emotional circumstance. Second, there is a difference in types of problems, in that some problems seem to be only solved by insight and non-insight problems that are solved by conscious means. Third, the non-cognitive elements of insight cause a shift in how the problem is conceived, thereby opening an innovative way to solve the problem.⁴⁴

2.3. Creativity

Creativity is viewed as being both an outcome of learning and a genetic predisposition and, as such, involves the engagement of multiple brain networks during creative activity. Research indicates that creativity is associated with people whose corpus callosum has fewer connections, which may allow for an extended period of time between an event occurring and its processing in the brain.⁴⁷ In addition, research has determined that the brains of creative people do not follow the usual pattern of connectivity across the brain but exhibit a more random pattern, which suggests that genetic influences may contribute to creativity in creative individuals.⁴⁸

Creativity can be enhanced by engaging in divergent thinking, a type of thinking in which one recognizes that multiple approaches are possible for a solution and that solutions can be challenged by appropriate new input. According to Brenner⁴⁹, creativity can be enhanced by observing others engaged in creative activities, participating in playful and unstructured activities, and role-playing. Divergent thinking allows for the connection of disparate ideas that can create new responses to problems. Gazzaley and Rosen⁵⁰ postulated that two factors that seem to dampen creativity are stress and insufficient downtime. For creativity to emerge and thrive, there should be downtime, or periods in which there are no structured activities. The result of this process is referred to as “flow,” a state in which individuals become so focused on the activity at hand that they lose awareness of other things around them. The prefrontal cortex may exhibit reduced activity during flow states, and behavior continues with reduced conscious awareness.

According to Runco and Jaeger⁵¹, no definitive definition of creativity that is acceptable to all researchers has been determined, but there is agreement regarding some of the characteristics, including an interruption of normal thinking and behaviors; appreciation for novelty and out-of-the-box thinking that is appropriate and matched to the setting; and spontaneous, unintentional behavior. Creativity emerges from novelty and innovation, which allows for new patterns and unanticipated thoughts and behaviors to emerge from implicit memory. Creativity occurs via unrehearsed and unprompted surges of cognitive activity to produce creative thoughts. Being creative does not result from attempting to be creative.

While one cannot be creative by trying to be, creativity emerges from contexts that are ambiguous and inaccessible.⁵¹ Although not all aspects of how the creative process develops are understood, what is known is that neural pathways that act in undefined ways during noncreative activities may be recruited in a more dynamic

manner during creative activities. This supports the assumption that the brain organizes complex information by generating order from uncertainty through innovative and novel thinking and activities. Creative, spontaneous, and unrehearsed interventions have enormous potential for psychotherapy but are typically shied away from due to concerns that they may be viewed as unethical or unprofessional.

Researchers have linked creativity with learning using functional magnetic resonance imaging. Beaty *et al.*⁵² studied the brain activity of subjects participating in a divergent thinking activity. The findings indicate that a connection exists between creative thinking and brain regions associated with learning, such as the frontal and parietal lobes. In addition, researchers have addressed the notion that if an association exists between creativity and learning, it may also exist between creativity and aptitude.⁵³ There is overlap between creativity and brain regions related to intelligence, specifically the frontal lobe. Furthermore, measures of general intelligence predicted 46% of the neural connectivity associated with intelligence. Researchers concluded that overlapping brain networks involved in intelligence may also contribute to creativity. This does not indicate that more intelligent people are necessarily more creative, but rather demonstrates that brain networks supporting intelligence and creativity share some similarities.⁵⁴

2.4. Implicit communication

Implicit communication makes use of nonverbal gestures, hints, tone of voice in verbal communication, and behaviors. It aims to deliver a message that is disguised and not readily available for conscious interpretation or awareness, and its goal is to engage nonconscious processes.⁵⁴ Implicit communication tends to be present through facial gestures, body positions, tone of voice, eye gaze, and other nonverbal cues, even if an individual is not seeking to communicate indirectly.⁵⁵

Implicit communication, in addition to elements of verbal exchanges, can be completely nonverbal, such as through playing games, various types of physical activity and exercise, or creating art. Any type of activity that stimulates nonconscious processes involved in thinking, decision-making, and behavior can be defined as implicit. With noted exceptions, therapists have used indirect methods primarily within a verbal context.

Researchers and practitioners do not consider implicit communication to be as effective as direct communication but rather as a supplement to direct communication⁵⁶. This indicates that when one communicates with another directly, there are also indirect aspects of communication

that need to be congruent with the direct message. Most communication researchers and therapists would agree that communicating primarily indirectly would present problems with clarity and intention in communication and possibly lead to a lack of understanding.⁵⁶ While there is truth to this way of conceptualizing indirect communication, this article proposes that much of the concern about indirect communication stems from a conscious or direct communication emphasis that predisposes individuals toward an unfavorable or cautious approach to indirect communication. As a result, many therapists have relied primarily on direct methods and consider indirect methods as exclusive and outside the bounds of widely accepted practice.

While many marriage and family therapists realized the importance of indirect communication, only a few focused primarily on indirect methods. One of the most noted therapists in the MFT field was Carl Whitaker. His approach was labeled “play therapy” because it involved a playful mix of humor, absurdity, and new experiences.⁵⁷ Simon³² noted that Whitaker believed that theory and cognitive understanding of problems would hinder real progress and wanted to engage the family’s emotions and the creative right brain. While Whitaker has, to some degree, withstood the test of time and some therapists today continue his form of experiential therapy, critics remain who believe that his therapeutic approach is too strongly associated with his uniqueness and cannot be taught to others.³² Through experiential therapy, people changed but lacked conscious knowledge of how that happened.

A therapist whose approach spawned a host of offshoot models of therapy was Milton Erickson^{26,58}, including neurolinguistic programming.⁵⁹ Erickson’s view was that people resisted change and that, although they proclaimed on a conscious level that they wanted change, they could unconsciously resist it. He believed that conscious methods of achieving change produced poor outcomes because they did not engage the source of many problems, namely nonconscious processes. He used hypnosis and other indirect approaches, including suggestive language and storytelling, to facilitate change. Conscious awareness and insight were not considered necessary components of change.

Brief therapy³⁰, strategic therapy²⁸, and neurolinguistic programming⁵⁹ all use language in ways intended to decrease resistance and increase change through indirect communication. Some techniques, such as “prescribing the symptom,” are paradoxical in nature and meant to reduce resistance through unconscious brain activation. These techniques are effective, and the intent here is to emphasize that more could be developed in indirect

therapy techniques. Research on the topic has clarified that indirect, experiential, and creative techniques may influence the brain and, consequently, behavior, but these approaches have rarely been incorporated into or taught within mainstream therapy training and practice.³¹

3.Conclusion

This article contends that recent research on unconscious and conscious processes in the brain, together with the psychological implication of this multidisciplinary evidence, provides a backdrop for revising some of the most cherished assumptions in psychotherapy that are shared by most schools and approaches, namely that one of the goals of psychotherapy is to access and make clients aware of unconscious processes that may be hidden in the client’s current mental state. This emphasis on consciously mediated processes in psychotherapy has contributed to the predominance of verbal and insight-oriented techniques aimed at increasing awareness of underlying emotional and nonconscious dynamics. While such approaches have yielded important clinical insights, their effectiveness has often been variable, and their mechanisms of action remain incompletely understood. Traditional models have assumed that bringing nonconscious processes into conscious awareness is a primary pathway to change.⁶⁰ However, converging evidence from neuroscience and cognitive science, along with psychological inferences based on that research, suggests that many of these processes are already continuously influencing conscious experience, raising questions about whether awareness alone is sufficient as a mechanism of therapeutic change.

This perspective does not imply that cognitive approaches, such as cognitive behavioral therapy, are ineffective. Rather, it suggests that their efficacy may be better understood in terms of their impact on underlying implicit and affective processes, rather than as the direct result of consciously mediated rational correction. From this standpoint, cognitive interventions may function by reshaping emotional and predictive systems that operate largely outside awareness, with conscious rehearsal contributing to the stabilization and reinforcement of these changes. What is experienced subjectively as deliberate reflection may therefore reflect the continued operation of underlying affective processes rather than serve as their origin.

These considerations support a broadening of therapeutic models to more centrally incorporate creative, intuitive, and implicit techniques as mechanisms of change.⁶¹ The primacy of nonconscious processes is advanced here as an inference from converging evidence across multiple domains, rather than as a definitive

conclusion from any single line of research. This perspective challenges dominant assumptions that therapeutic change is primarily achieved through conscious control over emotional processes and instead suggests that mental health may depend more fundamentally on the adaptive functioning of underlying automatic systems. While conscious rehearsal may contribute to the stabilization of change, such processes appear to be downstream of and constrained by prior nonconscious and affective activation.

Emotional restructuring is best understood as a theoretical extension and refinement of existing models, rather than a replacement of cognitive approaches. While the precise mechanisms linking neural processes to clinical outcomes remain incompletely specified, the convergence of evidence across levels provides a coherent basis for re-evaluating models that prioritize consciously mediated change and for developing more integrative approaches to psychotherapy.

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References

- Freud S. The ego and the id and other works. In: Strachey J, ed. *The standard edition of the complete psychological works of Sigmund Freud*. Volume 19. London: Hogarth Press; 1961.
- Smith KL. Attending to the unconscious in a psychotherapy session. *Psychol Today*. 2016.
- Atkinson BJ. *Emotional intelligence in couple therapy: advances in neurobiology and the science of intimate relationships*. New York: W.W. Norton; 2005.
- Bargh JA. *Social psychology and the unconscious: The automaticity of higher mental processes*. New York: Psychology Press; 2006.
- Bargh JA, Marsella E. The unconscious mind. *Perspect Psychol Sci*. 2008;3(1):73-79.
doi: 10.1111/j.1745-6916.2008.00064.x
- Hsieh PJ, Colas JT, Kanwisher N. Pop-out without awareness. *Psychol Sci*. 2011;22(9):1220-1226.
doi: 10.1177/0956797611419302
- Weiskrantz L, Warrington EK, Sanders MD, Marshall J. Visual capacity in the hemianopic field following a restricted occipital ablation. *Brain*. 1974;97(1):709-728.
doi: 10.1093/brain/97.1.709
- Kentridge RW, Haywood CH. The status of blindsight: Near-threshold vision, islands of cortex and the Riddoch phenomenon. *J Conscious Stud*. 1999;6(5):3-11.
- Schwarzer R. Modeling health behavior change: how to predict and modify the adoption and maintenance of health behaviors. *J Appl Psychol*. 2008;57(1):1-29.
doi: 10.1111/j.1464-0597.2007.00325.x
- Bandura A. Human agency in social cognitive theory. *Am Psychol*. 1989;44(9):1175-1184.
doi: 10.1037/0003-066x.44.9.1175
- Papies EK. Health goal priming as a situated intervention tool: how to benefit from unconscious motivational routes to health behavior. *Health Psychol Rev*. 2016;10(4):408-424.
doi: 10.1080/17437199.2016.1183506
- Max-Planck-Gesellschaft. Decision-making may be surprisingly unconscious activity. *ScienceDaily*. 2008. Accessed December 13, 2025. <https://www.sciencedaily.com/releases/2008/04/080414145705.htm>
- Nuttall E. How does culture affect the language development of a child? *Hello Motherhood*. 2018. Accessed December 13, 2025. <https://www.hellomotherhood.com/how-does-culture-affect-the-language-development-of-a-child-9653552.html>
- Jones SS. The development of imitation in infancy. *Philos Trans R Soc B*. 2009;364(1528):2325-2335.
doi: 10.1098/rstb.2009.0045
- Higgins ET, Bargh JA. Social perception and social cognition. *Annu Rev Psychol*. 1987;38(1):369-425.
doi: 10.1146/annurev.ps.38.020187.002101
- Merker B. Consciousness without a cerebral cortex: a challenge for neuroscience and medicine. *Behav Brain Sci*. 2007;30(1):63-81.
doi: 10.1017/s0140525x07000891

17. Wegner DM. *The illusion of conscious will*. Cambridge, MA: MIT Press; 2002.
18. Schuck NW, Gaschler R, Winke D, *et al*. Medial prefrontal cortex predicts internally driven strategy shifts. *Neuron*. 2015;86(1):331-340.
doi: 10.1016/j.neuron.2015.03.015
19. Solms M, Friston K. How and why consciousness arises: some considerations from physics and physiology. *J Conscious Stud*. 2018;25(5-6):202-238.
20. Carruthers P. The illusion of conscious thought. *J Conscious Stud*. 2017;24(9-10):228-252.
21. Kahneman D. *Thinking, fast and slow*. New York: Farrar, Straus and Giroux; 2011.
22. LeDoux J. Rethinking the emotional brain. *Neuron*. 2012;73(4):653-676.
23. Hofmann SG, Asnaani A, Vonk IJ, Sawyer AT, Fang A. The Efficacy of Cognitive Behavioral Therapy: A Review of Meta-analyses. *Cognit Ther Res*. 2012;36(5):427-440.
doi: 10.1007/s10608-012-9476-1
24. Roberts TW, Koval JV. Applying brain research to couple therapy: emotional restructuring. *J Couple Relatsh Ther*. 2002;2(1):1-13.
25. Queensland Brain Institute. Where are memories stored in the brain? University of Queensland; 2018. <https://qbi.uq.edu.au/memory/where-are-memories-stored>
26. Erickson MH, Rossi EL, Rossi SI. *Hypnotic realities: the induction of clinical hypnosis and forms of indirect suggestion*. New York: Irvington; 1976.
27. Whitaker CA, Malone TP. *Roots of psychotherapy*. New York: Routledge; 2009.
28. Haley J, Richeport-Haley M. *The art of strategic therapy*. New York: Brunner-Routledge; 2003.
29. Satir V. *Conjoint family therapy*. Palo Alto, CA: Science and Behavior Books; 1983.
30. De Shazer S. *Patterns of brief family therapy: an ecosystemic approach*. New York: Guilford Press; 1982.
31. Stern D, Bruschweiler-Stern N, Harrison AM, *et al*. The process of therapeutic change involving implicit knowledge: implications for psychotherapy. *Infant Ment Health J*. 1998;19(3):300-308.
doi: 10.1002/(sici)1097-0355(199823)19:3<300::aid-imhj5>3.0.co;2-p
32. Simon R. Take it or leave it: An Interview with Carl Whitaker. *Family Therapy Networker*. 1985.
33. Leybourne SA, Sadler-Smith E. The role of intuition and improvisation in project management. *Int J Proj Manag*. 2006;24(6):483-492.
doi: 10.1016/j.ijproman.2006.03.007
34. Damasio A. *Feeling and knowing: making minds conscious*. New York: Pantheon; 2021.
35. Jung-Beeman M, Collier A, Kounios J. How insight happens: learning from the brain. *NeuroLeadership J*. 2008;1(1):20-25.
36. Klein G. *Sources of power*. Cambridge, MA: MIT Press; 1999.
37. Wan X, Nakatani H, Ueno K, Asamizuya T, Cheng K, Tanaka K. The neural basis of intuitive best next-move generation in board game experts. *Science*. 2011;331(6015):341-346.
doi: 10.1126/science.1194732
38. Lieberman MD. Intuition: a social cognitive neuroscience approach. *Psychol Bull*. 2000;126(1):109-137.
doi: 10.1037/0033-2909.126.1.109
39. Volz KG, von Cramon DY. What neuroscience can tell about intuitive processes in perceptual discovery. *J Cogn Neurosci*. 2006;18(12):2077-2087.
doi: 10.1162/jocn.2006.18.12.2077
40. Volz KG, Zander T. Primed for intuition? *Neurosci Decis Making*. 2014;1.
doi: 10.2478/ndm-2014-0001
41. Dorfman J, Shames VA, Kihlstrom JF. Intuition, incubation, and insight: implicit cognition in problem solving. In: Underwood G, ed. *Implicit Cognition*. Oxford: Oxford University Press; 1995:257-296.
doi: 10.1093/acprof:oso/9780198523109.003.0007
42. Lapakko D. Communication is 93% nonverbal: an urban legend proliferates. *Commun Theatre Assoc Minn J*. 2015;34(1).
doi: 10.56816/2471-0032.1000
43. Kounios J, Beeman M. The *Aha!* Moment: The Cognitive Neuroscience of Insight. *Curr Dir Psychol Sci*. 2009;18(4):210-216.
doi: 10.1111/j.1467-8721.2009.01638.x
44. Zander T, Öllinger M, Volz K. Intuition and insight: two processes that build on each other or fundamentally differ? *Front Psychol*. 2016;7.
doi: 10.3389/fpsyg.2016.01395
45. Ohlsson S. *Deep learning: how the mind overrides experience*. Cambridge: Cambridge University Press; 2011.
46. Öllinger M, Knoblich G. Psychological research on insight problem solving. In: *Recasting Reality*. Berlin Springer Berlin Heidelberg; 2009:275-300.
doi: 10.1007/978-3-540-85198-1_14
47. Grigonis H. The science of creativity: what happens in your brain when you create. *CreativeLiveBlog*. 2018. <https://www.creativelive.com/blog/science-of-creativity>.
48. Anderson A, Japardi K, Knudsen KS, Bookheimer SY, Ghahremani DG, Bilder RM. Big-C creativity in artists and

- scientists is associated with more random global but less random local fMRI functional connectivity. *Psychol Aesthet Creat Arts*. 2024;18(4):550-560.
doi: 10.1037/aca0000463
49. Brenner GH. Inhibition: the counterintuitive key to creativity. *Psychology Today*. 2021. <https://www.psychologytoday.com/us/blog/psychiatry-the-people/202101/inhibition-the-counterintuitive-key-creativity>
50. Gazzaley A, Rosen LD. *The distracted mind*. Cambridge, MA: MIT Press; 2016.
51. Runco MA, Jaeger G. The standard definition of creativity. *Creat Res J*. 2012;24(1):92-96.
doi: 10.1080/10400419.2012.650092
52. Beaty RE, Chen Q, Christensen AP, et al. Default network contributions to episodic and semantic processing during divergent creative thinking: a representational similarity analysis. *NeuroImage*. 2020;209:116499.
doi: 10.1016/j.neuroimage.2019.116499
53. Firth E, Alexander AP, Chen Q, et al. Intelligence and creativity share a common cognitive neural base. *J Exp Psychol Gen*. 2021;150(4):609-632.
54. St Quinton T, Brunton JA. Implicit processes, self-regulation, and interventions for behavior change. *Front Psychol*. 2017;8.
doi: 10.3389/fpsyg.2017.00346
55. Nešić M, Nešić V. Neuroscience of nonverbal communication. In: Kostic A, Chadee D, eds. *The social psychology of nonverbal communication*. Basingstoke: Palgrave Macmillan; 2015:31-65.
56. Del Giacco L, Salcuni S, Anguera MT. The communication modes analysis in psychotherapy from mixed methods framework: introducing a new observation system for classifying verbal and nonverbal communication. *Front Psychol*. 2019;10.
doi: 10.3389/fpsyg.2019.00782
57. Keith D, Whitaker C. Play therapy: a paradigm for work with families. *J Marital Fam Ther*. 1981;7(3):243-254.
doi: 10.1111/j.1752-0606.1981.tb01376.x
58. Erickson MH, Zeig JK. *A teaching seminar with Milton Erickson*. New York: Routledge; 1985.
59. Bandler D. *Neuro-linguistic programming: the complete guide to behavioral psychology and social influence using NLP, covert persuasion, mind control and ethical manipulation*. Kindle Unlimited; 2019.
60. Verweij M, Senior TJ, Dominguez JF, Turner R. Emotion, rationality, and decision making: linking affective and social neuroscience with social theory. *Front Neurosci*. 2015;9.
doi: 10.3389/fnins.2015.00332
61. Roberts TW. Brain biology and couples therapy. In: Wetchler J, ed. *Handbook of clinical issues in couple therapy*. 2nd ed. New York: Routledge; 2011:23-40.